IMPLEMENTATION

THE PROBLEM OF ACHIEVING RESULTS

EDITED BY
GABRIEL U. IGLESIAS

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IMPLEMENTATION: THE PROBLEM OF ACHIEVING RESULTS
A CASEBOOK ON ASIAN EXPERIENCES

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FOREWORD

In the Asian scene there has altogether been so much concern with the problems that either slow down or prevent development. The United Nations itself has endeavored to identify these priorities.

While so much Asian effort and energies have been invested in the amelioration of conditions based on these priorities and approaches towards solving developmental problems, there had been no equal efforts towards understanding the process of development itself, especially in view of the wide disparity in the conditions of the developing countries in Asia.

EROPA seeks to contribute to a better understanding of the development process in this publication. The subject matter concerns "Implementation: The Problem of Achieving Results," and a volume of case studies had been written by Asian scholars and practitioners from Hong Kong, India, Indonesia, Iran, Japan, Korea, Malaysia, Nepal, the Philippines, Singapore, Sri Lanka, and Thailand. The case studies attempt to examine how differences in administrative capacities influence the process through which development projects in these countries have proceeded from plans through implementation, and the manner they ultimately affect the achievement of results.

A common format designed by a regional Steering Committee was used in the preparation of the case studies, and the research project was supervised by the Steering Committee through its Research Coordinator, Dr. Gabriel U. Iglesias. Dr. Iglesias, the Editor of this book, is a faculty member of the College of Public Administration, University of the Philippines System.

Two workshops were held to ensure close coordination amongst the case writers and their adherence to the common research format. A region-wide Conference on the subject for the purpose of testing the cases was convened by EROPA in Tokyo, Japan on 24-31 October 1973, in conjunction with the

EROPA Seventh General Assembly. Participating in this Conference were policy makers, senior officials, and experts in government management. The last portion of this volume contains the summary and recommendations derived from the discussions and the close interaction during the Conference between the participants and case writers.

This volume constitutes the second major publication of EROPA. It is earnestly hoped that this casebook would throw additional light on the continuing problem area in public administration — the administrative capability for implementation.

EROPA wishes to acknowledge, with much appreciation, the support of The Ford Foundation and the International Development Research Centre (Canada) for their assistance and cooperation in sponsoring with EROPA the research project. The IDRC has also made possible the publication of this volume.

EROPA also wishes to acknowledge, with deep appreciation, the support of the Governments of Indonesia and Thailand for having hosted the two workshops and, in particular, the Government of Japan for hosting not only the Conference but also the General Assembly.

Finally, we wish to thank all the case writers involved, the members of the Steering Committee, and especially the Research Coordinator and Editor for their devotion and hard work on the project.

CARLOS P. RAMOS
Secretary General, EROPA

PREFACE

The contributions of many people, organizations, and governments went into the production of this book from the launching of the research project by EROPA in January 1972 to the First Workshop in Jakarta, the Second Workshop in Bangkok, the Tokyo conference in October 1973 where these cases were presented and the preparation of the cases for publication in 1975 up to early 1976.

The unobtrusive intellectual and organizational role of Dean Carlos P. Ramos served as a persuasively insistent influence throughout the research and publication phases of this work. I am also grateful to my co-authors, all respected and eminent scholars and practitioners, for their forbearance, kindness, and cooperation in the preparation of the case studies and throughout the workshops in Jakarta (September 1972) and Bangkok (March 1973) and the Tokyo EROPA General Conference (October 1973).

My gratitude also to the following officials and organizations for their assistance and cooperation: to Dr. Awaloedin Djamin, for his leadership as Project Director of the research and for chairing the conference in Tokyo; to Dr. Sondang P. Siagian, for his excellent role as Chairman of the Jakarta and Bangkok Workshops and for guiding the research as Chairman of the Steering Committee; to the Ford Foundation's Advisor for Development Administration Dr. Hans C. Blaise who made many valuable contributions as consultant and participant; to Dr. Iraj Ayman, Dr. N. K. Sarkar, and Dr. In-Joung Whang who served as members of the Steering Committee; to Dr. Awaloedin Djamin and the National Institute of Administration and the Government of Indonesia for hosting the First Workshop in Jakarta; to the Government of Thailand and to Rector

Choop Karnjanaprakorn of the National Institute of Development Administration, Bangkok, for the cooperation extended by his Institute during the Second Workshop held in Bangkok, Thailand under the auspices of the Ford Foundation's regional office; to the Honorable Hiroshi Miyazawa, Vice-Minister of Home Affairs, Mr. Kiyoshi Tatsuta of the Local Autonomy College and to the Japanese Government for hosting the EROPA General Assembly and the Conference on this research project; to Dr. Behrouz Zoka, Deputy Secretary General of the State Organization for Administration and Employment Affairs for the Imperial Government of Iran, and the Honorable Datuk Abdullah bin Ayub, Director General of the Public Services Department of the Government of Malaysia, who served as Vice-Presidents of the General Assembly; and to Mrs. Ruth K. Zagorin of the International Development Research Centre (IDRC) of Canada for participating in the Tokyo Conference and for supporting this research.

We are especially grateful to the Ford Foundation and the International Development Research Centre (IDRC) of Canada for their generous financial assistance in supporting the research project, the two workshops, and the General Conference. We are also indebted to IDRC, Canada for funding the publication of this volume, in particular to Mrs. Ruth K. Zagorin and to Dr. Aprodicio Laquian.

I am grateful to Dr. Hans C. Blaise and Professor Raymond Apthorpe for their useful comments and suggestions on the case studies as members of the Editorial Committee; in particular to my colleague, Professor Romeo B. Ocampo, who served not only as member of the Editorial Committee but also in ably editing the cases for style. For assisting in the tedious task of proofreading the manuscripts for publication, I wish to thank Miss Angelina Pasco and Miss Constante Alvano; to Miss Perla Patacsil, Mrs. Maria Concepcion Alfiler and Miss Zenaida Lacson for making the Selected Bibliography portion of the book; to Misses Fe Imperio, Teresita Santiago, and Sarah Villota for

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Finally, I am grateful to Dean Raul P. de Guzman and the faculty of the College of Public Administration for their support and useful comments and to my wife and children for their forbearance.

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INTRODUCTION

IMPLEMENTATION AND THE PLANNING OF DEVELOPMENT: NOTES ON TRENDS AND ISSUES, FOCUSING ON THE CONCEPT OF ADMINISTRATIVE CAPABILITY

Gabriel U. Iglesias

Many studies evaluating the results of the United Nations' First Development Decade of the 1960's have invariably concluded that the "failure" of most development plans in developing countries could be attributed either to deficiencies in the planning process or to obstacles encountered during plan implementation.[1] In particular, the capability of administrative systems to implement plans had been identified as a critical factor in the plan implementation process.

I

IMPLEMENTATION AS A FUNCTION OF PLANNING

These studies, to a certain extent, represent an inchoate trend, already evident in the mid-sixties, towards reexamining some of the assumptions and issues in development planning in the Third World. First, there is the issue of imbalance caused

[1]Albert Waterston, **Development Planning: Lessons of Experience** (Baltimore: Johns Hopkins Press, 1965), and Bertram M. Gross (ed.), **Action Under Planning: The Guidance of Economic Development** (New York: McGraw-Hill, 1967). The Waterston study for the World Bank which assessed planning and implementation experiences of 100 countries representing the developing and developed countries served as an authoritative compendium sending a flurry of reexaminations of national planning in the Third World. The Gross volume was specifically addressed to problems of plan implementation, particularly the impact of environmental influences in plan formulation and implementation. **Action Under Planning** represents the findings of INTERPLAN (the International Group for Studies in National Planning) organized to tackle some of the areas of concern of the Comparative Administration Group (CAG) of the American Society for Public Administration (ASPA).

by the over-emphasis on planning in the 1950's and 1960's towards an increasing concern for plan implementation, that is, to close the so-called "implementation gap."

> During the 1950's, the developing countries sought to organize their economies on a sounder footing for growth by formulating internally consistent development plans, but the question of plan feasibility was frequently neglected. A more realistic outlook emerged with the First Development Decade, during which planners increasingly turned their attention to problems of rational and realistic plan formulation, but the gap between documents and the day-to-day problems of actual plan implementation continued to interfere with the attainment of development expectations, objectives, and specific targets. However, there now appears to be an awakening to the crucial need to focus on the implementation of development planning.[2]

Over the years since the 1950's there had been mounting evidence of plan failures due to weaknesses in plan implementation. "Of some 1,500 national development plans which have been prepared in the last twenty-five years, not many have been seriously implemented . . . ."[3] The state of planning in the Philippines by the mid-sixties probably exemplifies the problems of plan implementation in developing countries. Waterston notes that of around fourteen post-war plans "almost all were little more than suggestions, proposals, opinions or platitudes designed to influence public policy . . . . None had much effect on the country's development."[4] This confirmed the findings of ECAFE in 1961 that in the Philippines "economic

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[2]United Nations, Economic Commission for Asia and the Far East, **Some Problems of Plan Implementation in the Second Development Decade** (Bangkok, Thailand, 1971), p. 1.

[3]C. M. Martin, "Performance Review and Evaluation: Their Roles in the Implementation of National Development Plans" (paper prepared for the Conference of Asian Economic Planners, ECAFE, September 1971), p. 1.

[4]Waterston, **op. cit.**, p. 106. Aaron Wildavsky arrived at a similar conclusion on the state of planning in Nepal half a decade later. See "Why Planning Fails In Nepal," **Administrative Science Quarterly**, Vol. XVII, No. 4 (December 1972).

planning has tended to be more an intellectual exercise or a call to action than a specific blueprint to be implemented."[5]

Thus, the preoccupation and interest over implementation was initially spurred by those concerned with planning, seeing failure or problems of implementation from the perspective of planning. This was based on the assumption that if plans were considered for its implementability, contained organizational strategies for implementation or if the planning process could be improved by involving those concerned with its implementation then the attainment of planned goals and targets could be better achieved.

Hence, the thrust is towards a "more balanced" concern for both plan formulation and plan implementation processes and problems. It should be stressed, however, that implementation was still viewed as an extension of, or an adjunct to the planning process. In effect, to ensure success, implementation is considered as a function of planners and the plan formulation process. While there are definite trends in the efforts of governments in developing countries to improve planning and plan implementation,[6] there appeared to be difficulties in studying

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[5]United Nations, Economic Commission for Asia and the Far East, **Economic Survey of Asia and the Far East** (Bangkok, March 1962), quoted in Waterston, **loc. cit.** A perceptive assessment of planning and implementation problems is found in Sixto K. Roxas, **Organizing the Government for Economic Development Administration.** Terminal Report to President Diosdado Macapagal, February 27, 1964. See also Caridad S. Alfonso, "Organization for Economic Planning," in Jose V. Abueva (ed.), **Perspectives in Government Reorganization** (Manila: College of Public Administration, University of the Philippines, 1969); and Romeo B. Ocampo, "Technocrats and Planning: Sketch and Exploration," **Philippine Journal of Public Administration,** Vol. XV, No. 1 (January 1971). For a recent statement on reforms to improve plan implementation since the declaration of Martial Law, see Gabriel U. Iglesias, "An Assessment of Development Planning and Implementation Experience in the Philippines" (paper presented in the Conference on the Political Economy of Development, Manila, December 1974).

[6]For example, the Philippines since Martial Law considers the improvement of the planning and plan implementation machinery at the central and regional levels as a desideratum for accelerating development. See Iglesias, **op. cit.**; Presidential Decree No. 1, 23 September 1971 and Letter of Instruction No. 22, 1 November 1972. See also Clair Wilcox, **The Planning and Execution of Economic Development in Southeast Asia,** Occasional Papers in International Affairs, No. 10 (Cambridge: Harvard University Press, 1965); and Mavis Putchucheary, "The Operations Room in Malaysia as a Technique in Administrative Reform," in

implementation itself which will be useful in improving performance for plan implementation.[7]

The United Nations concern is reflected in its Second Development Decade agenda for the seventies which considered plan implementation as one of its priorities.[8]

II

ENLARGEMENT IN PERSPECTIVES FOR PLANNING AND PLAN IMPLEMENTATION: THE NON-ECONOMIC FACTORS

Another issue was the predominance of economic consideration in planning and the preeminence of economists in planning was to be balanced by concerns with the political and administrative or other non-economic dimensions. Gross seems to encapsulate some of the major criticisms made by economists and other social scientists when he noted possible dangers from this overconcentration on economic considerations.

> Because their plans deal primarily with economic activities, they invariably focus attention upon economics, economic planning agencies, and the services of economists and econometricians.... This concentration upon economics and economists has had many interesting effects. First of all, it has greatly oversimplified the processes of change. By focusing attention on economic factors, it has distracted attention from the institutional, political, and cultural obstacles

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Hahn-Been Lee and Abelardo G. Samonte (eds.), **Administrative Reforms in Asia** (Manila: EROPA, 1970), on innovative and successful efforts to strengthen program and project information and feedback systems in Malaysia.

[7]The volume edited by Gross is an early inter-disciplinary effort to look specifically at problems of plan implementation. The neglect in implementation studies in the United States is more apparent. As Jeffrey L. Pressman and Aaron Wildavsky noted, "implementation in recent years has been discussed but rarely studied [and] except for an excellent book by Martha Derthick we have not been able to locate any thoroughgoing analysis of implementation." **Implementation** (Berkeley: University of California Press, 1973), p. xiii.

[8]United Nations, **Second United Nations Development Decade: A System of Overall Review and Appraisal of the Objectives and Policies of the International Development Strategy**, May 28, 1971. See also United Nations, Economic Commission for Asia and the Far East, **Some Problems....**

> to change.... Secondly, this economic orientation has been of tremendous benefit to economists and economics. It has provided economists with previously unprecedented access to influential leaders and groups .... Thirdly, it has led more and more of the best economists to the difficult conclusion that economics alone, no matter how much it is broadened, cannot provide an adequate understanding of economic development.[9]

According to this view, economic development plans should encompass social, political and administrative considerations in formulating planning goals, in the appraisal and selection of programs and projects to be included in the plans, and in evaluating outputs (intermediate products) and outcomes (end-products). Economic growth, according to this perspective, should be accompanied by social development and welfare.[10]

The preoccupation with economics was viewed, at another level, as a contributing factor in the tendency to neglect or gloss over non-economic factors, that is, political, administrative, socio-cultural factors considered significant in formulating feasible and implementable plans. Shortfalls in attaining development objectives and problems during implementation had been attributed to this circumscribed view of planning. This is premised on the notion that political will and elite support, socio-cultural factors like values and attitudes, and admin-

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[9]Gross, op. cit., pp. 10-11. Colin Leys, a political scientist, also noted the criticism of other social scientists "who see very clearly that the privileged position of economists in the policy-making process leads to special sorts of distortion — the neglect of quite fundamental social or political factors, for example — and so to the ignominious failure of apparently sophisticated projects." See "The Analysis of Planning," in Colin Leys (ed.), **Politics and Change in Developing Countries: Studies in the Theory and Practice of Development** (London: Cambridge University Press, 1969), p. 254. Myrdal's findings on failure to consider non-economic aspects when he noted that "almost all economic studies ... whether by South Asian or foreign economists, neglect almost completely this relationship and its consequences." Gunnar Myrdal, **Asian Drama**, abridged edition by Seth S. King (New York: Pantheon, 1971), p. 442. Finally, Waterston noted the "planners' preoccupation with economic factors to the exclusion of organizational, administrative and political factors." Op. cit., p. 366.

[10]Equity and welfare values appear to characterize the ideological stance of the "New Public Administration" school currently in vogue. See Frank Marini (ed.), **Toward a New Public Administration** (Scranton: Chandler Publishing Company, 1971).

istrative competence or capability are aspects which interpose formidable barriers or intractable problems to plan implementation in developing societies so that the planning process should consider the impact of these environmental constraints.

Thus, it was considered essential that the plan should integrate a strategy for plan implementation which considers economic and non-economic variables. Corollary to this is the acceptance of the need to deliberately introduce changes to improve or reform selective aspects of the political, social, and administrative milieu to make them more conducive or increase their capability, for plan implementation. It has been observed that reform efforts undertaken in developing societies were not sufficiently focused to the specific problem of increasing the government's capacity for plan implementation.

> During the past two decades most developing countries have also gone through exercises in 'administrative reforms', varying in range and intensity. These have covered such matters as structural reorganization... salary reviews, merit and career systems.... However, more often than not, such reforms and improvements have been attempted in isolation without being fused to the needs of the national development plans.[11]

Although there had been progress in reforming the administrative machinery for plan implementation, entrenched forces in developing countries tend to counteract or even subvert the introduction of changes which would upset the prevailing distribution of power, resources, statuses, bureaucratic and extra-bureaucratic interests.[12] Difficulties in managing implemen-

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[11]United Nations, Economic Commission for Asia and the Far East, **The Planning of Administrative Development** (Bangkok, Thailand, 1971), p. 3. See also Lee and Samonte for reform efforts in selected Asian countries, in particular Samonte's contribution, "Patterns and Trends in Administrative Reform." For a broader and more comprehensive view and synthesis, see Gerald E. Caiden, **Administrative Reform** (Chicago: Aldine Publishing Company, 1969) and "Development, Administrative Capacity and Administrative Reform," in **International Review of Administrative Sciences**, Vol. XXXIX, No. 4 (1973).

[12]Caiden offers a perceptive and exhaustive analysis of problems of instituting administrative reform affecting the status quo, defining administrative reform as "the artificial inducement of administrative transformation against resistance." **Administrative Reform**, p. 8. See Jose

tation and in efforts to incorporate non-economic variables probably accounted for the planners' preoccupation with problems of planning and economic development. As Arthur W. Lewis succinctly puts it, "making a plan is an exercise of the imagination while implementation is a struggle with reality."[13] Myrdal tends to support this view when he observed that "economic policies are undoubtedly easier to carry out than are social policies that challenge vested interests, violate deep-seated traditions, offend cherished traditions and beliefs, and work against the heavy weight of social inertia."[14]

Thus, a more balanced conception of planning pre-supposed an interdisciplinary focus in formulating planning goals, evaluating outputs and outcomes and in evolving a plan implementation strategy. While the economic orientation remained as the prevailing planning ethos, other political, social and management sciences would have legitimate claims to have their perspectives incorporated in planning and implementation decisions. An opposite trend may be found in civil service systems where the generalist administrative class predominate, as in Great Britain and, to a certain extent, in former British colonies.[15]

III

CLOSER INTEGRATION AND COORDINATION BETWEEN PLANNING AND IMPLEMENTATION

There was to be a more explicit recognition of the need to strengthen the coordination between thoughts (plans) and action (implementation) and questioned the tendency to separate planning from implementation as an intellectual and/or behavioral process as well as institutionally.

V. Abueva, "Administrative Reform and Culture," on the role of socio-cultural factors in determining the direction and impact of administrative reforms, in Lee and Samonte, **op. cit.**

[13]**Development Planning** (London: Allen and Unwin, 1966), p. 264.

[14]**Op. cit.**, p. 442.

[15]In the British Civil Service, the economists and other specialists argued for greater participation in decision-making, particularly in economic policy-making. See Gabriel U. Iglesias, "British Administrative Decision-Making," **Philippine Journal of Public Administration**, Vol. XVI, No. 1 (January 1972). See also Fulton Committee Report, **The Civil Service** (London: HMSO, 1968).

The adoption of unrealistic or unimplementable plans has been identified as a major problem in plan implementation, especially in securing conformity to the plans in the course of implementation. At one level, it is seen as a tendency to bifurcate plan formulation from implementation or to view planning in narrow economic terms.

For example, Waterston noted that

> The failure of most planners to indicate precisely what must be done to carry out plans has tended to intensify the belief that the problems of plan formulation are separable from those of implementation. The tendency to separate plan formulation from implementation has been exacerbated by planners' preoccupation with economic factors to the exclusion of organizational, administrative and political factors. This gives rise to serious problems because in most less developed countries, the greatest obstacles to implementation are administrative and especially, political, rather than economic.[16]

This dichotomy often found expression in various forms, such as the technical and sequential view of the planning process, the preoccupation with economic, and the neglect of non-economic factors, and the tendency towards comprehensive or macro planning. This artificial fragmentation is reflected in the practice of separating planning from implementation as functional activities as well as institutionally, that is, the separation of central planning ministries or units from implementing organizations. The view that planning and implementation are two distinctly specialized activities often create conditions where planning organizations or coordinating bodies lack sufficient authority to coordinate implementation of plans, programs and projects.

Thus, one of the main thrusts of the UN's Second Development Decade of the '70s is to focus on the improvement of the administrative machinery for plan implementation (the so-called implementation gap), to ensure that administrative capacity matches the "need of the national development plans."[17]

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[16]Op. cit., p. 366.

[17]United Nations, Economic Commission for Asia and the Far East, **The Planning of Administrative Development, loc. cit.**

IV

MORE EMPHASIS ON PROGRAMS AND PROJECTS, LESS ON COMPREHENSIVE PLANS

There has been increased recognition that due to differences in the stages in the development of Third World countries, particularly in modernizing ones gearing their public bureaucracies to the technical and behavioral requirements in the administration of national development, the adoption of planning, particularly comprehensive planning, exerted further strains on the capacities of the governmental system for plan implementation. In terms of immediate priorities, there has been a move towards giving greater emphasis on improving capability for less comprehensive plans and on the need to concentrate on the planning and implementation of programs and projects.

The varying capacities of governmental and other institutional machinery posed tremendous obstacles to the "rationality" implied in planning behavior and the early introduction of comprehensive planning exacerbated existing weaknesses and contradictions in developing societies. Despite this, Myrdal notes a fascination and commitment among Asian planners to adopt comprehensive plans to accelerate development.[18] Waterston also observed that this is an aspect of planners' preoccupation with economic models of development and recommended a strategy to adopt partial planning and the strengthening of capabilities for planning programs and projects before a country engages in comprehensive planning.[19]

> Comprehensive planning remains considerably more difficult than partial planning for the public portion of an economy. And a less developed country with a large subsistence sector, a poorly functioning market

[18]Op. cit., particularly "Spread and Impact of the Ideology of Planning," chap. 9.

[19]Op. cit., pp. 98, 99. See also Keith B. Griffin and John L. Enos, Planning Development (London: Addison-Wesley, 1970) on their findings on the discrepancies and unrealism of comprehensive planning in Latin American, Turkey, Ghana, Pakistan and India. Colin Leys documents the problems caused by Tanzania's adoption of comprehensive planning. Op. cit., pp. 267-275.

economy, untrustworthy statistics, an inadequate administrative organization and an inefficient civil service is still unlikely to overcome the complexities involved in formulating a realistic comprehensive plan and implementing it.

This planning methodology as an approach to problem solving and policy analysis has been criticized as synoptic or too comprehensive in its orientation where the preferred strategy for developing countries was to engage in incremental policies and changes.[20]

The weakness in most development planning, according to this view, is in the area of program/project planning and management. Strengthening capability at this level has the advantage of providing greater flexibility in responding to developmental problems and changes in priorities and in terms of manageability. This approach is considered more suitable to the conditions in developing countries where the administrative system has limited capability because of few technically trained personnel, where information search may be costly, where there is a dearth of data useful for planning and where monitoring and feedback mechanisms are inadequate.

V

ADMINISTRATIVE PERFORMANCE IN IMPLEMENTATION: THE PROBLEM OF EVALUATION AND MEASUREMENT

The widely-accepted view, documented in numerous international, regional, and national studies and evaluations, is that the public administrative systems in developing countries is a critical factor in determining the achievement of development

[20]David Braybrooke and Charles Lindblom, **A Strategy of Decision** (New York: Free Press of Glencoe, 1963). An excellent discussion of issues surrounding synoptic approach (including a critique of Jan Tinbergen's **Central Planning** (New Haven: Yale University Press, 1964)) and disjointed incrementalism is found in Colin Leys, **op. cit.** John Friedman, "The Institutional Context," in Gross, **op. cit.**, and Hahn-Been Lee, "The Concept, Structure and Strategy of Administrative Reform," in Lee and Samonte, **op. cit.**, contain summaries and critiques of the synoptic-incremental approach as well as their modifications of the Braybrooke and Lindblom formulation.

goals. Many administrative constraints or obstacles to plan implementation were identified — weak coordination among governmental entities, poor budgeting and financial management, dearth of administrative leaders and technically competent personnel, duplication of planning functions, low participation of implementors and field offices in planning, overcentralization, inadequate information base, poor reporting and feedback mechanism, lack of commitment and so on.

Two parallel approaches seemed to have emerged. One, as noted earlier, is the introduction of reforms specifically to increase the capability of the administrative system for planning and plan implementation. In addition to the interdisciplinary perspective noted earlier, there were efforts to develop capacities for subnational planning and development by decentralizing planning and implementation through regional planning bodies and authorities. These were complemented by the increased emphasis on the geographic or spatial aspects as a development strategy. Thus, there had been an increasing attention to physical planning as a strategy to accelerate socio-economic development.[21] There had been efforts also to improve the capability of the central planning agency to influence the planning process through reviews of sectoral, departmental and regional plans, particularly programs and projects, through their increased role in aligning the budget to the needs of planning and through increased capability for intelligence and research functions.

One trend is the perceptible shift towards improving the ability of central planning agencies and central administration to monitor and evaluate implementation through the introduction of computerization, institutionalization of planning units at departmental, regional and local levels, creation of specialized monitoring units, establishment of data banks and management

[21]See James J. Heaphey, **Spatial Dimensions of Development Administration** (Durham, N. C.: Duke University Press, 1971) and E. A. J. Johnson, **The Organization of Space in Developing Countries** (Cambridge: Harvard University Press, 1970). It is noteworthy that one section in the forthcoming Xth World Congress of the International Political Science Association at Edinburgh in August 1976 will be on the theme "The Spatial Dimensions of Administration."

information systems and the adoption of the Operation Room or Situation Room techniques to strengthen performance evaluation and review.

Another is that more attention has been given to the evaluation of actual or potential performance of administrative organizations. This is premised on the need to identify, for purposes of analysis, what factors or variables contribute to or constrain administrative capability for plan implementation.[22] In general, two main lines of analysis of administrative capability appeared to have developed. One approach was the effort to evolve indicators or measures of administrative capability for implementation[23] and the other is the construction of an analytical framework employing generally input-output analysis and general systems models.[24] An analytical model combining the first and the second approaches, was also suggested to analyze administrative capability or productivity.

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[22]The interest of the United Nations in this area is evident. See United Nations, **Second Development Decade: A System of Overall Review and Appraisal**; United Nations, **Appraising Administrative Capability for Development** (New York, 1969); **Administration of Development Programmes and Projects: Some Major Issues** (New York, 1971), prepared by Egbert de Vries; United Nations, Technical Assistance Administration, **The Measurement of Development Effort** (New York, 1971); and United Nations, Public Administration Branch, "Quantitative and Qualitative Indices for Appraising Administrative Capability for Development," **Public Administration Newsletter**, No. 42 (October 1971). Other efforts include the Southeast Asia Development Advisory Group (SEADAG) of the Asia Society which held a seminar on "Factors of Administrative Productivity" in March 1973. The papers presented in that conference have been published in the **Philippine Journal of Public Administration's** "Special Issue on Administrative Productivity" edited by Norman T. Uphoff, Vol. XVII, No. 3 (July 1973).

[23]See United Nations, **Second Development Decade: A System of Overall Review...**; United Nations, Public Administration Branch, "Quantitative and Qualitative Indices...." (paper presented to the SEADAG seminar); the **Journal of Development Studies** issue in April 1972 on development indicators; and **Public Administration Review** special issue on "Productivity in Government" (November-December 1972).

[24]See Norman Uphoff, "An Analytical Model of Process and Performance for Developing Indicators of Administrative Capability," in **Philippine Journal of Public Administration, op. cit.**; United Nations, **Appraising Administrative Capability for Development**; United Nations, Public Administration Branch, "Quantitative and Qualitative...; and Gabriel U. Iglesias, "Administrative Capability As a Neglected Dimension in the Implementation of Development Programmes and Projects" (paper presented at the Eastern Regional Organization for Public Administration's Conference on Implementation: The Problem of Achieving Results held

In both approaches the tendency is from measuring specific aspects of performance like efficiency, effectiveness, productivity, etc., to the evaluation of the overall performance of the entire administrative system.[25] There is a further tendency to extend the analysis beyond the outputs of the administrative system to the considerations of outcomes, i.e., intended or unintended consequences.[26]

Finally, a third line of approach, as exemplified by the EROPA cases in this volume, is the use of analytical case studies describing and analyzing the implementation of development programs and projects. Factors or variables considered critical in implementation were used as sensitizing concepts in the description and analysis of the implementation process (and planning) within a decision-making framework. Aside from focusing more on development programs and projects, this approach is premised on the need to examine the dynamics and the environmental and historical contexts impinging on the implementation process, particularly the role of critical variables in implementation, e.g., structure, leadership, support, resources and technology, in affecting inputs and in converting inputs into outputs.

A major agenda in the Second Development Decade is to appraise performance at the international and regional levels to draw "attention to both the achievements and deficiencies in realizing the goals and objectives of the strategy" and at the same time "serve as a vehicle for diagnosing the main obstacles, both internal and external to the realization of the goals and objectives...."[27] The UN listed a great number of develop-

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in October 1973 in Tokyo) (EROPA, **Pre-Conference Documentation**, Vol. III). See also Saul M. Katz, "Exploring a System Approach to Development Administration," in Fred W. Riggs (ed.), **Frontiers of Development Administration** (Durham, N.C.: Duke University Press, 1970).

[25]Uphoff, **op. cit.**; and United Nations, Public Administration Branch, "Quantitative and Qualitative Indices...." and C. Y. Wu, "Refining Concepts of Performance in Development Effectiveness, Profitability and Productivity," in **Philippine Journal of Public Administration** special issue.

[26]See Wu, **ibid.**, and Uphoff, **op. cit.**

[27]United Nations, **Second United Nations Development Decade: A System of Overall Review...**, p. 4, as cited in Warren F. Ilchman, "Measures for Measure: Administrative Productivity in the Second Development Decade," in **Philippine Journal of Public Administration** special issue, pp. 263-264.

ment performance indicators including those "relating to general administrative and policy capacity" which are, as Warren Ilchman noted, generally 'unindicated'."[28]

Efforts to measure administrative performance — variously termed "administrative capability" or "administrative productivity" — have yielded inconclusive results because of the inherent methodological difficulty of providing the performance indicators (or factors) let alone valid (and acceptable) measures of performance.

> Taken in isolation, indicators will fail to provide clear evidence about the nature of performance. Unless a constellation of variables associated with the output of bureaucracy is considered, assessment may result in a mere catalogue of pitfalls and deficiencies, the causes of which are inferred on a random and purely speculative basis.[29]

The common approach is to measure administrative capability by employing both quantitative and qualitative indices.

The whole notion of evaluation is not only plagued by such problems as objectivity, levels or conceptual units of analysis (parts or entire systems), temporal and process points, for example, some programs posed evaluation problems in determining at which point in the program or project life will assessment be conducted; subprogram or project outputs become inputs to other subprograms or the program itself. As Oszlak noted, there is the added problem caused by the "weak theoretical foundations supporting most efforts to evaluate the state bureaucracy."[30]

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[28]**Ibid.**, p. 263. Ilchman further noted: "Indeed, so knotty is the problem of providing indicators for these two areas (administrative and policy capacity) that a subsequent schedule for indicators dropped them entirely." **Ibid.**, p. 265.

[29]Oscar Oszlak, "Indicators of Bureaucratic Performance in Third World Countries: Uses and Limitation," in **Philippine Journal of Public Administration,** Vol. XVII, No. 3 (July 1973), p. 336.

[30]**Loc. cit.**, a United Nations paper seems to support Oszlak's view: "Appraisal of administrative capability for development is dependent upon an acceptable theory and model of public administration.... Public administration for development lacks a comprehensive theory or model.... It has neither developed the complete chain of relationships involved in conversion of inputs in public administration into outputs nor has it for-

It seems paradoxical that a consequence of the need to evaluate plans which accounts for non-economic dimensions would introduce greater difficulties in evaluating plan performance since most efforts to measure administrative performance have remained unsatisfactory and controversial. This has not deterred, however, the continuing interest to study the performance of public organizations. This is especially true for evaluations which employ quantitative indicators for performance. The need to quantify administrative performance seems to be a logical extension of the common practice of evaluating plan performance with economic indicators and the psychological need to attain greater certainty and predictability which quantification seems to offer. An early statement in this regard is Waterston's.[31]

> If planners are to set realistic plan targets, they must find means to measure, quantitatively, administrative inadequacy and the lack of political 'will to develop.' These measurements are essential if planners are to 'discuss' overly optimistic results usually obtained by the formulation of plans solely on the basis of economic potentialities alone.

Norman Uphoff suggests an analytical model which pushes the analysis beyond the conventional "outputs" to the consideration of "outcomes" (i.e., consequences, intended or not, of outputs) which somewhat parallels an earlier trend in political decision-making studies to extend analysis from decisions as products or outputs of the decision-making process to that of outcomes or effects of the decisions and of the decision-making process itself.[32]

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mulated a deductive theory of its internal dynamics." See United Nations, "Quantitative and Qualitative Indices . . .," excerpted in **Philippine Journal of Public Administration** special issue, p. 385.

[31]**Op. cit.**, p. 367.

[32]Robinson and Majak note two ways of distinguishing **outputs** and **outcomes**: (1) it is a difference between intermediate and end products, and (2) it is a difference in usage — **outputs** being used within the decision unit to produce other **outputs** and eventually **outcomes.**" See James A. Robinson and R. Roger Majak, "The Theory of Decision-making," in James C. Charlesworth (ed.), **Contemporary Political Analysis** (New York: The Free Press, 1967), p. 185.

The two-part analytic model focuses the analysis to "the relationship among inputs, outputs and **outcomes**" (the administrative process part) with "aspects of administrative performance" like efficiency, effectiveness, innovation, and efficacy (the administrative performance part).[33]

Central to this formula is the desirability of evolving indicators for both administrative process (i.e., inputs, outputs, and outcomes) and administrative performance (i.e., efficiency, effectiveness, innovation and efficacy).[34] Uphoff asserts that indicators for process elements "can be most readily formulated" (e.g., inputs indicators like financial, labor and material "are the easiest to indicate") (p. 372) except for outcomes which are "more difficult to measure" although most can be quantitatively identified" (p. 373).

The comprehensiveness of this approach promises the advantage of a "fuller" understanding of the administrative "process", "performance" and their relationship. The very comprehensiveness of the model itself and the inclusive character of performance concepts present methodological as well as practical difficulties in its application.

Since analytic models generally serve the purpose of artificially simplifying and ordering what is a complex reality then it should as much as possible reduce information search. Simon's "satisficing" model of decision-making suggests that to select "satisfactory" alternatives is the more optimizing strategy than selecting the "optimum" alternative (i.e., more information search for the "best" alternative and their consequences) in situations where decisions are constrained by time, data and

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[33]Uphoff, **op. cit.**, pp. 272, 273-274.

[34]Uphoff, **ibid.**, pp. 374-375, defines the relationship between performance variables with the administrative process part in these terms: "**efficiency** relates to the conversion of inputs into outputs, with special attention to how **inputs** are used; **effectiveness** relates to the production of outputs which are intended to yield certain desired outcomes, **innovation** can relate to the whole process, but its key function is to get more outputs that achieve desired **outcomes**, and **efficacy** deals with their achievement but in extra-bureaucratic ways, especially involving inputs from the public so that the outputs of administration indeed 'match up' with public needs."

computational capacity.[35] While the analysis encompassing both process and performance of administrative systems and evaluating these through quantitative and qualitative measures might provide a "fuller" understanding of administrative productivity or capability for implementation it could also easily lead to making the research and analysis unmanageable, costly, and time-consuming. These are "costs" that researchers and administrators in developing countries cannot afford.

In the main, the four-pronged descriptive and evaluative approaches to administrative capability, performance or productivity are complementary and supportive efforts which could yield possible theoretical and practical policy benefits. The record so far, however, has been disappointing. The quest for indicators, and measures, particularly quantitative, remains unsatisfactory because of the problems of what should be indicated or measured, the criteria to be used, the problem of ranking and the operationalization of abstract measures of performance like efficiency, effectiveness, economy, and the like.

The tendency to construct global or comprehensive analytical models, while attending to every conceivable facet leading to a more complete explanation, appears difficult to operationalize as a feasible program for evaluative research.[36] There are too many linkages or interfacings of abstract and imprecise concepts which defy even efforts to operationally define them much less specifying their values and casual relationships. Is efficiency a measure of systems output, processing capability or outcomes? It is possible that the performance of administrative organizations reflect varying levels of efficiency, econ-

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[35]Herbert Simon, "A Behavioral Model of Rational Choice," in **Models of Man** (New York: Wiley, 1957). See also James March and Herbert Simon, **Organizations** (New York: Wiley, 1958).

[36]This was essentially the same critique levelled at Richard C. Snyder's decision-making model in the study of international politics found in "A Decision-Making Approach to the Study of Political Phenomena," in Roland Young (ed.), **Approaches to the Study of Politics** (Evanston: Northwestern University Press, 1958) and with N. W. Bruck and Burton Sapin, **Foreign Policy Decision-Making** (New York: Free Press, 1962). See Herbert McClosky, "Concerning Strategies for a Science of International Politics," **World Politics** (January 1956) and James N. Rosenau, "Premises of Decision-Making Analysis," in Charlesworth, **op. cit.**, for a critical and sympathetic view of Snyder's formulation.

omy, effectiveness and responsiveness as well as contradictory outputs and outcomes, that is, efficient but unresponsive, economical but ineffective. Should the value of efficiency be more "important" than responsiveness? Whose evaluation criteria should be used: program personnel, academic analysts, foreign consultants? There is also a danger that its very comprehensiveness could lead not only to superficial analysis of the component elements of process and performance but also deflect attention from the real substance of administration in developing societies.

Since all forms of evaluation cannot escape subjectivity and value judgments, the use of case studies at the program/project levels could be fruitfully used to analyze administrative capability for implementation as well as further sharpen methodological tools in ferreting out the role of certain critical factors affecting the implementation process.[37] While this micro level analysis of program/project processes and behavior cannot be used as bases for generalizations about the performance capability of the entire administrative system, analytical case studies of specific programs/projects could serve as potential building blocks for overall performance evaluation once more case studies representing sectoral, functional, and geographical areas are prepared.

Finally, case studies may be used to test the validity of some key concepts and assumptions of middle-range and comprehensive models and framework.[38] Bertram Gross, speaking in behalf of his co-authors, said that "without exception, we feel there is a serious need for more empirically-based generalizations concerning the national planning process."[39]

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[37]Albert O. Hirschman, **Development Projects Observed** (Washington, D.C.: The Brookings Institution, 1967), a study of World Bank projects, is an example of the usefulness of using case analysis at the project level. See also John A. King, **Economic Development Projects and Their Appraisal: Cases and Principles from the Experience of the World Bank** (Baltimore: Johns Hopkins Press, 1967).

[38]Richard C. Snyder and Glenn D. Paige, "The U.S. Decision to Resist Aggression in Korea: An Application of an Analytical Scheme," **Administrative Science Quarterly**, Vol. III, No. 3 (1958), as an example of testing the utility of an analytical framework through the use of a case study approach.

[39]"Planning the Improbable," in Gross, **op. cit.**, pp. 18-19.

Models which provide partial analysis have been suggested as possible building blocks towards comprehensive or global models.[40] One approach is to limit analysis to manageable levels of reality, say, away from analyzing or evaluating the capability of an entire administrative system or away from evaluations of the entire national development plan. Analysis of administrative capability for implementation at the program/project level could offer several advantages.

VI

A SIMPLIFIED APPROACH TOWARDS EVALUATING ADMINISTRATIVE CAPABILITY IN IMPLEMENTATION

Conceivably, there are innumerable factors which could affect the implementation process since it is inextricably a part of the planning process and of government and society as a whole. Some of these influences are external to the programs and are often beyond the control of implementors, e.g., the party system and the electoral process, the relationship between the executive and legislative, the budgetary process, the structure and functioning of the legislative system, the economic system and conditions, and the policies and procedures of international funding and lending institutions. These external influences are generally the sources of program uncertainties and their impingement on critical inputs for the program are often decisive.

However, some are internal to the implementing agencies and their programs. For example, the organizational structuring for implementation, their location in the governmental system, the nature and range of authority and responsibility vested in them, the range of control accorded implementors for planning, coordinating and managing critical program resources, the characteristics of the plans, the technical qualification of key implementors and the nature of the program undertaken.

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[40]See Snyder and Paige, **op. cit.**

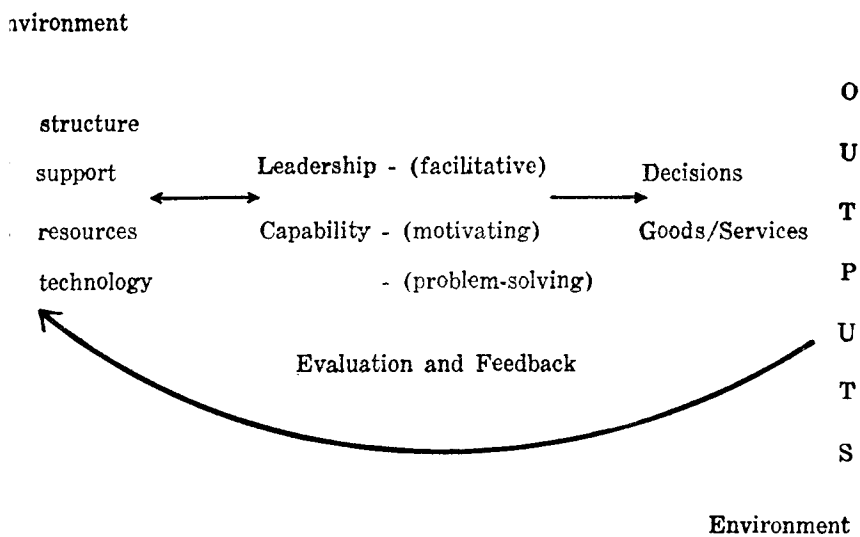
It zeroes in on actual or potential performance of organizations where feasible reforms and changes may be mounted, whereas the more "political" structures such as Congress, the Parliament, the Executive, and international agencies are generally much more difficult areas for introducing planned organizational change. It also serves to simplify the problem of analysis since this focus excludes those aspects which are fundamentally in the level of politics, for example, whether the program or project should have been undertaken in the first place is a policy issue which should be studied as an important area of a separate investigation. Thus, this approach is more concerned with **administrative** implications once a decision has been reached to launch the program (i.e., planning and management of resources, organizational arrangement, etc.) rather than on issues regarding its desirability in terms of the total national development efforts.

It is noteworthy that the majority of EROPA cases revealed that these programs have been imposed on government either because the problem they seek to alleviate are not only recurring but also have often reached crisis proportions. The programs are also perceived as vital in accelerating economic development and have been undertaken for their possible "multiplier" or "spin-off" effects. Hence, whether these programs should have been undertaken in the first place becomes moot and outside our present interest and therefore, **a priori** or post-hoc analysis is extremely difficult or irrelevant.

Emphasis on administrative capability does not, however, inhibit analysis of the importance of the domestic and international environment as a major determinant of administrative performance in implementing the program, particularly in providing the critical inputs in the program implementation process. These are also analyzed but from the viewpoint of how they constrain or enhance administrative capability.

The central problem, then, is the isolation and identification of factors or variables which enhance or increase the capability of administrative organizations to implement programs. Conversely, what factors or variables impede or decrease adminis-

trative capability? Stated in systems terms, we may assume that implementing organization's capability to "convert" or "process" critical inputs of the program into certain outputs would depend, to a large extent, on administrative capability. Thus, administrative capability could be a measure of the ranges of performance of administrative organizations in converting or processing program inputs into outputs such as goods and services. Below is a rough model of the implementation process viewed as an administrative capability system.



Critical Inputs

a) Resources. These resources are vital inputs to the implementation process and these include generally human (e.g., program personnel) as well as non-human components (funding, physical plant and equipment, material, etc.).

b) Structure. This refers to certain stable organizational roles and relationships which are program-relevant and either prescribed legally or informally by convention or both.

c) Technology. Refers broadly to knowledge and behavior essential for the operation of the organization and more specifically to knowledge and practices required by, or essential to the

program itself. Hence, it could refer both to technical and specialized knowledge (for example, for constructing an irrigation system) as well as to broad knowledge and behavior essential to organizational life (coordinating the work of program personnel, planning and allocating resources, etc.).

d) Support. Refers to the whole range of actual or potential roles and behavior of persons and entities which tend to promote the attainment of certain organization goals.

We assume that the four inputs above are not only essential and critical to the implementation of development programs and projects but that they also vary in terms of their magnitudes and/or quality. For instance, some programs may have "adequate" financial and personnel resources while others do not; some are "weak" in organization for program implementation while others are "strong"; some programs have higher levels of technological capability while others are low. Furthermore, these critical inputs vary within time-spans covered by the program, that is, a program may start out with poor resource inputs but later on may improve its resources after key implementors have introduced efficient methods of allocating and controlling resources or have exploited their support input to generate more funds for the program. In addition to variability, the critical inputs are also interrelated and interdependent. For instance, a weak organizational structure for program implementation could lead to dissipation of resources and weakening of support from organization members as well as external elite-allies; conversely, a strong structure could enhance internal and external support (local elites or foreign donors).

Such interrelationships and interdependencies are not always on the level of one-to-one causation since deficiencies in one of the critical inputs could have important effects on the others. For example, a weak support input could lead to weaknesses in structure and resources (e.g., inadequate legal authority to control and manage critical resource-inputs; permeability to external and/or political interference leading to higher incidence of decisions based on non-programmatic and non-tech-

nical criteria), and poor technological capability (difficulty in rationalizing operations, in recruiting qualified personnel, especially in employing technical experts and consultants).

Leadership: A Key Input and Processing Factor

It is clearly evident that the EROPA cases reveal that leadership is the dominant factor in program implementation, particularly in terms of its ability to alter and modify the critical inputs in the implementation of the development program. Leadership refers narrowly to three qualities of the behavior and activities of key program officials: 1) those concerned with facilitating the implementation process; 2) those concerned with solving innumerable obstacles and problems encountered during implementation; and 3) those concerned with motivational/behavioral processes to ensure a stronger ideological commitment to attain objectives, that is, "the will to achieve results."

It should be noted that while the leadership factor directly affects the critical inputs it is also constrained by certain characteristics of these inputs. For example, a weak organizational structure, inadequate and uncertain resources, weak support, and poor technological capability could impose a heavy strain on the facilitative, problem-solving, and motivational capability of key personnel.

What makes the leadership variable so crucial in the implementation process is its dynamic, not passive quality, i.e., its capability to act and react on these critical inputs. It is this manipulative and transforming quality of leadership that could significantly determine the administrative capability of implementing organizations. Thus, a manipulative and transforming strategy may be evolved by the leadership to enhance administrative capability. For instance, given the possibility of, say a "mixed" characteristics of the critical inputs, e.g., strong support but weak structural and technological capability and inadequate financial resources, the key program leaders could exploit its strong support input by a strategy which would generate additional resources either from the domestic or international envi-

ronment; increasing technical competence for the program (e.g., training programs, hiring consultants, recruiting qualified personnel); in improving structural efficiency by optimizing resource management through planning and improved techniques and mechanism for coordinating and controlling work.

On the other hand, leadership could generate support for the program from external elites through the adoption of strategies designed to enhance the support input, e.g., reformulating program objectives in terms of their appeal to key political elites and by generating program outputs which satisfy the expectations of clientele and program "consumers" and indirectly serve the political interests of political elites, especially for electoral success. Thus, the facilitative aspect of the leadership variable could have important consequences on the inputs critical to the implementation of development programs and projects. Deficiencies and inadequacies in any or all the critical inputs could be mitigated and/or improved by the adoption of a variety of facilitative strategies, enumerated above, designed to increase or enhance any or all of the critical inputs in the implementation process.

In addition to its facilitative aspect, the role of leadership as problem-solver is vital in implementation. As Hirschman aptly noted "... all projects are problem-ridden; the only valid distinction appears to be between those that are more or less successful and those that are not."[41] Whereas, the facilitative aspect centers on the more dynamic, aggressive, manipulative, and future-perspective role of key personnel, problem-solving is the more reactive, passive and present-perspective characteristic of leadership. Although effective performance of the facilitative role would help reduce the number and range of problems that may be encountered in implementation, e.g., planning resource requirements and improved coordination, the general uncertainties that envelop programs and projects (e.g., changes in government, inflation, natural calamities, currency crisis, government reorganization, delayed and uncertain budgetary releases, etc.) cannot all be anticipated nor planned for in advance.

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[41]Ibid., pp. 1-3.

This is further exacerbated by the sheer magnitude and complexity of some programs where potential problems lurk in each of the thousand and one activities requiring cooperative action. Thus, the "pilot projects," "demonstration farms" and "intensification" approaches are common strategies adopted not only to advertise the feasibility of programs but also to plot out, isolate and identify problem-areas and bottlenecks before full-scale implementation of the program. Implementation problems often occur in areas where existing procedural rules cannot cover adequately certain contingent or unexpected situations in the field or where the rules become deterrents to purposive and speedy response to a problem situation. It is part of the problem-solver role of leadership to anticipate these problems or to be immediately appraised of their existence so that guidelines on rule-exception, within certain acceptable ranges, could either be incorporated in the plan for implementation or in supplemental policies. Program implementors have to contend often with stringent government regulations, especially in areas which involve fiscal accountability so that the leadership may have to probe the outer limits of what is legally permissible in order to attain program objectives. In addition, the leadership could structurally incorporate problem-solving mechanisms and processes through the adoption of a number of coordinative strategies, such as 1) **ad-hoc** committees to deal with special technical problems; 2) task force units to deal with bottlenecks in the field of implementation; and 3) problem-monitoring and follow-up systems through timely and scheduled submission of oral and written reports on problems as well as follow-ups on what have been done to these problems.

The motivating role is an indispensable facet of leadership in performing facilitating and problem-solving functions although it may be assumed that efficient performance in these two areas could already create a favorable environment for high morale and motivation to "achieve results." The motivational/behavioral component of leadership deserves special attention since there are instances where organizational action to achieve goals often depends on the capability of leadership to exhort, drive, and instigate action above normal requirements. In the

absence of institutionalized leadership patterns in developing countries, a style of leadership which projects a strong determination to perform beyond the ordinary and which serves as a catalyst to instill the will to achieve is a necessary instrument for development administration.

It requires a deep knowledge of, and sensitivity to, the psychosocial characteristics of the people, their traditions and culture generally and of the administrative system in particular. It then becomes an ideology for action as well as a strategy which harnesses traditional elements to reinforce innovative reforms. Leadership becomes a catalyst for innovative response, defines and interprets broad goals into meaningful programs for action, and specifies the contributions of members in terms of rewarding achievement and punishing poor performance. To be a driving and motive force to achieve implementation goals, the leadership sets style of administration which is selfless and exacting not only for lower echelon personnel but more so on themselves. Thus, through exhortation, advocacy and example, leadership could communicate to organization members the motivation to achieve program objectives.

I. IMPLEMENTING RURAL AND AGRICULTURAL DEVELOPMENT PROGRAMS

THE CASE STUDIES

1. PHILIPPINES

2. NEPAL

3. SRI LANKA

4. MALAYSIA

PHILIPPINES

LEADERSHIP ROLE IN IMPLEMENTATION: MARCOS' RICE SELF-SUFFICIENCY PROGRAM: 1966-1970

Gabriel U. Iglesias

THE AUTHOR AND EDITOR

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Dr. Iglesias has attended and presented papers in numerous international conferences, including the Workshop-Seminar on "Administration of Rice Production Project", Technology and Development Institute, East-West Center (1973), the IX World Congress of the International Political Science Association in Montreal (1973), ACDA expert meeting on "Coordination of Public Enterprises" March and September, at Kuala Lumpur, Malaysia (1975) and ACDA/SEATAC Experts meeting on "Organization and Financing of Urban Transport Systems in Southeast Asian Capitals" in Kuala Lumpur in April 1975, Singapore in October 1975 and Bangkok in December 1975. As Research Coodinator of the EROPA project on implementation, Dr. Iglesias attended the First and Second Workshops (Jakarta, 1972, Bangkok 1973) and General Conference (Tokyo, 1973).

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CONTENTS

MARCOS' RICE SELF-SUFFICIENCY PROGRAM: LEADERSHIP ROLE IN IMPLEMENTATION*

Gabriel U. Iglesias*

I. INTRODUCTION AND BACKGROUND

This study is concerned with understanding or explaining why rice self-sufficiency was attained in 1968. This interest provides the essential justification for restricting the analysis to the two-year period (1966-1968) so that a more intensive study may be made on the critical factors or variables which contributed in the attainment of self-sufficiency in rice in 1968 after the launching of the program in 1966. This is regarded as a remarkable feat considering the country's long history of rice shortages.

In this study, the stress is on describing, analyzing and isolating the critical conditions and the factors or variables which perhaps could answer the question of how and why certain programs attain certain specified goals or objectives. A study which seeks to throw light on this problem is important not only to administrators and policy makers but also to students of administration.

Development programs do not just emerge from nowhere. The four-year rice self-sufficiency program initiated during President Ferdinand E. Marcos' first year in office in 1966, was deeply rooted in the rice and agriculture programs of past administrations and in the activities of innumerable bureaus and agencies within and outside the Department of Agriculture and Natural Resources (DANR) which are directly involved in rice production, marketing and distribution. The complexity of the rice program itself and the myriad public and private institutions, organizations, and groups directly or indirectly impli-

* I am grateful to Miss Victoria M. Arcega and Mrs. Azucena T. Miranda of the College of Public Administration, University of the Philippines, for their assistance in preparing this case study.

cated add to the difficulty of tracing out the antecedents of the Marcos program.

A. The Rice Program Under President Garcia (1958-1962)

The "Rice and Corn Production Program" in 1958 under the administration of President Carlos P. Garcia provides a convenient starting point since it represented the first serious attempt to look at the problem of low rice production in programmatic terms. Prior to this, the administration's major characteristic response to the problem of rice underproduction was simply to increase the area devoted to rice production. There were also efforts to improve certain resource-inputs to rice production (i.e., better rice varieties, improved cultural practices, increased use of pesticides and fertilizers, improved irrigation facilities) but these measures were taken separately at different time-periods and there was no attempt to evolve a coherent and integrated program. Another characteristic response was to create, improve, and reorganize agencies in order to strengthen administrative services (e.g., credit, marketing, etc.) specifically concerned with rice production and agriculture generally.

Conflicting Policies

The prime mover and major force behind the rice program in 1958 was Eugenio E. Cruz, then Director of the Bureau of Plant Industry (BPI). Spurred by the huge rice shortage in 1957 caused by typhoons and droughts, Cruz invited the Dean of the University of the Philippines' College of Agriculture (UPCA) and other bureau directors of the DANR to a series of meetings on how to coordinate their efforts regarding the rice program. After several meetings, this group presented the proposed bill to Congress.

Some key features of the rice program proposed at that time may be noted. First, it recommended the creation of the Rice and Corn Production Coordinating Council (RCPCC) as "the highest governing body [which would] exercise direct con-

trol and management over the Rice and Corn Production Program." The Council would be composed of the Director of the Bureau of Plant Industry (BPI) as Chairman and Coordinator, with the Directors of the Bureau of Agricultural Extension (BAE), Bureau of Soils (BS), the Administrator of the Agricultural Credit and Cooperative Financing Administration (ACCFA) and the Dean, UPCA, as members. This organizational structure and composition was duplicated in the implementing levels through the Regional RCPCC, the Provincial RCPCC, and the Action Teams. Under the direct supervision of the Provincial RCPCC, each Action Team would provide various services to the farmers within an area of 1,000 to 2,000 hectares.

In addition to his membership in the Council each head of agency was also designated as Project Director for particular activities: for example, the Director of the BS was to be project director for soil management and fertilizer, the Director of the BPI for pest control and the seed program, etc. The primary objective of the program was "to effect an immediate considerable increase in the national supply of rice through domestic production" and the program would concentrate all productive resources, during the first year, on 300,000 hectares of irrigated land selected from 49 provinces. The goal was to cover 300,000 hectares annually for the next three years. The program stressed the importance of coordinating agency activities and concentrating productive resources — personnel as well as physical inputs like improved seeds, fertilizers, pest and disease control, and improved cultural practices — on a limited area of irrigated land.[1] It may be noted that the same "intensification" approach was also used in Marcos' 1966 program.

There was, however, a strong sentiment among Congressmen against making the BPI director as Chairman and Coordinator so that the bill that passed the legislature and signed into law (as Republic Act No. 2084) placed the Secretary of the DANR in these key posts in the RCPCC. Cruz, however, was able to persuade Senator Gil Puyat, the Chairman of the

[1]Rice and Corn Production Coordinating Council, **Rice and Corn Production Program: Service Handbook** (Manila, 1958).

powerful Committee on Finance, to insert in the Appropriations Act of 1958 (Republic Act No. 2080) not only a provision appropriating ₱20 million for a rice and corn program but also making the BPI director (Cruz) the Chairman and Coordinator of the Council. Cruz justified this on the assumption that the program needed some degree of continuity which a career civil servant could provide and not a political official like the Secretary.[2] In addition, the RCPCC under R.A. 2080 had only 4 members whereas R.A. 2084 prescribed 11 heads of agencies as members.[3] When the Council was created in 1958, it was the provision of the Appropriations Act, not the Rice and Corn Production Act, which was followed.

An important consequence of the RCPCC composition and leadership structure was that a much narrower conceptualization of the program was adopted — that is, the rice problem was viewed as simply a problem of increasing rice production. Incentives to rice producers through rice support as well as marketing and distribution aspects were not all integrated into the program. The exclusion of the National Rice and Corn Administration (NARIC) from the RCPCC was a glaring omission considering that this agency was concerned with marketing and distribution. The leadership structure created difficulties in program coordination and control since the Chairman and Coordinator carried the same rank as the other members. This was further exacerbated by the traditional rivalry and conflict among the bureaus of the DANR. Although the Secretary of the DANR was eventually installed as Council Chairman and Coordinator (Director Cruz was made Vice-Chairman and Assistant Coordinator) the following year, the absence of active and sustained leadership at the top, the Council's failure to get political support from Garcia, and the bickerings among cooperating agencies tended to work against successful implementation of the program.

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[2]Interview, July 29, 1972.

[3]The eleven member-agencies were: BPI, BS, BAE, Bureau of Public Works, Bureau of Animal Industry, Bureau of Lands, Bureau of Mines, UPCA, ACCFA, Bureau of General Services, and the National Rice and Corn Administration. See Victoria M. Arcega, "Mobilizing Bureaucracy: The Case of the Rice and Corn Production Council" (paper presented at the SEADAG Rural Development Seminar, January 7, 1970), p. 6.

B. The Macapagal Program (1962-1966): Focus on Land Reform and Agricultural Extension

Although R.A. 2084 implied the adoption and implementation of some kind of a long-range rice program, the law itself did not provide the necessary financial support and despite the fact that the General Appropriations Acts from 1958 onwards invariably appropriated 20 million pesos each year for the program, the uncertainty of financial support precluded long-range planning and implementation of a rice program.

President Diosdado Macapagal (who succeeded Garcia in 1962) unwittingly added problems to the rice program when he stressed the land reform program in solving the agrarian problem. Two agencies involved in the rice program — the BAE and the ACCFA — were reorganized and were given responsibility for the land reform program.[4]. This further increased the bifurcation of interests among cooperating agencies and the deflection of priorities in terms of personnel and resources from the rice to the land reform program.

It was only on the second year of his administration that President Macapagal gave serious attention to the rice supply problem when he announced his own rice crash program. His 1964 Executive Order No. 62 created the Rice and Corn Authority as the sole authority on rice production, replacing the RCPCC as the highest policy making and coordinating body. It should be noted that the Authority had the same set of cooperating agencies as the RCPCC except for the addition of the Secretary of National Defense. Unlike the earlier program, the rice crash program stressed the agricultural extension role of the Agricultural Productivity Commission (formerly the Bureau of Agricultural Extension).

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[4]The Agricultural Land Reform Code (RA 3844) of 1963 created the Agricultural Productivity Commission (APC) directly under the Office of the President. The APC was the new name given to the former Bureau of Agricultural Extension of the DANR (Section 119). The Code also reorganized the Agricultural Credit and Cooperative Financing Administration and renamed it Agricultural Credit Administration (ACA).

However, Macapagal's program had a number of new features not found in the rice program under Garcia. Farmers who joined the program were extended credit for seeds, pesticides, and for harvesting. In addition, it included a fertilizer subsidy program which enabled participating farmers to pay only half the cost of imported fertilizers. Extension workers, who used only to visit the farmers they covered, were now required to live in the district of their assignment in order to enhance their acceptance and lessen farmer resistance to the adoption of new cultural methods.

The transfer of the BAE (now APC) from the DANR to the Office of the President and the increased role assigned to it for the implementation of both the land reform program and the rice program created some degree of resentment from other bureaus in the DANR. Thus, the major implementing arm of the rice crash program, the Rice and Corn Authority, was unable to create conditions for genuine cooperation among the agencies both in the Council and in the field.

Aside from organization problems, the rice program did not really receive the resource-inputs needed for successful implementation. The fertilizer subsidy failed because it was saddled both by anomalies and red-tape. The same stringent procedures which created red-tape also vitiated efforts to provide credit to farmers for buying pesticides, fertilizers, and for harvesting their crops. Lack of coordination often resulted in delays in the distribution of fertilizers to the farmers. The financial inputs (₱20 million annually) to the rice program were not only anemic but actual fund releases fell short of the programmed amounts, since only ₱99 million out of the ₱140 million from 1948 to 1965 were actually released.[5] Delays in the releases of funds not only hampered the work of personnel in the field but also prevented the timely infusion of material critical to the program.

[5]Raul P. de Guzman, **Achieving Self-Sufficiency in Rice** (Manila: Local Government Center, College of Public Administration, U.P., 1969), p. 42.

II. THE MARCOS RICE SELF-SUFFICIENCY PROGRAM

A. Formulating and Planning the Rice Program

The "formal" document outlining the Marcos rice self-sufficiency master program was transmitted to the President on July 21, 1966, roughly six months after he assumed the office. This "fact" neither reveals the time dimensions involved in drafting the program nor the actual commencement in implementing the program. It is therefore extremely essential to our understanding of the planning and implementation process to describe selectively the significant developments impinging on the formulation of the rice program.

1. Background and Rationale

Both the Garcia and Macapagal rice programs failed to achieve self-sufficiency in rice since there was actually a negligible increase in average yield per hectare of only 5.28 cavans (44 kilograms) during the 8-year period — from 23.08 cavans in 1958 to 28.36 in 1965.[6] This poor production performance was somewhat mitigated by the shift of productive resources during the six-year period from 1959 to 1965 from cereal production to export crops. The area for the latter increased by 691,000 hectares and the area devoted to rice and corn was reduced by "six per cent" or 313,000 hectares. This shift was induced by fiscal and monetary policies — for example, the decontrol measures in the late 1950's and the peso devaluation in 1962.[7] Thus, despite the rice production programs under Garcia and Macapagal (1958-1965), the country's rice importation reached a staggering total of 1,543,652 metric tons, which is 1,140,215 metric tons more than the total rice imports for

[6]The annual average yields per hectare in cavans or 44 kilograms from 1958 to 1965 were as follows: 1958 — 23.08; 1959 — 25.15; 1960 — 25.75; 1961 — 26.33; 1962 — 27.95; 1963 — 28.52; 1964 — 28.29 and 1965 — 28.36. See Rafael M. Salas, "The Philippine Food Production Program" (presented to Director-General A. H. Boerma of the United Nations Food and Agricultural Organization, November 1968), p. 11.

[7]Frank Golay and Marvin E. Goodstein, **Philippine Rice Needs to 1990** (Manila, 1967), p. 17, **passim.**

the preceding eight years under Presidents Elpidio Quirino and Ramon Magsaysay (1950-1957).[8]

Sufficiency in rice is a politically-charged issue: high prices of rice before and during elections are major factors in electoral success or failure. It is also a seemingly intractable problem confronting every new administration. It was not unexpected, therefore, for Presidential candidate Marcos to include in his campaign platform during the 1965 elections a promise to mount a massive program to attain self-sufficiency in rice. He also charged President Macapagal of sabotaging and neglecting local rice production for authorizing the heaviest importation of rice (569,800 metric tons) in an election year (1965).[9]

A proof that Mr. Marcos was determined to solve the rice problem and was not only engaged in political polemics was the creation of a Rice Study Committee headed by Dean Dioscoro Umali of the College of Agriculture, University of the Philippines, soon after the Nacionalista Party Convention selected him as Presidential candidate in mid-1965.

Thus, a week after Marcos assumed the Presidency in January 1966, the Umali Committee submitted its report to the President containing proposals for a "long-range program for self-sufficiency in rice and corn...."[10] The report served as the basis of the Marcos rice program and the framework for a number of policy measures taken before the formal adoption of the program in mid-1966.

Several important decisions (following the Umali Committee recommendations) were made by the Marcos administration as soon as it took over the government in January 1966. First, the RCPCC immediately launched an experimental rice program

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[8]The Philippines had been importing rice since 1885. Rice imports since the start of the rice program in 1958 are as follows: 1958 — 230,669 metric tons; 1959 — 6,502; 1960 — no data; 1961 — 186,380; 1962 — no data; 1963 — 256,300; 1964 — 300,000; 1965 — 569,800. See Salas, **op. cit.**, p. 12.

[9]"Charges and Countercharges," **Philippines Free Press**, August 21, 1965.

[10]Report of the Rice and Corn Study Committee, January 8, 1966, entitled, **A Realistic Rice and Corn Program for the Philippines.** (Umali Committee Report).

covering only a small area of around 45,000 hectares of irrigated land in five provinces and using two approaches: 1) the use of intensification methods; that is, the concentration of production resource-inputs such as personnel, financial, technical, and material, on a smaller but potentially productive area (good irrigation facilities, access roads and other infrastructures, banking facilities) and 2) coordination of public and private agencies which could be involved in the rice program. The experiment would provide an empirical test for some of the key ideas contained in the Umali report: for example, the use of the intensification approach and the closer involvement of the private sector in production, marketing and distribution.

Second, was the decision to revive and strengthen the RCPCC as the policy-making and implementing arm of the program through the appointment of practically a new set of key officials. As mentioned earlier, functions of the RCPCC had been taken over by the Rice and Corn Authority under Macapagal's administration.

Finally, the Marcos administration immediately pushed through the legislature a bill amending the RCA Charter (Republic Act No. 3452) through the enactment of Republic Act No. 4643 in March 1966, a few weeks after Congress opened its session. This law created a payment scheme involving the issuance of warehouse receipts **(quedan)** to farmers who deposit their unhusked rice **(palay)** in any RCA-approved bonded warehouse. The farmers can then encash the quedans in any Central Bank-approved rural bank. The improvement of the marketing aspects of rice through the **quedan** system was recommended by the Umali Committee.

2. RCPCC Technical Staff Drafts the Rice Program: Key Features

Although some ideas in the Umali Report were already being implemented, the RCPCC nonetheless decided that a Special Committee drawn from its Technical Staff (TS) should work out a four-year rice self-sufficiency program. Eliseo Carandang, a BPI Regional Director, was appointed to head the

Special Committee which would formulate the program based on the Umali Report.

Since the Umali Report itself was drafted by a panel of experts, it served as an influential document in evolving the four-year program, especially in sensitizing the Committee toward information to be gathered from different agencies. Once the draft was completed, key RCPCC officials held a series of meetings on strategies to adopt in formulating the master program. Several important decisions were adopted: first, to identify the different sub-program areas and the major agencies involved. In addition to the regular sub-program like the seed program, irrigation program, soil management and fertilizer program, etc., they added the credit, marketing, survey and evaluation programs.

Once the sub-programs were identified, the present and future roles of different agencies — government and private — could then be assessed and programmed, together with the human and non-human resources required in attaining sub-program objectives. The master program report included appendices showing current status as well as future projections of sub-program resource-inputs.

The draft of the four-year program was finally completed towards June 1966 and formally submitted to the RCPCC for its consideration. The Council held a series of meetings reviewing and finalizing this draft and it was in one of these conferences that the RCPCC decided that the Rice and Corn Administration (RCA) — a key agency in the procurement, marketing, and distribution aspects of the rice program, especially in implementing price stabilization policies — should sit as a regular member of the Council. It should be noted that the RCA (formerly NARIC) had been excluded from the RCPCC in the Garcia and Macapagal programs.

On July 21, 1966, the RCPCC's four-year rice and corn program was transmitted to President Marcos by Vice-President Lopez:

> This report is now the so-called master program. It represents the total integrated efforts of all agencies that will be involved in the implementation of the program. One of the new features that will be found in the program is the sincere attempt to enlist the assistance and cooperation of the private sector in the all-out effort to raise rice and corn production in the country.[11]

A distinguishing feature of this program was its broad perspective. For instance, rice self-sufficiency was viewed not merely as a problem of increasing rice production but also as a problem of improving marketing and distribution; not only a problem of consolidating, integrating and concentrating resources of governmental agencies in a limited area but also the involvement of the private sector in production as well as in marketing and distribution. This broader conceptualization of the problem was based on the assumption that in order to achieve self-sufficiency, the rice program must tackle two basic and inter-related problems: "low productivity and inefficient distribution" of rice.[12] Unlike earlier programs, the new program considered marketing and distribution as vital aspects of the whole plan. In terms of an overall strategy for achieving rice self-sufficiency, the program envisioned three broad fronts for implementation: production, marketing and distribution, and implementing machinery. The close involvement of the private sector in implementation was a key feature not found in earlier programs.

a. Production: Setting of Goals, Priorities and Strategies

The production goal was to increase yield per hectare from 28.4 cavans (1965-1966) base to 30.3 (1966-1967), 32.3 (1967-1968), 34.3 (1968-1969) and 36.8 (1969-1970).[13]

The program's projection that self-sufficency would be attained on the third year (1968-1969)[14] was probably designed

[11]RCPCC, **Four-Year Rice and Corn Self-Sufficiency Program: 1966-1970** (Quezon City, 1966).

[12]Umali Report, **op. cit.**, p. 1.

[13]See **Four-Year Rice and Corn Self-Sufficiency Program: 1966-1970**, Table 1, p. 10.

[14]From a deficit of 6.7 million cavans in 1966-1967 to a surplus of 0.6 and 5.8 million cavans in 1968-1969 and 1969-1970, **ibid.**

to attract political support because of the presidential election scheduled in 1969.

The country was classified into three priority areas and the 34 ranking provinces — based on highest percentage of irrigated land. Around 319,325 hectares was to be covered by the program during the first year.[15] In addition to setting up a system of priorities, the program sought to implement the intensification approach through the concentration of "limited manpower, technical, financial and material resources" on a smaller area; that is, Priority Area I and II, in that order of priority during the first year of implementation. The area of coverage was to be extended by 100,000 hectares annually for the succeeding three years since the program increase included areas under gravity and pump irrigation systems.

b. **Marketing and Distribution**

A price support and stabilization scheme including procurement of palay (unhusked rice) was set up to stabilize prices and to provide incentives to rice producers. The RCA would primarily be concerned with regulation and supervision since with the adoption of the **quedan** system the RCA would transfer to the private sector its warehousing, milling and distribution functions. Through the introduction of the **quedan** system scheme the program anticipated not only to derive savings from the RCA's buying operation but also to "minimize commission of irregularities which becomes rampant when the government itself directly engages in the rice business, as was the case in the past."[16]

The adoption of the **quedan** system of procurement is an example of technology transfer from one industry (sugar) to

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[15]Technical, not political, criteria governed the selection. Although the existence of irrigation facilities was the principal criterion because the high-yielding varieties (HYV) needed much water, the presence of banks, good road networks, productive capacity were other criteria used. Productive potential was used in including Cotabato Province in Mindanao as the 11th province in Priority Area I by classifying it a "special province" (Cotabato ranked 13th in irrigated hectarage).

[16]"The Marketing Program," in **Four-Year Rice and Corn Self-Sufficiency Program: 1966-1970**, pp. 58-61.

another (rice). The **quedan** system greatly simplified marketing of rice since the farmer could deposit his produce in any RCA-designated bonded warehouse and the payment (based on government-support price levels), in a form of warehouse receipt **(quedan)**, was cashable in any Central Bank-approved rural bank. Other measures contemplated to rationalize marketing and distribution included strengthening the Farmer's Cooperative and Marketing Associations (FACOMA) and modernizing milling and warehousing as well as improving the farm-to-market transportation system.

c. Implementing Machinery

The third major strategy for implementing the rice program was to strengthen the RCPCC's ability to coordinate and control vital resource-inputs and personnel by improving the administrative management machinery. The absence in previous programs of a "master" plan to coordinate and integrate effectively the various and diverse sub-programs led to duplication of functions and inter-agency conflicts among cooperating agencies. The following were some of the important organizational reforms recommended:

1) The inclusion of the RCA manager as a regular member of the Council and the heads of the three key supportive agencies concerned with irrigation as auxiliary members (i.e., attendance and participation in the Council's deliberation).[17] The expanded composition would facilitate coordination and control of key resources in production, marketing, and distribution through the involvement of those agencies in the Council's policy-making and coordination functions.

2) The line of field organizational structure was also strengthened. First, improving staff control and coordination of field activities from the center through the creation of the posts of Executive Director and Assistant Executive Director (the latter was also designated Chief of the Technical Staff)

[17]The Presidential Assistant on Community Development (PACD), the Administrator, National Irrigation Authority (NIA), and the Administrator, Irrigation Service Unit (ISU). All three agencies are involved in the irrigation program.

> who will "oversee all activities relating to implementation." Second, by improving program implementation at the provincial level through the designation of Provincial Directors (either a BPI or APC man since these two agencies had the highest national network). Provincial Directors were directly supervised by the Assistant Executive Director. The Provincial Director was assisted by a Provincial Technical Staff composed of representatives from the cooperating units in the field.

Although this type of monocratic organizational structure (bureaucratic forms duplicated in various levels of the organization) existed in earlier rice programs, the direct supervision by the Council through the Assistant Executive Director was a new concept. Furthermore, the earlier organizational relationship was less direct; for example, the Regional RCPCC used to serve as another administrative level between the Provincial level and the Council. Under the proposed program, the Regional Directors of the cooperating agencies would compose the Performance Review Board "to check the activities of the Provincial Director and report directly to the Executive Director."[18] There was, therefore, no intervening level here since the role of the Board was that of program review, not implementation. The Provincial Director directly supervised the work of the Production Technicians from the cooperating agencies. As proposed, each production technician would cover farmers within an area of 300 hectares.

B. Implementing the Rice Program

The exact point at which the "implementation phase" of the four-year rice self-sufficiency program began and the program planning ended cannot be demarcated with any degree of precision. As noted earlier, prior to the "formal" adoption of the four-year program an experimental program in rice production had already been launched. The enactment of a law amending the RCA charter and introducing the **quedan** system was also adopted during the early months of 1966. Finally, the recruitment of key officials in the RCPCC, the Technical Staff, and

[18]**Four-Year Rice Self-Sufficiency Program, p. 17.**

the special committee which drew up the four-year "master program" was also effected during the early part of 1966.

Hence, the submission of the Program for Presidential approval in June 1966 was a mere formality and designed to give legitimacy to some policies and decisions already implemented. For example, the program contained policies and decisions already being implemented. These included the selection of Priority Area I provinces, the adoption of the "supervised credit" scheme under the Agricultural Loan and Guarantee Fund (AGLF), the involvement of the private sector in the rice program, and the reorganization of the RCPCC from the Council down to the provincial level.

1. Leadership Support for Rice Program

The Marcos program was, in a sense, a continuation of the earlier rice programs undertaken under the Garcia and Macapagal administration so that the implementing policies and decisions (from January 1966) should be viewed in this context. Key RCPCC officials involved in formulating the program also assumed that the Marcos administration would provide all the necessary political and administrative support for the program and this emboldened these officials to make decisions even before "formal" approval of the program by the President.

This strong political commitment to the rice program was inferred by officials from Marcos' policy statements during the electoral campaigns, in the creation of the Umali Rice Study Committee, in the directives to the RCPCC to evolve a four-year rice self-sufficiency program out of the Umali Report, and from the President's "State of the Nation" address before Congress on January 24, 1966. In opening the first session of the legislature of his administration, Mr. Marcos had said that "one of our first concerns is to strengthen the agricultural sector. Self-sufficiency in the production of food, especially rice, must be attained in the shortest possible time."[19]

[19]"Address on the State of the Nation," Sixth Congress of the Republic of the Philippines, First Session (Manila: Bureau of Printing, 1966), pp. 7-8.

2. Organizing the Administrative Machinery for Implementation

The implementing machinery of the Council was strengthened through the recruitment of highly-qualified experts to man the technical staff units for planning, coordination, implementation and evaluation. The three technical staff units were:

1) **Plans and Program Office.** To coordinate planning and programming (five expert programmers on fertilizers and pesticides; on irrigation and drainage; on seeds and commercial farm development; on farm credit; and on research and demonstration farms).

2) **Surveys and Evaluation Office.** To conduct surveys and evaluation of the program (included a senior rice statistician).

3) **Action Coordination Office.** To coordinate the work of cooperating and supporting agencies (Cooperating agencies have one executive coordinator) and the performance of Provincial Directors. This office was the main implementing arm of the Council.

Once the organization of the RCPCC central office was completed, the implementing machinery in the field level was immediately organized in the eleven provinces designated as Priority I. This was followed by the appointment of Provincial Directors and Deputy Directors chosen from either BPI or APC provincial heads. Among the criteria used by the RCPCC's Technical Staff in selecting the Provincial Directors were: administrative experience, training and length of service. A Provincial Technical (or Coordinating) Committee was also created to provide assistance to the Provincial Director in planning and implementing the program for the province. It may be noted that the organizational structure and composition at the field level followed the pattern of the Council although some agencies might not have had representatives at the local level.

With the program underway, the RCPCC, as recommended in the plan, immediately scouted for an official whose main responsibility would be to oversee, monitor, and follow up the decisions and policies adopted by the Council. Towards August,

1966, Col. Osmundo Mondoñedo (a member of the Umali Committee) was persuaded to serve as Executive Director in addition to his position as General Manager and Administrator of the RCA.

Through the initiative of the RCPCC, President Marcos issued Executive Order No. 50 on October 17, 1966 revoking Macapagal's Executive Order No. 64 (which created the Rice and Corn Authority in 1964) and restored to the RCPCC the "sole power and responsibility of implementing the Rice and Corn Production Program." It also directed the participation and cooperation of agencies directly or indirectly involved in the implementation of the Rice and Corn Production Program.

The order conferred legitimacy to an enlarged Council and may be regarded as an important step towards facilitating the RCPCC's policy-making and coordinating functions. For example, the addition of the Budget Commission[20] could facilitate fund releases for the rice program, a major problem during the implementation of the Garcia and Macapagal rice programs.

3. Strategies for Implementation

A brief summary of significant developments in the implementation of the Marcos rice self-sufficiency program covering the first two years — from the "formal" implementation of the program from 1966 up to June 1968 when the program achieved its objectives — is in order. Several themes seem to have emerged in the implementation of the program during the first year. One important and dominant factor — a technological one — which determined to a large extent the implementation strategies adopted during the first year was the **availability** in 1966 of high-yielding varieties (HYV) and the need to **demonstrate** the value of these new varieties in increasing rice production. The HYV — the IR 288-3 developed by the IRRI, BPI's BPI-76, and the UPCA's C-18 — were varieties

[20]The inclusion of the Budget Commission (to facilitate fund releases), Bureau of Agricultural Economics (statistics on rice) and the Rice and Corn Board in the Presidential order reflected an awareness among Council members and Technical Staff that the direct involvement of more agencies would be essential to their implementation strategy.

which could yield up to 200 cavans per hectare compared to only 28 cavans of the traditional varieties. The so-called "miracle rice" was also capable of three, instead of two, cropping because of their early maturing quality (e.g., less than two months). However, the new varietes also required more attention, heavy infusion of fertilizer, abundant supply of water, and farmers' adherence to improved cultural practices.

a) Intensification Approach

Thus, the intensification approach or the concentration of productive resource-inputs on a fairly limited area was a logical strategy considering both the scarce resources at hand and the productive requirement of these new varieties. The decision to implement the rice program in areas with good irrigation facilities was also premised on the needs of the HYV. The strategy of concentrating productive-inputs on limited but highly-irrigated areas also served corollary objectives of persuading farmers to use the new varieties (the so-called "demonstration effect") as well as to ensure the success of the program by dramatically increasing rice production in the priority area.

b) Multiplication of the HYV: The Immediate Priority

The first year of the program (up to June 30, 1967) was largely geared towards multiplication of the HYV for domestic consumption and to provide farmers with a sufficient supply of HYV seeds particularly in the priority areas. The seed multiplication program was a real success story as can be gleaned from this official evaluation:

> The enthusiasm for these varieties, especially IR-8 which is popularly known as "Miracle Rice" obviously for its high-yielding capability, grew so fast among the farmers and the private sector, that after two cropping seasons of 1966-67, approximately 3.5 million cavans had been produced. Of this, over 50,000 cavans of certified seeds were bought by the government for seed purposes . . . .[21]

[21]RCPCC, **Updated Four-Year Rice and Corn Self-Sufficiency Program: Fiscal Years 1967-1970** (Quezon City, July 1967), p. 6.

While the multiplication of the HYV's was the initial and major thrust in program implementation, the RCPCC and the Marcos Administration also planned and implemented other parallel measures designed to ensure the goals of attaining self-sufficiency in rice.

c) Strengthening the Administrative Machinery for Coordination and Control

It is important to note several key decisions which greatly enhanced the Council's capacity to plan, control, and coordinate the complex and disparate webs of activity undertaken by numerous public and private agencies involved in the program. Earlier, we noted the enlargement of the RCPCC composition through the inclusion of key governmental agencies into the central decision and policy-making unit. Through the creation of the post of Executive Director whose major responsibility was to implement the policies and decisions of the Council, a vital administrative link between the center and the field units in the implementation process was effected. The designation of a Deputy Executive Director as head of an enlarged Technical Staff was another step in strengthening administrative control and coordination. The RCPCC's Action Coordination Office was strengthened to provide direct assistance to these two officers in ensuring that the policies enunciated by the Council were transmitted and implemented by the Provincial Directors and other field officers.

Another innovative program was the creation of an intermediary administrative level between the Provincial Directors and Production Technicians. Thus, the post of District Supervisors was created to relieve the Provincial Director from the task of directly supervising the Production Technicians. Another important change was the reduction of the number of farming areas covered by Production Technicians from approximately 2,000 to 300 hectares each to improve services provided the farmers. This ostensibly would increase the services provided to farmers. Feedback from the experimental rice program launched in early 1966 led to both organizational changes.

d) Evaluation, Communication and Information

To insure the collection of reliable data as well as to monitor and evaluate progress in implementation, the Council (following the recommendations of the Master Plan) created the Survey and Evaluation Unit to "conduct evaluation benchmark and other specialized surveys in the course of the program implementation." Two evaluation surveys were conducted on 800 barrios in the Priority I provinces: Phase I, conducted from June to July 1966, was designed to evaluate program implementation, especially problems encountered in the field, and Phase II, conducted from December 1966 to January 1967, was designed "to assess the impact of the program, and to gather relevant information useful in future programming."[22]

In drafting the Four-Year Program in 1966, the planners also considered the "Training and Information Program" essential to the success in implementing the rice program. The first year saw a massive training program on the new cultural practices and technical requirement in HYV cultivation. Key personnel of Priority Area I provinces from Provincial Directors down to production technicians as well as farmer-leaders and youth leaders received training at the UPCA and IRRI.[23] A radio network was installed in each of the pilot provinces in Priority Area I to ensure the speedy flow of information between the Council and field units.

e) Financial Inputs: The "Supervised Credit" Scheme and Private Sector

One of the more distinctive themes of the Marcos rice program was the greater involvement of the private sector. The ACA, the government's major credit agency, could provide only 30 per cent of the financial needs of the farmers,[24] whereas government banks like the Central Bank (CB), Philippine National Bank (PNB), Development Bank of the Philippines

[22]**Ibid.**, p. 27.

[23]RCPCC, **Updated Four-Year Program**, p. 18. See also Luis L. Alfonso, "Rice: Success Story," **Weekly Nation**, October 14, 1968, p. 68.

[24]Generoso G. Marcial, "The Incredible Rice Miracle," **Graphic**, November 15, 1967, p. 31.

(DBP) either adopted stringent banking rules on collaterals or could only provide short-term credit.

Fortunately, as early as 1965 the Central Bank, in an effort to solve the problem of medium- and long-term financing, had already started its "supervised credit" project in several rice producing provinces.[25] The success of the experiment led to an agreement between the National Economic Council (NEC) and the United States Agency for International Development (US-AID) to provide ₱250,000 for re-lending by private rural banks (under the administration of the Central Bank) for production and commodity loans to farmers. A ₱5 million grant from NEC-AID provided the initial capital for the Agricultural Guarantee and Loan Fund (AGLF) under which the "supervised credit" scheme was operated. The AGLF made possible the exploitation of credit facilities available from private commercial banks, especially the rural banks, for the production loan needs of farmers (either in cash or in kind, i.e., fertilizers, pesticides, farm tools).[26] The scheme eased credit considerably by dispensing with the required collaterals except for the submission by the farmer of a "Farm and Home Plan Budget."

4. The Leadership of Salas: Unexpected Input

Executive Secretary Rafael M. Salas did not get directly involved with the rice program until March 1967. However, as Executive Secretary he was regularly informed about the rice program since RCPCC officials have often enlisted his support in pushing through needed legislation in Congress and in issuing the necessary Executive and Administrative Orders relevant to the organization and implementation of the rice program.

a. "Action Approach": Mobilizing Farmer and Private Sector Support

In his discussions with RCPCC officials and with local officials during his trips to the provinces, Salas thought of

[25]Laguna, Rizal, Bulacan, Nueva Ecija and Tarlac, all in Luzon. **RCPCC and Implementing Agencies of the Rice Program** (1968), p. 18 (Unpublished Report).

[26]RCPCC, Annual Report (Calendar Year 1966), in **Towards Rice Self-Sufficiency** (Quezon City, 1967), p. 15.

further increasing the involvement of farmers in the government's rice production program. Thus, towards the end of 1966 he formed the "National Rice Action Group" (NARAG) in the Executive Office "to coordinate the private sectors involved in rice production [mainly the farmers], to meet and facilitate their request for aid and help in various forms. The goal of NARAG is basically to change the attitude of the private sector with respect to rice farming methods."

However, the NARAG may be regarded as a precursor of the "action" approach to program implementation. This soon became apparent when Secretary Salas presided during the RCPCC meeting on March 13, 1967 and informed Council members that "he was to act as 'action' officer of the rice program."[27]

Although the rice program implementation was not encountering any serious difficulty at this stage, President Marcos, on the advice of key officials that the program would need the prestige and influence of the Presidency, decided to give Secretary Salas the additional task of overseeing the program. It may be noted that the Umali Committee Report recommended that a Special Assistant in the Office of the President be appointed to head the rice program.

Since he was the important hub in translating into viable and efficient terms the various elements which comprised the President's Four-Year Economic Program, Salas' direct participation in the implementation of the rice program could also serve as an important link between the agricultural development programs and the other economic programs.[28]

b. Salas as "Action Officer": The Formal and Informal Exercise of Authority

The designation of Salas was also propitious because of the leadership gap left by Col. Mondoñedo, who relinquished his

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[27]Generoso Marcial, "The Incredible Rice Miracle," **Graphic**, November 8, 1967, p. 36.

[28]RCPCC, **Four-Year Rice and Corn Self-Sufficiency Program for the Philippines: Fiscal Years 1967-1970** (Manila, September 1966).

concurrent post as RCPCC Executive Director in early 1967 in order to work full-time with the RCA. Although Teofilo Azada, the Deputy Executive Director, was later appointed to this post, Salas himself performed many of the important functions of Executive Director before and after Azada's appointment.

Although Vice-President Lopez, as Chairman and Coordinator of the RCPCC normally presided over Council meetings, he was usually busy with other matters so that it was Salas who, in effect, acted as the Council's presiding officer and coordinator as well as Executive Director. Before we go into the impact of Salas' leadership and role in the rice program, let us first examine the basis and conditions under which he exercised authority over the program. One notes, for instance, that the position of "Action Officer" had no basis in law (e.g., RA 2080 and RA 2084) nor in Presidential directives (e.g., Executive Order No. 62 of 1964 and No. 50 of 1966) so that his status in the RCPCC was unofficial and he derived authority mainly as an **alter ego** of the President.

c. Reforming Financial Control and Allocation

Salas' background (a law degree from the University of the Philippines and a Master's degree in Public Administration from Harvard, former Executive Officer, National Economic Council) and administrative skill was fairly well known within and outside the civil service bureaucracy. Of course, as has been noted earlier, he brought to his job as Action Officer the prestige and power of the Executive Office, making him probably the most influential officer (next to the President himself) in the operations of the civil service bureaucracy. This was an important rationale in the decision to designate him czar of the rice program. When interviewed, Salas said:

> I think what was most important, from the managerial viewpoint, was the authority exercised by the Executive Secretary. His decision is sanctioned over all administrative units. More than this was the power delegated to me by President Marcos which gave me the final say over budgetary allocation whether about the national budget or over the public financial banking sector.

> In short, I have full authority to say whether x million pesos will be given to the Agricultural Credit Administration or when these amounts will be released. This authority over the Budget Commissioner was specifically delegated to me by the President.[29]

In fact, it was the financial aspect of the program which required urgent attention. Despite the recent inclusion of the Budget Commissioner in the deliberations of Council there was a need for speedy releases of funds to implement various phases of the program.

One of Salas' early moves was to request the attendance of the Budget Commissioner himself during Council meetings so that decisions on fund releases could be made during the meetings. As a result of Salas' directive, the RCPCC and the Budget Commission were able to work out a new concept of budget consultation (i.e., the "Work Plan and Financial Statement") wherein the amounts to be spent by the cooperating agencies were clearly indicated to ensure that the scheme would greatly facilitate budgetary releases for the coming fiscal year. Thus, through the simple expedient of involving in Council meetings various officials responsible for the budget, Salas was able to rationalize and improve budgetary resource allocations and eliminate unnecessary bureaucratic redtape in the release of funds.

d. Improving Decision-Making and Problem-Solving Capabilities

Under Salas, the RCPCC became a vital and effective center for controlling and coordinating the implementation of the rice program. After ironing out the financial tangle, he really set Council members to work by calling as many as four meetings a week. An average of 30 officials attended these meetings, not to mention 2 or 3 "special guests" who are experts from foreign organizations, or representatives of the private sector who have claims or problems to present before the Council.

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[29]Former Secretary Salas was interviewed for this case writer by Dean Carlos P. Ramos at the United Nations Building, New York, on July 11, 1972.

The attendance of these "special guests" (ranging from United Nations and U.S.-A.I.D. officials to local government executives as well as suppliers of fertilizers and pesticides) enhanced the Council's capacity to make policy decisions based on actual feedback on problems from the field and on expert advice.

To improve policy-making in the Council, Salas systematized the practice of creating **ad-hoc** subcommittees for studying specific problems raised and discussed by the RCPCC. For example, if during a Council meeting the problem of facilitating the flow of fertilizers and pesticides to farmers was discussed and considered a serious problem, Salas would immediately designate a Council member (say, the Director of the Bureau of Soils) to head a subcommittee to investigate this problem and to submit its recommendation **within a period specified** by Salas. The fertilizer and pesticide expert from the RCPCC Technical Staff would be co-opted to this committee. Once the subcommittee made its report and recommendations, it is automatically dissolved. A number of these **ad-hoc** specialist and problem-oriented subcommittees were created from time to time. This administrative innovation enabled the Council to act with greater efficiency and speed on obstacles encountered in the implementation process.

e. Strengthening Evaluation, Information and Feedback Capabilities

Implementing a program of such complexity creates a need to strengthen communication between the center and the field. This is essential in providing the Council with fairly accurate data as premises for decision-making. A great number of problems in the field, particularly in the priority provinces, may not reach the Council since reports from the field may often gloss over some important problems and at the same time overemphasize trivial problems and accomplishments. The Council's practice of inviting Provincial Directors during its regular monthly conferences is designed to facilitate evaluation and feedback so that the Council could act more expeditiously on implementation problems.

Provincial Directors were also required to submit to the Council quarterly reports on the progress (and problems encountered) of the rice program in their respective areas. Report making for busy administrators is always tedious business so that these reports do not always arrive on time. Finally, the Council's Survey and Evaluation Office conducted regular surveys in the priority areas and other provinces while the Action Coordination Office, through on-the-spot inspections and visits, assisted in coordinating and evaluating performance in implementation. If they were informed in advance of what problems to expect, the Chief Action Coordinator usually took along a technical specialist to deal with specific problems in the field areas visited. Otherwise, the Action Coordinating Office team would be composed of various technical experts and they generally held conferences and seminars with field officials.

Salas obviously considered that the existing evaluation and feedback systems did not provide a very accurate assessment of implementation in the field. Thus, he made frequent and unannounced visits to the field not only to inspect the progress of implementation but also to obtain firsthand the views and opinions of the farmers and local officials. After a round of briefings and conferences with field officials, Salas could then obtain a fairly accurate impression of the progress and problems of implementation. Weak Provincial Directors were spotted and given a chance to improve but if performance was still poor then they would be immediately replaced. Through a system of "follow-up," Salas was able to check whether certain decisions had been carried out or not. Salas obviously considered these field visits extremely important in the implementation process.

> I believe that you cannot supervise the rice program sitting in Manila — you have to visit the fields. There was a time I visited three provinces in a day — by plane, of course, just to check on whether our field officers were feeding us the right information or simply taking credit for things they haven't done. I was told that I had logged more mileage than some pilots in the Philippine Air Force.[30]

[30]**Ibid.**, interview with Salas, New York, July 11, 1972.

f. Administrative Control Through Unity of Command

Meanwhile, another administrative problem cropped up in the field offices. It should be noted that most of the personnel involved in the rice problem were on detail (secondment) to the RCPCC and there were instances where they were subjected to conflicting orders coming from their offices and from the RCPCC. Some field personnel who did not want to cooperate with the Provincial Directors (especially if the Director came from the rival bureau) or who disagreed with the policies laid down by the Provincial Directors often invoked policies of their mother agencies as the basis for non-compliance. When informed of this problem, Salas issued a Memorandum Circular (No. 185, May 16, 1965) placing all RCPCC personnel under the administrative supervision of the Provincial Director "in order to achieve maximum efficiency and coordination in implementing the policies and programs laid down by the RCPCC."[31]

g. Rice Surplus Announced

It is to be expected that many problems are bound to emerge in the implementation of a program of such complexity and magnitude as the rice program. For example, one of the unintended effects of the land reform program of 1963 was the resistance of farmers to increase their farm yields because under the Land Reform Code their land rental would be based on their average production for the last three years. Some of the problems include: (1) the seemingly insoluble problem of "adequate" funds, especially for the irrigation program; (2) seed deterioration and palatableness of "Miracle Rice;" (3) inadequate drying and warehousing facilities; and, "slow pace of extension and credit program."[32] For various reasons, the quedan system has not been fully operational in many areas. Key personnel of the RCPCC and its technical staff left for other jobs, resigned, or returned to their agencies. Despite these problems the President happily announced during his

[31]**Official Gazette**, Vol. LXIV, No. 23 (June 3, 1968).
[32]See RCPCC, **Annual Report**, 1967-1968.

annual "State of the Nation" message to Congress on January 22, 1968 that self-sufficiency in rice (based on projections from the field) had been attained. After the crop year ending June 1968, rice statistics based on field reports revealed an excess production of "eight million sacks of palay over total consumption requirements."[33] Initial data from the field showed that average yield per hectare reached 33.97 cavans although corrected figures placed average yield per hectare at 31.67 or 103,652,200 cavans from an area of 3,303,660 hectares.[34] It was also reported that around 36,000 metric tons of the 1968 crop were exported in addition to approximately 3 million cavans of HYV sent to Indonesia, Taiwan, Burma, and South Korea.[35]

III. ANALYSIS AND INTERPRETATION

A. Leadership: A Key Factor in Program Implementation

1. Program Commitment of Political Elites: A Major Resource

This study shows that the program commitment of governmental elites — political or administrative — had important consequences for program implementation (and planning) primarily in terms of actual and tangible support-inputs and/or potential and perceived support. Elite commitment may range from "strong" to "weak" and only the empirical case could indicate the ranges of the commitment involved. This study reveals the disastrous effects of "weak" political support to the rice program under Garcia and Macapagal administration — meager financial allocations, relative unconcern for, or neglect of, the administrative machinery, higher incidence of partisan politics and decisions which are based on non-programmatic-non-technical criteria and interests, and heightened inter-agency squabbles.

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[33]Rafael M. Salas, "1968: Year of Surplus in Rice," **Fookien Times Yearbook**, 1968, p. 190.

[34]Raul P. de Guzman, **op. cit.**, p. 55.

[35]"Palay: Area Harvested, Production and Yield per Hectare," Philippines, 1951-1971.

a. **Resource Generation and Allocation**

In contrast, the Marcos program showed strong elite commitment (in this case, from the President himself) and this was evident in the increased financial and personnel resource-inputs for the program and in the generation and/or channeling of resources for the program. With strong Presidential support, financial resources were generated from previously untapped domestic corporations, Japanese reparations payments, the US-AID, the World Bank, etc.

While political elite commitment generates various resource-inputs for the program from the external environment — whether domestic or international — leadership capabilities of program planners and implementors appear crucial in exploiting and optimizing elite support for resource generation and management since political elites often have broad commitments in many program areas which are competing for the same resources.

b. **Political Motivation and Program Support**

Elite commitment also provides a reasonable basis for analyzing the dominant motivations behind the decision to implement and sustain the program.[36] Although the public justifications about the economic and social benefits from the rice program provide an obvious clue, it is also possible to infer from the case study that political interests could have been an **additional** motivation behind Marcos' commitment and support for the rice program. It is noteworthy that in the case of the Marcos rice program, the negative effects associated with strong political interference had been minimized and this enabled the program planners and implementors to make decisions based more on technical and programmatic — and not

[36]See Richard M. Snyder, H.W. Bruck, and Burten Sapin, **Foreign Policy Decision-Making** (New York: Free Press, 1962), p. 144. Snyder suggests that the actors' "in order to" motives (i.e., "acceptable, justifications for present, past and future action") provide an adequate explanation. For an actual application of Snyder's concepts, see Gabriel U. Iglesias, "British Administrative Decision-Making," **Philippine Journal of Public Administration,** Vol. XVI, No. 1 (January 1972).

expediency — criteria and interests.[37] In fact, Salas and RCPCC officials were able to shield the program from strong political pressures exerted by reelectionist Congressmen, Governors and Mayors (especially during the 1967 elections) mainly because they could invoke (and rely on) the President's authority to counter negative political interference. This study shows that administrators, being political realists, tend to project the "political" benefits of the program to obtain the needed political support. It is clearly evident — and certainly not coincidental — that the 1966 rice program was planned to attain self-sufficency in rice at the time when Mr. Marcos was due for reelection (1969).

B. Leadership Role of Administrative Elites: Resource Planning and Management

Major administrative constraints on the rational allocation of financial resources stem from factors which are often beyond the control of program planners and implementors. This is especially true of budgetary allotments coming from the national budget since this increases the area of uncertainty regarding amounts voted for the program. The practice of annual budgetary outlays also precludes long-range planning and rational employment of financial resources for the program.

In a way, this study revealed possible ways of rationalizing financial allocation through the adoption of performance budgeting and through the simple expedient of co-opting the Budget Commissioner. The "supervised credit scheme" under the AGLF also points to the possibility of tapping the financial resources of private rural banks for the program and at the same time helping train farmers to the need for rationalizing their own financial management (through the "Farm and Home Plan Budget").

The master program for rice self-sufficiency contained an implicit commitment towards careful and rational management

[37]See Ledivina C. Vidallon, "Systems Theory in Research: Pork Barrel Cases," **Philippine Journal of Public Administration,** Vol. IX, No. 3 (July 1965), for an excellent analysis of incidence of expediency interests in decisions on pork barrel projects in the Philippines, especially p. 263.

of non-human and human resources. This may be gleaned from the prior determination of priority projects for implementation which were based on detailed studies of current and projected resources requirements and costing of various key sub-programs within the rice program, such as the fertilizer program, seed multiplication program, irrigation program, and so on. The decision to concentrate human, technical, and financial resources on a limited area (the "intensification approach") served the dual purpose of maximizing the employment of scarce financial, human, and physical resources and to demonstrate to farmers the benefits derived from using the HYV's and from following modern cultural practices.

C. Leadership Role in Coordination and Control: Process and Structural Aspects

The rice self-sufficiency program encompassed not only a wide range of activities concerned with the production, marketing, and distribution of rice but also innumerable agencies belonging to the public and private sectors. A program of such complexity imposes greater responsibility for coordination and control on the leadership structure. While a "good" program plan is in a way a coordinative and control device, the translation of the plan into an effective program of action is largely a function of leadership.

The performance of coordinative and control bodies such as interdepartmental committees, commissions, and councils is dependent on so many factors (e.g., legal basis of authority, composition, location in the government structure, etc.) that it is best, for purposes of this study, to limit the analysis on certain aspects which account for the effectiveness of the NCPCC in the period under study.

An analysis of the performance of Executive Secretary Salas could perhaps reveal many important dimensions in the exercise of leadership capability in program implementation. However, it should be stressed that this is simply an analytic technique and it should not be interpreted to mean that leadership roles of other administrators at various levels in the ad-

ministrative hierarchy are not as important to the rice program. In fact, Salas benefited much from the able support of highly-qualified and technically-proficient rice program officials and personnel from the center and the field.

The leadership role of Dean Umali in the program formulation phase (as Chairman of the Rice Study Committee whose report was used as the basis of the Marcos program) and in the implementation stage (as Undersecretary for Agriculture) is an apt example. Several key implementation strategies, e.g., concentration of resources on a limited area, broader conceptualization by the addition of marketing and distribution aspects, price support and the quedan system, and closer involvement of the private sector, were ideas derived from the Umali Report. The administrative and technical staff at the Council as well as Provincial Directors also performed effectively during the critical first two years of the program.

The effectiveness of Salas was based on a distillate of many factors, including formal and informal powers and personal leadership style. It is not so much the listing of what was considered as the basis of his leadership effectiveness that is important (although it is contributory) but the manner with which he wove the various strands of authority into a potent factor for program control and coordination.

Salas immediately transformed the RCPCC into a more effective instrument for coordination and control. First, he "persuaded" the agency heads themselves, including the Budget Commissioner, to attend Council meetings and not simply send their representatives. Only agency heads could make decisions concerning their agencies and their attendance was of utmost importance to the work of the Council. In view of the numerous problems and requests for action from the field which were elevated to the Council's attention, Salas introduced a number of innovative changes, such as the creation of **ad-hoc** specialist subcommittees within the Council and the practice of inviting experts, local government officials and interest group spokesmen to attend Council meetings so that they could present their views before the Council.

The changes introduced into the Council's work methodology greatly enhanced its decision-making capability to deal with technical and non-technical problems encountered during implementation. It should be stressed that the Council sitting **en banc** was a less efficient structure compared to the specialist subcommittees in dealing with technical problems in implementation. His frequent visits to the field where implementation was taking place was not only good for the morale of field personnel but also an important device designed to determine first hand the problems and the actual progress of implementation.

The above discussion on the coordination and control aspects of leadership capability dwelt more on the dynamic and process aspects. Coordination and control capability may also be looked at as an organizational-structural problem. Programs which require the interrelationship and, to a certain extent, interdependence of activities performed by various agencies often rely on coordinative structures such as interdepartmental committees, commissions and councils for program coordination and control. However, there might be certain built-in weaknesses in collegial bodies, particularly those which perform both policy-making and implementation functions.

The RCPCC from 1958 up to Marcos' rice program in 1966 combined both functions. They were often vulnerable either to the domination of a strong chairman (thereby losing its essential value as a consensus-operating structure) or, in the absence of strong leadership, to incessant power struggles which could easily lead to organizational **immobilism.** Power within a committee or council is often so delicately balanced that incidents (say, involving greater or lesser role of cooperating agencies) could easily introduce many dysfunctional elements into its operations. The Garcia program revealed that Council leadership cannot be imposed by legal fiat (as in the case of Director Cruz).

On the other hand, Salas seemed to exemplify this kind of strong leadership (especially since Vice-President Lopez failed to assume this role for the Council) and yet was capable of optimizing both individual contributions and the corporate role

of the Council (e.g., creation of specialist subcommittees). The striking organizational feature of the RCPCC under Marcos, in addition to its fluid and enlarged composition, was the designation of officers who acted as program implementors for the Council (i.e., the Action Officer, Executive and Assistant Executive Director for the Council, the Provincial Directors for the Provincial Committee). The lines of authority and communication were more direct and responsibility for the program clearly defined. This study reveals that coordination and control are simply abstract concepts and have no meaning outside the specific instruments used to structure cooperation among individuals, groups and agencies, the strategies used in ensuring adherence to agreed guidelines, and the organization of channels for communication, evaluation, and feedback.

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NEPAL

PADDY PRODUCTION PROGRAM IN THE THIRD PLAN (1965-1970): A NEPALESE EXPERIENCE

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I. INTRODUCTION

Background

The agricultural sector as a whole and the cereal-grain subsector in particular, has always played a vital role in the economic development process of Nepal. This is mainly due to two basic factors: firstly, the critical importance of cereal-grain, especially paddy, as an export commodity and, secondly, as a major staple food of an increasing population. It is understandable, therefore, that the need to increase cereal-grain production has been stressed in each of the economic plans formulated since its first inception in 1956 and since then, various important policies and programs have been adopted and implemented to achieve increased cereal-grain production. In the implementation of the First Plan in 1956, the Agricultural Sector[1] was given priority by getting as much as 27 per cent[2] of the total plan outlay. Cereal-grain production program had the lion's share within the agricultural program. During this plan period a number of infrastructure programs were implemented, such as the establishment of extension and research organizations at the center and the field levels, the construction of irrigation projects, etc. Because of the important role of the paddy in the economy, special attention was given in each successive plan towards increasing paddy production.

Despite this emphasis, the programs implemented during the First Plan were mostly preliminary in nature and often

[1]Includes, among others, agriculture research and extension, rural development program, cadastral survey, cooperatives, land reform, irrigation and forestry.

[2]**Outline of the First Five-Year Plan** (Kathmandu: National Planning Council, HMG/Nepal, 1955), p. 14. (Nepalese edition).

lacked much precision. Similarly, the program of paddy production was also vague since there were no specific targets to achieve: for example, there was no specific program which planned the supply of key inputs such as pesticides, chemical fertilizers, improved seeds, and so on. While there was a specific target for establishing different categories of 18 demonstration farms within the plan period,[3] only ten such demonstration farms were established at the end of the plan period. Except for shortfalls in physical targets there was no system of production census and this precluded any quantitative assessment on the impact of plan implementation.

Drastic changes in the political structure of the country occurred during the last year of the First Plan. The then parliamentary form of government was considered unsuitable and the King initiated, instead, a different system called the **Panchayat.** This political change had several direct effects on the plan implementation process. Several high ranking civil servants, including the Secretary of the Ministry of Agriculture, were relieved of their responsibilities and attempts were made to change the planning structure. As a result, there was a year's gap between the completion of the First Plan and the beginning of the Second Plan.

The three-year Plan (1962-1965) in the Second Plan of the country was launched in 1962. The Plan gave the highest priority to the construction of infrastructure projects designed "to create the economic overheads essential to the formulation and successful execution of the...plan in the future."[4] Second priority went to various programs to improve the "conditions of the peasants" by laying emphasis on projects like land reform, irrigation, extension and educational designed to improve farming methods and techniques.[5] One of the important objectives of the plan was to provide "the program of reforming the administrative structure...not only because of the need for

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[3]Ibid, p. 21.

[4]The Three-Year Plan: 1962-65 (Kathmandu: Ministry of Economic Planning, HMG/Nepal, 1962), p. 6.

[5]Ibid., p. 7.

reform in the field of agriculture but also...in the structure of Government."[6]

Although the Second Plan's preface stressed cereal-grain production, there was no mention of any new specific program for increasing production. In fact, the Agricultural Sector's share in the total plan outlay was reduced to 13.7 per cent compared to more than 27 per cent in the First Plan. The target was fixed only on the basis of financial allocation which was not much of an improvement over the earlier Plan. Furthermore, the Plan did not specify targets for increasing agricultural output — especially paddy — as well as the supply of most of the crucial inputs needed by the farmers. However, more specific targets were set in the production of the improved seeds, for example, the quantity of the improved seeds to be produced by the government farms was fixed. It also suggested the adoption of a new strategy to give incentives to private ndividuals in producing improved seed varieties. Nonetheless, the program of private "certified seed growers" was never mplemented.

The Second Plan's target of establishing eight additional demonstration research farms was an apparent continuation of the preceding Plan's target. As far as the extension services of the agricultural department was concerned, there were only five ill-equipped regional offices looking after the whole country up to the end of the First Plan. Since there were only a total of 214 field extension agents,[7] the link between the farmers and he regional offices was inadequate. The additional field agents o be trained during the Plan was estimated to be 352.[8] The arget of the plan was to raise the number of regional offices from 5 to 14, i.e., by adding 3 offices each year. However, here was little progress in reaching this target since only two more demonstration centers and six regional extension offices were eventually established. There was also a shortfall of

[6]Ibid.
[7]Ibid., p. 215.
[8]Ibid., p. 216.

more than 10 per cent in the number of extension field agents trained.[9]

As noted earlier, the impact of the Second Plan on paddy production is difficult to evaluate because of the absence in the Plan of both a specific production target as well as magnitudes in the use of inputs. The production of the paddy has been estimated to have been 2,108,000 metric tons at the end of 1964-65 and this was 4.4 per cent more than the estimated annual production of 2,019,000 metric tons in 1961-62. The additional production could have come through two sources — firstly, due to improved farming techniques and the availability of more water and secondly, to the increase in the area under cultivation from 1,088,000 hectares (1961-62) to 1,101,000 hectares at the end of the Plan.[10]

During this period foreign assistance played a significant role in the agricultural development of Nepal, particularly in the cereal-grain program where the extension and research activities of agriculture were extensively financed from foreign assistance. Assistance came from both bilateral and multilateral agencies with more aid coming from the former. Total foreign assistance to the Agricultural Sector during 1951-70 period was US $56 million. About 56 per cent of total foreign aid was provided before 1965.[11] Infrastructural projects such as irrigation, warehouse construction, rural credit institutions, etc., account for the major proportion of foreign assistance. Technical assistance was important in the beginning but the role of foreign technicians diminished after the return of Nepalese sent abroad for training. This was particularly true after 1965 when the Third Plan was launched.

Major and minor irrigation facilities constitute the most important and indispensable component of the Agricultural Sector, especially in the paddy production program. The First

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[9]**Progress Report of the Three-Year Plan: 1962-65** (Kathmandu: Ministry of Economic Planning, HMG/Nepal, 1966), pp. 65-68.

[10]**Agricultural Statistics of Nepal** (Kathmandu: Ministry of Food and Agriculture, HMG/Nepal, 1972), p. 19.

[11]T. Sakiyama, **International Assistance to Nepalese Agriculture** (Kathmandu: Ministry of Food and Agriculture, HMG/Nepal, 1971), p. 8.

Plan period did not provide any specific irrigation projects although it recommended the repair of the existing old canal system. The target of the Plan was to irrigate 275,000 acres within the Plan period through new irrigation systems "whose priority would be fixed by the government after thorough consultation."[12] At the end of the Plan period a modest progress in this direction was achieved since the total additional land under irrigation was only 65,200 acres; that is, about 24 per cent of the target. This meager achievement is noteworthy considering that 65.61 per cent of the total allocated fund was spent. Reasons advanced to explain this poor performance was the inadequacy of the fund allocation for canal construction and this was aggravated by delays in fund releases.

The Second Plan is an improvement as far as the planning was concerned. For example, various projects were specified. There were two types of projects undertaken: 1) those to be constructed within the Plan period, and 2) those whose construction would be continued up to the Third Plan. A total of 15 projects were identified covering an estimated 141,450 acres (57,287 hectares). This figure, it may be noted here, is less than the target of the First Plan. However, the total additional area that came under irrigation through the new projects was only 40,627 hectares at the end of the Plan period, roughly two-thirds of the original target.[13] The 40,627 hectares was gross area of coverage of which the net irrigated land was only 26,558 hectares. In the context of shortfalls in meeting targets of one of the most important input (irrigation) it was not unexpected that the objective of increasing cereal-grain production was also affected. In terms of financial expenditure the target was almost achieved since net expenses was more than 90 per cent of the plan allocation.[14]

II. THE THIRD PLAN (1965-1970)

Increasing cereal-grain production was one of the main

[12]**Outline of First Plan, p. 37.**

[13]**The Third Plan** (Kathmandu: Ministry of Economic Planning, HMG/Nepal, 1965), p. 65.

[14]**Progress Report of Three Year Plan, p. 17.**

concerns of the government when it formulated the country's Third Plan — a Five-Year Plan. This was firmly stated in the departmental plan prepared by the Department of Agriculture submitted to the Ministry of Economic Planning which stressed that "unless there is appreciable gain made in terms of increased agricultural productivity, the population trend is expected to cut across production levels and by something like 1975 there will be no exportable surplus."[15] There was reason to be worried because the average annual rate of population growth during 1962-1965 was 1.78 per cent whereas the annual growth rate of paddy during the same period was 1.2 per cent.[16]

Similarly, the rate of increase in other cereal-grain, including wheat, was negligible. In fact, the annual production of wheat had come down during the last year compared to the first year of the Second Plan. Thus, at the time of the formulation of the Third Plan, the various sectors involved in cereal-grain development were not performing satisfactorily. After informal discussions between the Ministry of Economic Planning and the Ministry of Agriculture, the Secretary of the Ministry of Agriculture was told to tentatively fix the overall target of increasing agricultural production in drafting the departmental plan. As a result, the D.A. fixed a target of increasing the annual cereal-grain production (paddy, wheat, maize and millets) by 15 per cent at the end of the Plan period.

On this basis the Agricultural Department in 1964 was given the responsibility in preparing a comprehensive plan. The department adopted two basic policies while formulating the plan: first, the department will concentrate its efforts on a few selected districts, and second, greater efforts would be made to coordinate the activities of other departments involved in cereal-grain production, e.g., irrigation, cooperatives, etc. In the implementation of previous plans it was realized that "efforts on the implementation of projects, especially in the field of extension, got dissipated, resulting in more wastage of

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[15]**Agricultural Development Plan: 1965-1970** (Kathmandu: Department of Agriculture, HMG/Nepal, 1965), p. 14.

[16]**Agricultural Statistics of Nepal**, p. 19.

men, material, and money when the projects were scattered throughout the country without basic infrastructures."[17] This was the reason why the agricultural development strategy was changed during the Third Plan and this point will be discussed in more detail later on.

The detailed target of the different cereal-grain production set by the Department of Agriculture and approved by the Ministry of Economic Planning follows:

Cereal-grain	Production* (1964-65)	Target (1969-70)	Additional production	Per cent Change
Paddy	2,201,270	2,367,670	166,400	7.5
Wheat	151,892	424,612	272,720	179.5
Maize	854,968	917,810	62,842	7.5
Millets, etc.	62,880	65,000	2,120	3.4
Total	3,271,010	3,775,092	504,082	15.0

*All figures in metric tons.

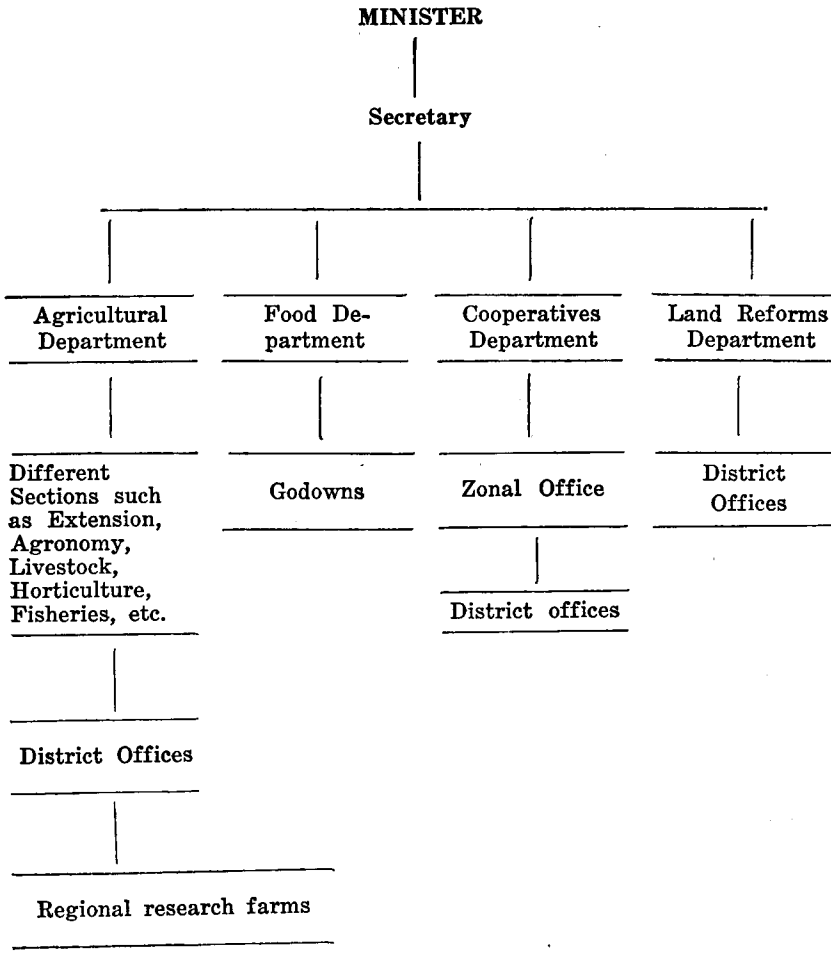
From the above table it is seen that the percentage change in the target for wheat is more for wheat than for paddy and this is due mainly to the immense potential of extending acreage of wheat compared to paddy because the latter is already cultivated in the majority of the potential areas.

Organization

There was no need to create an agency to implement the agricultural plan because the Ministry of Agriculture was already performing this function. The Ministry was headed by a Minister who is a politician and he is assisted by civil servants. For all practical purposes, it is the Secretary of the Ministry, the highest ranking civil servant in the Ministry, who was entrusted the task of executing the Plan. Below is the organization of the Ministry of Agriculture at the beginning of the plan period (1965):

[17]Agricultural Development Plan, p. 18.

ORGANIZATIONAL CHART



The Secretary at that time was Krishna B. Malla, an agriculture graduate and experienced administrator, who served from 1964 to 1968. The first task of the Secretary at the beginning of the plan was to organize suitable agencies at the central and district levels to meet the two broad policies of the Plan — intensive area program and coordination of different agencies to achieve the target. Therefore, after the consultation with the different departments nine districts (out of the total seventy-five) were selected and a program called the "Coor-

dinated District Program" was launched in those districts. District Coordinating Committees (DCC) were organized to supervise and facilitate the activities of different agencies in the districts. The Chairman and member **cum** Secretary of the DCC were the Chairman of the district **Panchayat** and the District Agricultural Development Officer (DADO), respectively.[18]

To coordinate the activities of the DCCs, an agency called Central Coordination Committee (CCC) was organized at the Center under the chairmanship of the Secretary himself. The members of the DCC were district Chiefs of different agencies concerned, e.g., the Cooperative Bank, Land Reforms and two representatives from the Peasant's Organization. The CCC at the center was composed of heads of all the departments and cooperatives under the Ministry and representatives from the Ministry of Economic Planning, Ministry of Irrigation, and foreign advisors. It is significant to note that the DCC brought together in the coordinating committee civil servants and political leaders whose cooperation in program coordination and implementation is important.

Land reform considerations exerted a strong influence on the Secretary in selecting the initial nine districts where the coordinated program will be launched. In 1964, the new Land Reform Act was passed and implemented on a phased basis (i.e., 16 districts on the first year, 25 districts on second year, and the 34 on the third and the last year). Considering the broad objectives of land reform, district officers were given substantial authority to implement the program, including detention power without trial for a limited time. The nine districts selected came from the sixteen districts where land reform was implemented in the First Phase. Another criterion used in the selection of districts was the presence of infrastructure facilities. Thus, these districts presented greater possibility for coordination in terms of the new techniques to

[18]The Chairman is a political man. District **Panchayat** in Nepal means district level political organization. The district **panchayat** members are elected from village **panchayats** and members of D.P. elect members of Rastria **panchayat** which is equivalent to a Parliament in other countries.

be introduced as well as the cooperation from the powerful office of the Land Reform Officer.

After the formation of the DCC, they were entrusted the task of planning the required inputs of the chemical fertilizers, improved seeds, credit, etc. and send these inputs to the CCC well in advance of the paddy season. Two types of instructions were sent to the district: first, CCC decisions were sent to the DCC and second, the DCC sent instructions to the DADOs to ensure that policy decisions were implemented. At the center, the CCC coordinated the supply of vital inputs and other activities to facilitate the functioning of the district machinery. The CCC also arranged the opening of new cooperative bank branches in those districts.

The government made another important reorganization in the Ministry immediately after the implementation of the plan. The Department of Agriculture was divided into five different departments, each having its own Director. This had a direct effect on the paddy program as well as the other cereal-grain program. For example, the research and extension functions were under the same department whereas after the reorganization separate departments were created for each function. Secretary Malla considered the reorganization as the "new thinking in the development of Agriculture."[19] There was no significant effect at the center because instead of the departments coordinating the activities, the Ministry, through the Secretary, performed this role. There was, however, confusion in the districts. For example, the research farms and the district extension offices were now under separate departments, each having "separate allegiance" under this new system. This made horizontal communication more formal. The new Directors of both the Research and Extension Departments were technical personnel. The Director of the Research Department was an agronomist whereas a horticulturist headed the Extension Department.

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[19]K. N. Pyakuryal, **Central Coordination Committee Case Study** (Kathmandu: Center for Economic Development and Administration, 1972), p. 14.

Another landmark of the cereal-grain production program after the implementation of the plan was the formation of a new agricultural inputs supply agency in the public sector. The agency, called the Agricultural Supply Corporation (ASC), was formed in 1966 under the Corporation Act of 1964. Until its formation the trade of chemical fertilizers, usually in negligible amounts, was being handled by private traders. A new organization for rural credit, the Land Reform Savings Corporation (LRSC), was also created in 1966 under the Corporation Act. Under the Land Reform Act a compulsory deposit was collected from the farmers and the proceeds were used as loans to farmers for their production and consumption needs. This was administered at the village level by local leaders and any surplus that may be accumulated was transferred to the district land reform offices. The LRSC was created to make available the use of this kind of surplus fund at the district levels.

Paddy Improvement Program

One of the first decisions of the CCC was to approve a Paddy Improvement Program (1965-70) prepared by the D.A. where annual target of inputs use and type of research to be carried out by the Government research farms were stipulated. However, the details of the irrigation facilities to be available in the subsequent years were not included in the plan. Also the targets set in the plan were not on the basis of information from the districts. The details of the targets set are given in Appendix 1.

Upon approval of the program the CCC asked each DCC to prepare a district plan containing the following: 1) specific target of additional area to be planted with high yielding varieties, 2) the use of chemical fertilizers, and 3) the need of additional production credit for the coming **kharif** season (i.e., main cropping or summer crop season). In districts where the DCCs were not already formed the center itself fixed the target after consultations with the DADO. It may be noted here that the use of chemical fertilizers and improved seeds was

introduced in Nepal as recently as 1966 and was also mostly concentrated on the wheat crops.

However, no efforts were made to adjust the target when the target set by the districts were different from that of the PIP and already approved by the CCC. The PIP was prepared at the time when the D.A. was not yet reorganized. Therefore, the program was prepared by a committee composed of foreign advisors and chiefs of different sections of the D.A. under the leadership of Netra Bdr. Basnyat, the then Chief of Agronomy Section, who served as coordinator. Later on, when the D.A. was reorganized and Mr. Basnyat became the Director of a new department, he still continued to be the coordinator, i.e., in charge of the program. However, with the formation of a separate department of extension activities, the relationship was changed considerably. The committee, therefore, had only research activities but not extension. Besides, as already mentioned, the horizontal communication between the two departments in this regard became more formal. The only coordinating agency in this regard was now the CCC, a fairly large body to look after the particular cereal-grain program in detail.

Incomplete Planning

Though the PIP was prepared as a guideline of implementation it was incomplete on many points. The target of the plan was to raise the annual production by 7.5 per cent at the end of the plan period. But it was not made clear how this would be achieved and how each combination of inputs would contribute to the additional production. The area to be brought under improved seeds and consumption of chemical fertilizer was fixed but without any precision. For example, the same quantity of chemical fertilizer could be used in 1,000 hectares, 10,000 hectares, etc. Also, in the absence of assured additional irrigation facilities the district agricultural offices had to depend primarily on traditional sources. Therefore, it was not an easy task to assess the impact of the activities on the basis of independent indices such as the use of chemical fertilizers, additional area under improved seeds and irrigation, etc. There

was also a tacit tendency to concentrate the supply in very few districts where the farmers were relatively easier to supervise. Thus, during the plan period the consumption of chemical fertilizers was highly concentrated within Kathmandu Valley, accounting for more than 50 per cent of total consumption.[20]

Foreign Aid

Foreign assistance has played a significant role towards the development of the cereal-grain program in Nepal. The cereal-grain program means mainly paddy and wheat. The assistance in the agriculture sector had come mainly from the United States and India since aid from multi-lateral agencies was insignificant. Indian assistance concentrated on horticultural development, whereas American financial and technical aid mainly supported cereal-grain research and extension. (See Appendix 3)

The impact of foreign assistance was mainly on three aspects in the paddy program. First, as members of the CCC, the foreign advisors could influence the decisions on the program level. Second, some of the advisors were directly attached with the Department of Extension and Department of Research. The advisors in the extension department could influence the operational details of the field organization. Third, and most important, was the financial support for the program. The financial commitment of the foreign agency was largely responsible for the expansion or contraction of the program since the share of foreign assistance was as much as 50 per cent of the total expenditure.

New Actions by CCC

The first year of the plan did not achieve much and the second year also looked bleak as far as the production increment was concerned. It was felt that the differences in the thinking between Center and the districts were quite significant enough to slow down the progress of the program. To remedy the situation, Mr. Malla, as Chairman of the CCC, initiated the

[20]Agricultural Statistics of Nepal, p. 67.

move to send task force teams to the districts long before the beginning of **Khariff** season of the third year. The teams were fact-finding missions drawn from the members of CCC. Once approved by the CCC four teams were formed (which included foreign advisors). It took the teams three to four weeks to study the local situations before submitting their report to the CCC. The main points contained in the reports were:

1. Inadequate communication between central departments and district offices.
2. Lack of quick lending facilities and supply of inputs for the farmers.
3. Lack of irrigation facilities.[21]

Several decisions were made regarding the findings contained in these reports. In the case of irrigation there was very much limited room to maneuver. In regard to improving communication between the district and center it was decided, among other things, to circulate decisions of the CCC to the districts. The credit aspect got special attention and as a result, the department of extension, credit agencies, and other agencies were asked to draw up a credit system which would facilitate the supply of credit and other inputs to the farmers.

After some time, a Credit Coupon system was introduced to streamline the credit and the inputs supply to the farmers. Under the system the concerned agencies agreed to grant loans (in kind) on the basis of assessment made and recommended by field agents of the Department of Extension. First, the production-credit need of the farmers was assessed (using a prescribed form) by a field agent. The agent then sends the form to his district office for the final recommendation by the DADO. On the basis of the recommendations, the farmer will get a credit coupon card from the credit agency to encash with the inputs supply agency.[22] The supply points could be either the

[21]Report of CCC Task Force Teams, 1967. (Unpublished).

[22]The credit agency could be different from district to district and between Land Reform office and Cooperative Bank.

branches/depots of ASC or its authorized dealer. The process looked like this:

Farmer — JTA (Field agents)
DADO — Lending Agency
Supply points

The process seemed quite easy on paper. However, its major drawback in practice was the excessive time taken in the process — between the assessment of the credit and the actual disbursement. Therefore, even after the streamline of the credit system the supply of inputs and credit was not keeping pace with the demand.

Extension of the Program

It should be noted that the paddy development program during the first year had only been concentrated within nine districts. This had merit of its own. However, expansion of some activities to other districts had to be done to satisfy the needs of farmers from other districts. The Department of Extension drew an elaborate plan dividing the districts into three different categories — Coordinated Districts, Preparatory Districts and Exploratory Districts. This division was based on the basis of stages of growth and accessibility of the districts.[23]

The coordinated districts were allocated a maximum number of JTA (field level extension agent). Each district (on the average consisting of fifty village **panchayats**) was given an average one JTA per five village **panchayats.** Also a separate small team was formed at the district level which was called District Coordination Committee Implementation Team consisting of, among others, the Land Reform Officer and the DADO.

In case of Exploratory districts three to seven JTAs were assigned in each district. The following were the main activities proposed for these districts:

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[23]For details of the plan, see D. Chapagain, **Development of Agricultural Extension Service in Nepal** (Kathmandu: Ministry of Food and Agriculture, HMG/Nepal and Tribhuvan University, 1972), pp. 25-26.

1. To make an assessment of the kind and quantity of the agricultural inputs required in the district.
2. To establish seed growing farms to encourage the production of standard seeds locally.
3. To carry out preliminary work for the establishment of supply centers.
4. To ensure farmers with necessary facilities to market their produce in a profitable way.
5. To arrange for necessary agricultural credit.

The number of JTAs assigned to the preparatory districts was not fixed. The only commitment in the program was to provide as many JTAs as possible. The following were the activities determined for the preparatory districts:

1. To explore more productive land on the basis of availability of irrigation and soil-productivity.
2. To find the suitability of a seed variety in the selected areas.
3. To locate leaders and impart to them necessary training in modern farming.
4. To identify the best combination of factor inputs which gives more returns but incur the least cost.

In the three categories of program mentioned earlier, nine districts were designated as coordinated where each district had a district officer (DADO). Seven districts were classified as exploratory and seventeen as preparatory. Out of the seven exploratory districts, six had district officers with less number of JTAs as assistants whereas only nine out of seventeen preparatory phase districts were fortunate to have DADOs, although with a negligible number of JTA to work with. Compared to the task entrusted to the district personnel, the organization set up was very inadequate.

Revitalization of Cooperative Societies

One of the two important institutional grassroots lending agencies to the farmers during the plan period were the cooperative societies. On a number of occasions in the past, the govern-

ment had tried to boost the effectiveness of the cooperatives but had accomplished little. In the initial years of the Third Plan the paddy program, among other programs, could not get adequate support from the cooperatives. Realizing that the inadequate functioning of the cooperatives was one of the basic bottlenecks of the plan, the CCC decided in 1968 to form a high level committee to study the true conditions of the societies and suggest adequate measures to improve them. The committee, after its formation, decided first to send teams to various places on a fact-finding mission. Therefore, three teams were formed consisting mostly of senior officials of the Cooperative Department, Agricultural Development Bank[24] and Land Reform Department. The committee took altogether three months to get the reports from the teams and prepare a final report to the CCC. Among the main points of the report was the observation that the participation of the 'real' farmers in the Societies was very much limited so that the Societies have not been able to help the farmers. The report emphasized that the Government should take several actions to encourage farmer participation and urged the greater participation by the Government and semi-governmental agencies through advice, supervision and more financing.[25]

The report tried to explicitly stress the great need of the Societies for rural finance and their lack of satisfactory progress so far. The need of the managerial help from the government was also discussed. The Committee's report was discussed in CCC twice but before any decision could be taken in this regard. Meanwhile, Secretary Krishna B. Malla was promoted and transferred to the Chief Secretaryship of HMG/Nepal and this contributed to the shelving of the report. However, on the basis of the report, the Department of Cooperatives started the amalgamation of smaller Societies and the liquidation of defunct Societies.

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[24]The ADB was created in 1968 as a successor of Cooperative Bank enlarging the field of lending.

[25]Report of the Cooperative Societies Study Committee, 1968. (Unpublished).

Change in the Leadership

As noted earlier, when Malla was made Chief Secretary of the Government in 1968 a chapter of Agricultural Planning in the Third Plan in general and CCC's organization in particular had ended. The Ministry headed by Malla was bifurcated into two separate Ministries — the Ministry of Food and Agriculture and the Ministry of Land Reforms. Dr. P. N. Pant, an economist by profession, was transferred from the governorship of Nepal Rastra Bank (the Central Bank of the country) to head the bifurcated agriculture Ministry whereas Ram B. Rawal was transferred from the Ministry of Home Affairs to head the Ministry of Land Reforms. Unlike their predecessor, the new secretaries were not from the same discipline. The division of the Ministry seriously affected the credit aspect of the paddy program since the major portion of the rural institutional credit came from the Compulsory Deposit Fund collected by the land reforms offices. As the departments became responsible to different ministries after the bifurcation, the district offices also became too formal in their relationship and further worsened bureaucratic red tape.

After the division of the Ministry, the Chairmanship was also changed. Now the Chairman was the Minister himself. The changeover in the chairmanship of CCC also affected the frequency of the meeting. The CCC (official level) which used to meet at least once in a forthnight, if not weekly, began to meet very irregularly. The contents of the meeting was also changed substantially, having moved more towards vague discussions rather than specific solutions. Therefore, a new trend emerged in each ministry, that is, to institute the weekly ministerial staff meetings in place of the CCC.

The staff meeting was always a much narrower body and concentrated more on the regular part of the job than really discussing the overall programming as such. Also there was no effort to invite officials of the other ministry in the staff meeting of one ministry. This has led to a rather formal relationship between the two ministries and created problems in coordination.

Another problem which emerged from the separation which had a significant bearing on the paddy program was the independent programming by the agencies under each ministry, especially that of the farm credit organizations — ADB and LRSC. The division of the ministry also led to the creation of many district offices (sometimes in the same district) performing more or less similar functions. It was clearly a duplication and overlapping of function and wastage of resources.

Dr. P. N. Pant, the new Secretary of the MFA, also did not stay long in office since he was transferred to the Ministry of Industry and Commerce (MIC) after six months and Bishnu Pd. Dhital succeeded him. Mr. Dhital, an agriculture graduate, was the Secretary of the MIC before coming to MFA. By this time, the plan had already entered the fourth year of its implementation. Mr. Dhital remained as Secretary up to the end of the plan-period.

Monsoon and Irrigation Facilities

At the time of the plan's initiation, the assured irrigation facilities in the country was only 83,400 hectares against the total cultivated land area of 18 million hectares.[26] This does not account for the number of indigenous sources of irrigation. Hence, the majority of paddy-crop depended heavily on the timely monsoon for the water needed for extra production. In the early years of the plan no medium or large irrigation projects were completed. As noted earlier, the lack of irrigation has led to the emphasis on the use of chemical fertilizers on the limited scale, i.e., in certain specific areas only.

In the mid-sixties, the Indian sub-continent was hard hit by the failure of timely monsoon. It directly affected the paddy prospects of Nepal despite advances in research, extension and credit. The production of the paddy actually fell short of even the original year's output[27] in 1967-68. To meet the extraordinary situation, the government started a crash

[26]**Agricultural Statistics of Nepal**, p. 53.

[27]See Appendix No. 1 for yearly production.

[28]Unpublished note of the Department of Minor Irrigation.

program to construct minor irrigation projects in FY 1966-67. A Special Committee, under the chairmanship of a minister, was created to supervise the works and to allocate the funds in the districts. The main emphasis under the program was to construct small projects which could be built through the local people's cooperation and with minimum technical supervision. It may be noted here that there was also a program in the usual plan to construct minor irrigation projects. The failure of the monsoon, however, attracted the government's attention to this problem. Twenty districts were covered during the first year and by the end of the second year (FY 1967-68) all the districts were covered by this program. The department claimed at the end of the plan period to have irrigated 27,000 hectares of land annually through this program.[28]

The organization at the operating level was also reorganized to meet the extraordinary situation. A separate department was created especially for minor irrigation at the Center. The department was expanded rapidly in the districts and the rate of expansion was so rapid that in each district an engineer was assigned to help the local people within a few months. There were not enough graduate engineers to work in each district and to meet this gap, the Committee decided to promote the senior overseers temporarily as assistant engineers. The Committee also arranged to spend the allocated funds through joint Consultation of District Panchayat and the District Engineer.

The above program, however, could not be sustained for long. The crash program was not continued after the critical phase was passed. When the overseers were promoted, this was done through the special provisions of the Public Service Commission with the understanding that as soon as qualified personnel would be available they will be replaced. As the crash program did not last for long, the Committee also became inactive. As a result, junior personnel started coming back to their original positions without leaving any substitutes at the districts. In a few districts, the relationship between the local leaders and the engineer was extremely strained. In some

instances the engineers had to avoid direct confrontation with the local leaders.

This kind of program naturally could not meet the type of challenge the paddy-crop had faced. Despite the havoc created by the country-wide monsoon failure, the total amount disbursed was only about one million dollars. Because of the involvement of local **panchayat** organizations the accounts were not kept in the strict governmental procedure. Thus, the department not only faced shortfalls in the physical target but also in the proper preparation of the accounts.

In case of plan expenditure in the program there was not much difference between the target and the net expenses in the macro level. However, in the cereal-grain program there was considerable yearly fluctuation in both the internal and external sources. (See Appendices 3 and 4 for details.)

III. ASSESSMENT AND ANALYSIS OF THE PROGRAM

Judging from the net output, it can be said that the program could not be implemented as successfully as desired. Achievement of only 1.8 per cent against the target of 7.5 per cent is not quite encouraging implementation.[29] On this background the interaction of different variables and their role and weaknesses are discussed below.

Leadership

A test of the leadership is its capability to motivate, coordinate and generate resources for the successful implementation of the program. As the program was run through regular governmental agencies there was no specific commitment to Paddy Production Program alone since these agencies have their own programs to administer. Despite its immense importance to the national economy, there was only divided attention from the top to make the program a success. Targets were set at the national level but there appeared to be lack of strong efforts to diffuse and communicate these targets to the

[29]Ibid., p. 19.

grassroot level in order to motivate personnel toward their achievement. Secretary Malla was successful in coordinating efforts of relevant agencies at the Center but effective coordination at district levels where implementors operated was difficult to achieve.

The coordination of different agencies at district levels was not effective enough to motivate the ultimate producers — the farmers. Therefore, the leadership failed to motivate all the people concerned towards not only the Paddy program but also in agricultural program as a whole. This study revealed a desire for motivation and coordination both at the center and district levels. However, in the absence of adequate mechanism for implementation, no net result was evident. The administrative mechanism needed to achieve adequate motivation and coordination could not be developed by the leadership at the top alone. Frequent changes of Secretaryship during the five-year period increased the ineffectiveness of leadership to improve coordination at different levels.

The leadership performed comparatively better in resource generation and in allocating financial resources. This is particularly significant in the context of the overriding share of foreign assistance in the overall program. There was no lack of funds (mostly foreign exchange) to import significantly increased quantity of chemical fertilizers from abroad. Leadership seemed to be quite successful in persuading the government to release foreign currency to import inputs.

Administrative Capability

The organizational network for program implementation from the Center to district and field levels needs a more detailed analysis. Due to various constraints existing at the time of program implementation several shortcomings followed. As the target was fixed without properly assessing the need of administrative support, proper organization was not created to translate targets into achievement. As in other programs like this, achievement largely depended on effective change in private people's behavior (farmers in this case), and liaison

between government and farmers had to be efficient and sufficient. The Junior Technical Assistants who performed this function were never given proper and sufficient attention. The required number of JTAs for the program was not reached and neither was their salary nor status enhanced. As a result, the vital link to the program was not motivated to provide the services to the farmers.

The Central Coordination Committee organized at center and its subsidiary agencies at the districts were established to coordinate several agencies for achieving the target. However, except at the Center, the field offices of relevant agencies could not work as a team and in the spirit of cooperation. It is evident that there were many instances where critical inputs, especially credit, were not provided in time and in sufficient amounts. Since credit was extended through the activities of various agencies, coordination among these agencies were vital for effective implementation of the program. Due to the long processing needed and because of inadequate coordination, private moneylenders continued to dominate. A study conducted in this regard showed that not more than 20 per cent of credit came from the institutional sector.[30]

The unevenness of administrative capability was reflected by the differences in public participation at local levels. For example, communication between District Agricultural Development Officers and local leaders in general and District Panchayat Chairman and Peasant's Organization Chairman in particular was going smoothly in some districts whereas in most of the districts communication was totally absent. It was evident that in districts where the local leaders were not enthusiastic towards the program, the District Coordination Committees were not functioning effectively. As a result, district administration was not fully successful in mobilizing the people's participation in the program, which was, of course, very critical. Public participation and support was never considered nor explored in a systematic way. The heads of District Agricul-

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[30]**Agricultural Credit Survey** (Kathmandu: Nepal Rastra Bank), 1972, Vol. IV, p. 38.

tural Development offices were mostly fresh graduates who were not fully aware of the techniques of exploring local support. In fact when DADOs were first appointed in 1965 to head sixteen district offices all of them had just joined the government service. Therefore, outputs expected from new administrative heads (who were critical operational leaders) was unrealistically high.

Administrative capability can also be judged from the extent of formulating realistic programs. Assessment of net available resources and structure needed is very important in the process of formulating the programs. If a wide gap exists between resources planned and actual needs of the program, this will invariably add to the difficulties in implementation. In this case, the human resources (particularly personnel for extension, cooperatives, etc., at the grassroot level) could not fully be made available. As a result, the expected response from farmers, as envisaged at the center, could not be achieved.

Concluding Remarks

The case of Paddy Production Program dealt with above shows different facets of implementation of such kind of programs which not only require commitment on the part of government but also the administrative means to encourage people's participation. Time and again programs are implemented without assessing administrative capability and a study of demand and supply of human as well as nonhuman resources of the program. Although it will not be possible to formulate highly optimal plans without any flaws, it is a mistake to draw a program without taking into consideration even obvious points.

The case now under discussion shows lack of administrative capability to implement the plan. It is doubtful whether the administration was unaware of it. The targets set were modest from the perspective of need but high from the point of view of other support made available to it. It is true that external factors which were not under the control of administration also played important role yet it can be seen that there were obvious shortcomings in coping with factors which are

controllable. Nepal is one of the developing countries of the world trying hard to improve its economic conditions. It cannot afford at this stage to waste resources due to weaknesses in the process of program implementation.

Appendix 1

ANNUAL PRODUCTION OF PADDY

Year	Target	Production	Area: '000 ha. Production: '000 M. T. Area	M.T./ha.
1964/65 (t_0)	—	2201	1101	2.000
1965/66 (t_1)	—	2207	1111	1.986
1966/67 (t_2)	—	2007	1100	1.825
1967/68 (t_3)	—	2119	1154	1.828
1968/69 (t_4)	—	2178	1162	1.808
1969/70 (t_5)	2368	2241	1173	1.901

Source: **Agricultural Statistics of Nepal** (Kathmandu: Ministry of Food and Agriculture, HMG/Nepal, 1972).

Appendix 2

USE OF CHEMICAL FERTILIZERS AND IMPROVED SEEDS

Area: Hectares
Quantity: Metric Tons

Year	Improved Seeds				Chemical Fertilizers	
	Quantity		Area		Quantity	
	Target	Achievement	Target	Achievement	Target	Achievement
.965/66	185	200	3700	6300	1900	1018
.966/67	1238	600	24750	13400	2667	3795
.967/68	3013	1200	60250	26100	7981	6857
.968/69	4937	1900	98750	43200	12727	4232
.969/70	7500	2500	150000	50300	18803	13872
					44078	29773

Source: **Paddy Improvement Program 1965-70** (Kathmandu: Ministry of Agriculture, 1965) and **Agricultural Statistics of Nepal, op. cit.**

Appendix 3

FINANCIAL ALLOCATION IN THE RESEARCH & EXTENSION OF CEREAL-GRAIN*

(Rs. '000)

Year	Commitments HMG	Commitments External	Commitments Total	Releases HMG	Releases External	Releases Total	Total Expenses
1965/66							
Research	1885	3808	5693	1885	3808	5693	4582
Extension	427	1498	1925	427	1498	1925	1508
1966/67							
Research	5104	3689	8793	4348	3110	7458	4847
Extension	1419	2468	3887	1209	2080	3289	3078
1967/68							
Research	1313	3556	5169	1613	3551	5164	3525
Extension	997	4458	5455	997	4342	5339	4657
1968/69							
Research	1577	2448	4025	1575	2445	4020	3331
Extension	2144	3500	5644	2085	3029	5114	3432
1969/70							
Research	2378	3670	6048	2278	3548	5826	5096
Extension	3236	3236	6472	3236	3236	6472	4476

Source: HMG/Nepal annual budgets.

*The major cereal-grain are wheat and paddy with little maize. The share of paddy will be about 40 per cent only.

Appendix 4

Notes on Financial Involvement

Besides the direct financial involvement in the extension and research of the paddy there were several others supporting institutions where heavy amounts had been spent. Although the percentage of their contribution to the paddy development **per se** cannot be precisely attributed it can safely be assumed that their contribution was immense in the past and will continue to be so in the future.

One of the important agencies whose expenses rose substantially during the plan period was Land Reforms. It was almost US $5 million for this program which created a viable structure for the long-term change in land-use.

The other agencies whose financial involvement was substantial were Agriculture Supply Corporation, Land Reform Savings Corporation, Agricultural Development Bank and Cadastral Survey. The financial involvement of the first three organizations was directly on the overall agricultural development programs in general and paddy and wheat programmes in particular.

Here, the importance of money allocated to maintain the staff of cooperating departments should also be pointed out. Although these agencies' contribution, compared to their financial allocation, cannot be considered satisfactory yet somehow they tried to maximize its impact.

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SRI LANKA

THE RAJANGANA COLONIZATION PROJECT: A STUDY OF THE IMPLEMENTATION OF A DEVELOPMENT PROJECT

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THE RAJANGANA COLONIZATION PROJECT

A Study of the Implementation of a Development Project

M. Rajendra

I. INTRODUCTION AND BACKGROUND

Sri Lanka (Ceylon) attained internal self-government in 1931 in the midst of the world depression. The economy, dependent on the export of tea, rubber and coconut, felt the effects of the depression very severely. The new Ministers were sensitive to the distress among the peasantry who lived in the densely populated Wet Zone which covered the South Western region of the Island. This Zone had developed a plantation economy during the long years of foreign rule. The Dry Zone covers about 70 per cent of the island. It has rain (40″ to 60″) during four months of the year from the North East Monsoon but is comparatively dry the rest of the year.

The ancient kingdoms of Sri Lanka flourished in this region. A remarkable system of tank irrigation, impounding the rainfall of the wet season for use in the dry months for agriculture and other purposes, was established and maintained. After the 14th century, invasion and warfare compelled the kingdoms to move their capitals to the South Western hill country. There was consequent decline and decay in the Dry Zone. The irrigation system ceased to function due to disuse and lack of maintenance. Malaria caused the population to decline. A poverty stricken peasantry living in scattered hamlets survived. During the British period in the 19th century and the early years of the 20th century, some effort was made to repair the ancient irrigation system in the Dry Zone but progress was slow except at the fringes of the populated areas. Malaria prevented people from settling in that area.

It was natural for the new Ministers to seek a solution to the pressing problems of population pressure, poverty, unemployment and landlessness by endeavoring to reclaim the Dry Zone. It had the added glamor of reviving a region where culture and civilization once flourished under the Sinhalese Kings. The early efforts to re-populate the Dry Zone by the restoration of the ancient tanks and irrigation system had been expensive, slow and not very successful. People from the Wet Zone were reluctant to settle in this area because of widespread prevalence of malaria. It was only after the eradication of malaria with the use of D.D.T. after World War II that migration into the new lands became popular. Between 1932 and 1956 the Government invested some Rs. 300 million to settle about 27,000 families in the major colonization schemes in the Dry Zone.[1] The Ten-Year Plan[2] of the Government of Ceylon for the period 1959 to 1968 proposed the investment of Rs. 1,000 million on irrigation and land development to settle 99,500 families in colonization schemes in the Dry Zone, and provide an outlet for the growing work force in the densely populated Wet Zone. The plan's development strategy was to utilize the employment opportunity available in opening new land to grow the foodstuffs which were being imported and to use the foreign exchange thus saved for investment in capital goods to diversify the economy.

It was appreciated that colonization of the Dry Zone was capital-intensive and involved a long period of gestation before results could be achieved. It had, however, the immediate advantage of providing employment for the growing work force in the populated areas. The Plan emphasized that in the implementation of the land settlement schemes every effort should be made to hasten the pace of development and to maximize the return on investment by taking all the necessary measures to ensure efficient production on the new land. Measures visualized were double cropping, increasing the yield per acre by use

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[1]See **Report of the Land Commission,** Sessional Paper X of 1958 (Colombo: Ceylon Government Press), p. 105.

[2]**Ten-Year Plan:** 1956-1968 (Colombo: Ceylon Government Press, 1959), pp. 26, 242-254.

of fertilizers, introducing high yielding seed strains, improving cultivation techniques and securing adequate credit and a guaranteed price to the producer. The importance of having an Agriculural Extension Service for the propagation of these measures was emphasized.

The Project

The Rajangana Colonization Scheme was one of the projects undertaken as part of the Ten-Year Program for resettlement in the Dry Zone. By the 1950s, the restoration of the breached major tanks, which constituted the ancient irrigation system, was well in hand. Many had been restored and others were in the process of restoration. To utilize the large area of land yet available in the Dry Zone studies were undertaken of the major river basins in the island. Rajangana was one of the results of the study. It involved the impounding of the river flow in the lower reaches of the Kala Oya which flowed from the semi-wet zone through the North Central Province into the sea. Since ancient times, the waters of the upper reaches of this river had been impounded in the Kala Wewa (reservoir) and utilized to provide irrigation.

The Irrigation Department in their study of this river basin took into account actual river flow studies from 1946 and the records of eight Rainfall Stations in the catchment, which covered a much longer period. The study showed that it would be possible to impound 75,000 acre feet of water annually by the construction of a dam at a site on the lower section of the river which could be used to cultivate 15,000 acres of land in paddy at a rate of 5 acre feet per acre for one season. There were nearly 70,000 acres of unused State land in the high jungle under irrigable command. The Agricultural Department had reported, after a superficial examination, that these soils were suitable for cultivation of crops such as sugar cane and paddy. The construction of headworks was estimated to cost Rs. 20 million.

These facts were reported to the Ministry in charge of Irrigation and Lands by the Director of Irrigation in 1953 and

he sought authority to undertake further studies in order to prepare in greater detail a report on the economic and technical aspects of the scheme. The Ministry did not show any serious interest in the project.

A change of Government occurred in 1956 and a new Minister, Hon. C. P. de Silva, assumed office. As he played an important role in the implementation of the project, an account of his background, training and standing in politics would be relevant. Before entering politics in 1952 he had, for nearly twenty years, a distinguished career in the Ceylon Civil Service. He had specialized in the administration of land development schemes. He had taken particular interest in colonization schemes and played a pioneering role in the establishment of the earliest successful colonization schemes in the Dry Zone under the Minneriya and Parakrama Samudra Tanks in the Plonnaruwa District in the North Central Province. He was returned to Parliament as a member of the constituency composed of these two schemes. He was also the Leader of the House in Parliament and the Deputy Leader of the ruling party. He was Minister in charge of Irrigation and Land Development continuously from 1956 until 1970, except for two short periods of two to three months. The Rajangana project was located a few miles from his farm in the Puttalam District.

On assuming office he showed immediate interest in this project. After studying the 1953 report he inquired what further progress had been made in the investigations. Although the Director of Irrigation reported that little progress had been made, he decided that he would seek immediate financial provision and requested the Director to submit a memorandum in support of the application for authority of government to start work on the project and for the release of funds in the financial year 1957-58. As investigations had not been fully completed, a brief report was prepared. The report stated that:

(1) The reservoir to be constructed would impound 73,800 acre feet of water of which 69,800 feet will be available for cultivation purposes.

(2) It could be used to cultivate 15,000 acres of State land in high forest available on both banks of the Kala Oya.

(3) The cost would be Rs. 31 million, of which Rs. 19.75 million for head-works and Rs. 10.25 million for irrigation channels, road construction and other incidental expenses.

(4) The cost of irrigation facilities at Rs. 2,067 per acre was not excessive.

(5) Five thousand families could be settled on farms below the reservior providing three acres of irrigable land per family.

This brief memorandum was examined by the Ministry, the Treasury and the Cabinet and authority for the construction of reservoir at the estimated cost of Rs. 31 million was sanctioned with the provision of a sum of Rs. 500,000 in the Budget for expenditure during the financial year 1957-58. At no stage did any of the authorities call for a benefit-cost analysis to justify the proposed investment nor was any request made for the submission of a fuller report.

In this instance, the procedure followed to secure the release of money for a major Irrigation and Land Development project was highly exceptional. As mentioned earlier, by 1956 the Government had already invested more than Rs. 300 million on settling peasants in major colonization schemes under irrigation projects in the Dry Zone. Certain procedures had been evolved for investigation, preparation of feasibility studies and project reports before application for funds was made. When the Irrigation Department reported that a project was feasible, the planning of the project for implementation since 1959 was undertaken by a Standing Committee on Land Development under the Chairmanship of the Land Commissioner and subsequently of the Permanent Secretary in charge of Land and Irrigation with the Heads of the Department of Irrigation, Agriculture, Surveys, Land Development, Forest and the Government Agent of the district in which the project was located as members. This Committee undertook the preparation of the project report which was considered by the government

before financial provision was made. The Rajangana Project was not examined by the Committee. It would appear that it was approved because it was sponsored by a Minister of the exceptional standing of Hon. C. P. de Silva, who, being satisfied that adequate investigations had been made regarding the availability of water, decided that further detailed planning was not necessary. He appears to have considered that the preparation of a project report and program of implementation would delay the work. He also counted on his own experience in implementing colonization schemes in Minneriya and Parakrama Samudra.

Under the Financial Regulations of the government, a department is not entitled to incur any expenditure on votes sanctioned in the Budget until firm estimates have been approved by the Permanent Secretary of the Ministry. In this case, the Director of Irrigation sought authority to commence preliminary work from October 1957 pending the submission of firm final estimates. The authority was granted. The firm final estimates, however, were submitted nearly four years later, in July 1961. The intervening period was devoted to detailed investigation, the preparation of plans, specifications and estimates by the Research and Designs Division of the Irrigation Department. Ordinarily, all this work could have been carried out within a shorter period but the work of the Department was disrupted as a result of 1) a severe flood which occurred in December, 1957 when 1,100 village tanks were breached, 2) Communal riots in May 1958, and 3) the murder of the Prime Minister in September 1959 when Parliament was dissolved and two General Elections had to be held before a stable Government was formed in June 1960.

When the project was approved for implementation the Government committed itself to make funds available annually up to Rs. 31 million according to requirements of the Irrigation Department. Monies were appropriated in the budget for each year on the application of the Director of Irrigation. However, it should be mentioned that the Treasury was only able to appropriate about Rs. 35 million annually in the budget for the construction of irrigation projects in the early 1960s and

around Rs. 60 million in late 1960s. A review undertaken in 1961[3] showed that the Department had on its hands work to the value of Rs. 357 million which represented more work than the Department could handle effectively at a given time. As a result, the Department was unable to concentrate on the number of schemes on which the available technical personnel and financial resources could be put to optimum use. During this period the Irrigation Department was handicapped by a shortage of professional engineers and middle grade field supervisors. The sanctioned cadre of engineers and field supervisors was filled only after 1966.[4]

Administrative Infrastructure

The project was under the control of the Ministry of Lands, Irrigation and Power. The Permanent Secretary of the Ministry was the overall administrative head. The planning and the execution of the irrigation aspect of the project was the responsibility of the Irrigation Department whereas land development was under the Department of Land Development. The selection, settlement and welfare of the colonists was the responsibility of the Government Agent under the direction of the Land Commissioner. The agricultural extension service to ensure efficient land-use and maximum production was provided by officers of the Agricultural Department. The necessary land surveys for planning the project were carried out by surveyors of the Survey Department and the marketable timber in the forest was exploited by the Forest Department. The Departments of Irrigation, Land Development, Land Commission, Survey and Forest were all under the administrative control of the Permanent Secretary of the Ministry. Only the Agricultural Department was under the control of a different ministry.

Most of these departments were long-established institutions with permanent cadres of their own. The activities of these

[3]**Short-Term Implementation Program** (Colombo: Ceylon Government Press, 1962), p. 125.

[4]See "Administration Report" of the Director of Irrigation, 1966.

departments in relation to land development and colonization were coordinated by the Standing Committee on Land Development. In the case of Rajangana Project, the Standing Committee did not play any role in its planning because the project was sanctioned for implementation on the basis of a very preliminary feasibility report. Even at subsequent stages of implementation the coordinating role was not assumed by the Committee because of the exceptional interest shown by the Minister. He visited the project frequently and issued instructions to officers of all departments working at the site. The Ministry records contain copious notes made by the Minister on his inspections. The Committee met on a number of occasions to coordinate action on decisions made by the Ministers but did not on its own initiative program the work and review the activities of the various departments.

II. IMPLEMENTATION OF THE PROJECT

The implementation of the irrigation part of the project was undertaken by the Irrigation Department. It was treated as a departmental responsibility. No single officer was personally responsible for implementing the project. The Research and Designs Division undertook the preliminary studies, the planning of the project, the preparation of specifications, designs and estimates under the overall control of a Deputy Director of Irrigation. Thereafter, responsibility for construction passed to the Major Works Division of the Department which was under the control of another Deputy Director of Irrigation. At the site, there was an Irrigation Engineer in charge of the work under the directions of a Divisional Irrigation Engineer stationed either in Kurunegala or Anuradhapura. Thus, the chain of authority was from the Deputy Director Headquarters to the Divisional Irrigation Engineer at Divisional Headquarters, then to the Irrigation Engineer at site at Rajangana. Since the work at the Rajangana project started, there have been eight different engineers at the site, five divisional engineers at Divisional Headquarters and eight different Deputy Directors in charge of major construction at Headquarters.

To complete the different stages of work by predetermined dates, officers of the Irrigation, Survey, Forest and Land Development Departments should have worked towards a coordinated implementation program. No such program appears to have been prepared. There was no project manager with the authority to control the activities of the officers of the various departments and no officer assumed a leadership role in pushing this project. The Deputy Director in charge of major constructions at any given moment would have had responsibility for this and 10 or 12 other similar projects. The project involved:

(1) The construction of a massive earth dam across the Kala Oya with a concrete spillway for impounding 75,000 acre feet of water.

(2) The construction of the main channels, 9 miles long on the right bank and 15 miles long on the left bank with a network of branch, distribution and field channels of about 206 miles in length.

(3) Construction of roads in the area to be developed.

(4) Blocking out of irrigable area and highland.

(5) Clearing the land for cultivation and the construction of houses and the necessary government buildings.

(6) The selection and transport of settlers to the colony.

(7) Provision of agricultural extension services.

(8) Provision of other civic amenities such as schools, medical institutions, cooperatives, commercial centers, etc.

In the absence of a detailed project report and implementation plan, the departments made preparations for implementation on the assumption that the settlement of colonists would accord with the existing traditional pattern. In 1957 when financial provision was made for the project, the traditional scheme was to give each settler three acres of irrigable land and two acres of highland for the homestead. The irrigable and highland areas were cleared by the Land Development

Department and a house constructed on the highland. A settler came into an almost ready-made farm and was provided with the necessary tools and a subsistence allowance until the first harvest was gathered.

The provision of these services, together with the cost of the irrigation facilities consisting of headworks and a channel system coming up to each individual allotment, cost about Rs. 11,500 to Rs. 15,000 per settler.[5] Providing assistance on this scale caused concern to the Government and the question of whether assistance should be reduced was referred to the Royal Commission on Land Policy in 1955. After careful review, the Commission recommended in its 1958 report that the same degree of assistance should be continued but the cost of development may be recovered in exchange for a more secure tenure than the restricted tenure that had been given to the settlers previously.

The Minister however did not accept this recommendation. As there was a great demand for land in the colonization schemes, he decided to introduce a scheme of "advanced alienation" in which the settlers are selected and brought into the scheme before the work on the individual holdings commenced and the settlers themselves engaged in the preliminary work, such as jungle clearing. When the financial situation became progressively difficult in the 1960s as a result of the fall in export prices and the terms of trade becoming adverse, the Minister made a number of **ad hoc** decisions to reduce costs but which required modification of the program of work of the departments. Besides participating in the clearing of the land, it was decided settlers should:

(a) construct their own houses with government subsidy,

(b) construct the irrigation field channels that link individual allotments to the branch channels, and

(c) the size of the allotment should be reduced from 3 acres of paddy to 2 acres of paddy land.

[5]See **Report of the Land Commission** (1958), p. 98.

These decisions were made by the Minister often in the field without examining their full implications or considering the recommendations of the Land Commission. Many of them were altered afterwards but not before causing considerable hardship to the settlers and some delay in implementation of the project.

The Land Commission in its 1958 report[6] recommended that the planning of land-use in colonization schemes under irrigation should be the responsibility not only of the Irrigation Department but also of a Natural Resources Planning Unit which should consist of an interdisciplinary team of agronomists, economists and sociologists. This Committee should collect all the technical information required for the scientific planning of land-use, determine the blocking out plan by taking into account the best cropping program according to physical conditions, and recommend the size of the allotment. In the case of the Rajangana project, the engineering surveys of the irrigable tracts of the right bank of the scheme were received from 1959 onwards. They were blocked-out into uniform 3-acre irrigable and 2-acre highland allotments by draftsmen in the Irrigation Department.

The engineering survey plans also disclosed that 2,500 acres immediately below the reservoir, originally intended to be irrigated under the right bank channel of Rajangana, were already being irrigated as a result of the restoration of an ancient breached tank called Angamuwa. This reduced the extent of 6,000 acres originally planned to be cultivated on the right bank. Additional land that could have been developed came within the boundaries of the strict natural reserve which constituted the National Park and Game Sanctuary.

The new scheme of "Advanced Alienation" was adopted in Rajangana. When this new system was introduced, its full implications had not been worked out. When settlers came into the project only dormitories were ready. The cooperatives for

[6]**Ibid.** See also B. H. Farmer, **Pioneer Peasant Colonizations in Ceylon** (London: Oxford University Press, 1957), pp. 120-172.

supply of foodstuffs, domestic water supply, medical and other communal facilities were not available. Nor had the Colonization Officers been appointed. The hardships endured by settlers are vividly recorded in the inspection notes of the Minister himself. It was intended that irrigation should be provided at the end of the settlers' first year in the colony. Because of the delay in the construction of the headworks and the channel system, the earliest settlers had to wait from three to four years for irrigation. As a consequence, around 1,500 of the original settlers abandoned their allotments and returned to their homes because they could not endure the hardships of the unexpectedly long wait for water.

Work at Site

Irrigation

Normally the Irrigation Department prepared the plans and specifications of the work that had to be carried out and entrusted the actual construction to contractors. As the headworks at Rajangana required more than the ordinary skills of local contractors and the use of heavy earth-moving machinery, it was decided that the earth dam should be constructed departmentally using the department's own heavy earth-moving machinery and to call for international tenders for the construction of the concrete spillway and sluice gates.

While the work on the earth dam started in 1961, worldwide tenders were called for the construction of the concrete spillway and sluice gates in 1962. The contract was awarded to a Ceylonese firm, The Ceylon Development Engineering Co. Ltd. The contract was for the completion of the work in two years. The firm took 18 months extra to complete the work. The delay was due to the firm experiencing difficulty in raising the necessary bank credit to import machinery. After the financing problem was solved, work proceeded according to plan. It is relevant to mention that the firm made a profit of ten per cent on the contract. In discussions with the General Manager, it was learned that all the tools of modern manage-

ment were used to ensure the flow of men and material to complete the contract by the target date. Professional accountants were associated with the engineers in the management team. They participated in the preparation of estimates of every item of work when the bid for the tender was prepared and ensured that while work progressed, unit costs were not exceeded.

The Irrigation Engineer at site and his field staff supervised the construction of the main, branch, and distributory channels. Sections of the channel system were given out on contract; the main channel to large contractors who possessed the necessary earth-moving machinery and the small channels to local contractors who used only manual labor. The supervision of the construction of the extensive network of branch channels in a jungle area was very strenuous considering that the area was not fully developed. The access to the work site was often on foot. The overseers at distant work sites had to depend frequently on the contractor for living accommodation and even their meals. The middle grade supervisor of work sites often acted as inspecting officer and did not exercise detailed supervision. The unsatisfactory supervision and defective work was revealed when the channel system came to be used for distribution of water.

Land Development

Under the new scheme of "advanced alienation," the Land Development Department had to alter completely its work priorities. The Department now undertook the construction of dormitories for settlers when they came into the colony to do collective clearing and thereafter it was responsible for the construction of the roads and the general buildings that were required. For every 600 settlers the following buildings had to be constructed:

1. A Cooperative Store
2. A Central Dispensary
3. Colonization Officer's quarters and office
4. A Sub-post Office

5. A School for 1,200 pupils
6. The quarters for the Principal, Vice Principal, 3 teachers
7. Teachers' dormitory.

For each group of 2,000 colonists the following additional institutions had to be provided: a rural hospital with doctors and nurses quarters, and a police station with quarters for the personnel. The buildings were constructed according to standard-type plans. The Department had a permanent labor force of skilled and unskilled labor. The preparation of plans, estimates and the technical supervision of the construction was undertaken by engineers but the management of labor was entrusted to administrative officers since there was a shortage of professional engineers at the time the department was created and on the assumption that the administrators were better managers of labor. The administrators of the Land Development Department at Rajangana experienced the same difficulty as the engineers of the Irrigation Department in getting work out of labor that had become permanent, monthly-paid employees and unionized. Costs consequently had to be revised very frequently.

The work which the Land Development Department was committed to undertake was estimated to cost Rs. 21 million in 1964 and was revised in 1968 to cost Rs. 32 million and is now scheduled to be completed in 1976.

The Allotment

In April 1964, the Minister proposed that the size of the allotment may be reduced from 3 acres irrigable land to 2 acres because of the great demand for land. He asked for the comments of the Land Commissioner on the proposal but there appears to be no record of any report from the Land Commissioner. In June 1964, directives were issued that in the future the unit of allotment should be 2 irrigable acres and 2 acres highland. All blocking-out plans prepared since 1959 were recalled and altered accordingly. The optimum size of a colonist's holding was a much discussed issue in Sri Lanka. The Land

Commission in its report commented on it.[7] Considerations for determining farm size are: 1) the available family labor, 2) the farm income which is aimed at, 3) the cultivation techniques, and 4) cropping program. In this instance, the Minister's decision appeared to have been motivated by a desire to satisfy as many as possible of the numerous applicants for land in the settlement as well as to reduce costs. Permanent officials who had the opportunity to advice do not appear to have drawn the Minister's attention to the wide-ranging discussions that had taken place to ensure a considered decision. The same desire to reduce the unit cost of settlement led to a decision that the settler should construct the field channel to the individual allotment while the Irrigation Department would construct the rest of the channel system.

The original proposal planned the cultivation of 6,000 acres on the right bank and 9,000 acres on the left bank. However, with the 2,500 acres coming under Angamuwa on the right bank, it was found necessary to irrigate more land on the left bank to achieve 15,000 acres of irrigable land in order to make the scheme economically viable. A detailed soil survey of the left bank carried after work on the project had begun disclosed that large tracts under irrigable command had very poor soils or were rocky with thin layers of soil and, therefore, unsuitable for cultivation under irrigation. It was with some difficulty that 6,500 acres were blocked-out for cultivation. Although there are variations in soil fertility, the lands were blocked-out into uniform allotments of two acres for irrigable paddy. Thus, because of poor soil conditions on the left bank and the Angamuwa Tank restoration on the right bank, only some 10,500 acres are being rendered irrigable against the original target of 15,000 acres. The original plan, however, was to supply water for irrigation for one season only. With the restricted area under cultivation, it is now possible for cultivation to be undertaken during two seasons — a boon to the colonists in view of the decision that had been made to reduce the size of the allotment from three acres of irrigable land to two acres.

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[7]Farmer, **ibid.**, p. 276. See also World Bank Report of 1953.

Selection of Colonists

The Land Commissioner was responsible for the selection of colonists and for settling them in the new scheme. His executive agent in the field is the Government Agent in charge of the administrative district. The Land Commissioner allocated allotments in the Rajangana Scheme to the districts according to the extent of landlessness and pressure of unemployment in each area. On arrival, they were the responsibility of the Government Agent whose special assistant, the District Land Officer (a member of the Administrative Service) looked after the Rajangana Project. Colonization Officers living in the colony were responsible for the welfare of the colonist. When large numbers of colonists suddenly arrived under the "advanced alienation" program, all the necessary Colonization Officers were not there because their residences had not yet been constructed. Some had to live outside and travel to the scheme daily — a very unsatisfactory arrangement since they were often not available when the colonists needed them.

Coordination of Work at Site

There was no special arrangement for coordinating the work of the Department at the local level. Under the traditional arrangement when settlers came in after the Irrigation and Land Development Department had completed most of their work, the Government Agent assumed responsbility for their welfare and coordinated the services various departments had to perform for the settlers. Under the scheme of "advanced alienation" the old arrangement for coordination was not modified to suit the new circumstances. On every one of his visits, the Minister received complaints from the settlers. In July 1964 he appointed a Joint Development Committee, under the Chairmanship of the Additional Land Commissioner, consisting of the Government Agents involved and the local representatives of the Irrigation, Health, Cooperatives, Marketing and Agricultural Departments. A senior colonization officer, as Secretary, was charged with coordinating all development activities and to attend to the various problems connected with the develop-

ment program. This Committee met on a few occasions but did not appear to have played any effective role and soon ceased to exist.

In May 1966, after another visit to the scheme, Minister Silva decided that a local coordinating committee consisting of the Irrigation Engineer, the District Land Officer, Land Development Officer and the Senior Surveyor in the scheme "should meet to sort out problems of coordinating the activities of these departments at the construction stage and the needs of the colonists." Failure to determine who should preside at the meeting and take responsibility for implementing decisions gave the Committee a bad start. Questions of status and prestige intruded. Engineers were disinclined to accept the claim to superior status of the Administrative Service. The Committee never achieved a formal status of meeting at regular intervals with an agenda and the keeping of minutes to ensure that decisions were implemented. This effort to create an interdepartmental organization at project level to ensure coordination was not a successful one.

In 1967 the FAO Mission, sent under the FAO/IBRD cooperative program, reviewed the Irrigation Programs in Ceylon. The mission drew attention to the poor returns secured from the massive investments made on irrigated colonization schemes in the Dry Zone and ascribed this poor performance to the inefficient use of irrigation and poor farming practices. The Mission recommended the adoption of a "Package Program" involving the rehabilitation of the irrigation system and the provision of:

(1) improved seed, fertilizer, agro-chemicals, farm machinery, etc.

(2) increased funds for short term credit.

(3) improved extension services and a coordinated program of farm planning.

The Government accepted the recommendation and introduced the package program in a number of existing colonization schemes, including Rajangana. In this connection, a District

Land Officer was required to reside in the scheme and act as project officer in charge of coordinating the activities of all departments whose services are essential to the package program. Government Agent Anuradhapura reports sent to the newly-created Colonization Board (1970) of the Cabinet Sub-Committee on Food Production showed that up to 1970 this arrangement for coordination appeared to have been successful. The Prime Minister himself presides over the meetings of the Cabinet Sub-Committee on Food Production.

III. PROCESS OF IMPLEMENTATION

Pace of Work

When the contract for the construction of the concrete spillway was given, the Minister personally drew the attention of his officials to the need for simultaneously completing the irrigation distribution system and the clearing of land for cultivation with the completion of the headworks, otherwise the country would lose interest on capital and the produce of the land for several years. The Permanent Secretary called a conference to consider what action should be taken to comply with the Minister's direction. The Director of Irrigation stated that his department could only provide irrigation facilities for 1,000 acres annually from 1965 onwards because the Survey Department was not delivering plans in time for the channel system to be designed. The Permanent Secretary pointed out that if irrigation was provided at the rate of 1,000 acres per year it would take fifteen years to complete the project and suggested that an effort should be made to achieve a target of at least 1,500 acres per annum.

Although the Minister in his minute referred to the loss of interest on capital if benefits on the investment were not derived as soon as possible, there is no other reference to accumulating interest charges either in the notes of the Permanent Secretary's conference or in the records of the Ministry or the departments. However, the Department of National Plan-

ning, in its Short Term Implementation Program in 1962, specifically referred to the proposed phasing of the Rajangana Project by the Irrigation Department and pointed out that the benefit-cost ratio was 0.67 with the project cost being amortized over fifty years and if the period of implementation was reduced to a reasonable period of eight years the saving on interest charges alone will amount to Rs. 30 million.[8] When the attention of the engineers was drawn to these comments and to the significance of speed in construction particularly of capital-intensive land development projects to the economic viability of the project, they explained that they treated the provision of irrigation facilities as a welfare service and not as an investment on which returns were expected. All seem to be unaware of the time cost of money.

A new Government created in 1965 a Planning Ministry under the Prime Minister and attempted to promote the more rapid implementation of development programs. In the **Plan of Development** of the Ministry of Land, Irrigation and Power 1966-70,[9] the channel system of Rajangana was scheduled to be completed by 1969. Meanwhile, the settlers were brought into the scheme in batches from 1961 onwards. The lands under Angamuwa Tank received water for irrigation in 1964. The others had to wait until the headworks were completed in November 1967. Regular issues of water began in June 1967. In very few instances was the promise of water within 18 months of arrival fulfilled. The harsh conditions of living for long periods without irrigation resulted in some 1,500 families abandoning the scheme and going back to their homes. The decision that colonists should construct the field channels between the allotment and the branch channel was unpopular. The delay in the completion of the headworks resulted in the postponement of settlers' work on the field channels. Later, they refused to do the work after irrigation was provided much later than promised at the time of their selection. There was

[8]See **Short Term Implementation Plan** (Colombo: Government Press, 1962), pp. 122-125.

[9]Ministry of Land, Irrigation and Power, **Plan of Development, 1966-1970** (Colombo: Government Press, May 1966).

a massive demonstration by the colonists when the Prime Minister visited the scheme in June that year. As a result, the decision that colonists should construct field channels was revised and the Land Army (a Youth Organization started by the Government) was brought into the work. The revised program of 1966 to complete the provision of the irrigation system by 1969 was not achieved despite the reduction of the area to be provided with irrigation. It is noteworthy that irrigation facilities for the last 300 settlers were provided only in 1972.

Revision of the Estimated Cost

Although total acreage irrigated was reduced, the cost of the project was revised upwards from Rs. 31 million to Rs. 38 million. The Ceylon rupee was devalued in 1969 and this increased the cost of material and labor. Annual allocations were given to the Irrigation Engineer at Rajangana and he submitted a program of expenditure for the year. He also submitted monthly statements of expenditure which were examined in the Accounts Division of the Irrigation Department for regularity and to ensure that the annual allocation was not being exceeded. There is no evidence of the expenditure statements being examined on the basis of unit costs of items of work. In the circumstances, it is not surprising that the need to revise the Rajangana estimate was discovered only when the authorized total cost of Rs. 31 million was nearly exhausted and the work was not yet completed.

Agricultural Extension and Yields

To ensure efficient-use and high standards of cultivation, the package program recommended by the UN's Food and Agricultural Organization (FAO) was introduced in the scheme in 1967. A Senior Agricultural Extension Officer has now taken over the duties of Project Manager from the District Land Officer but he works in cooperation with the former and the Irrigation Engineer resident in the scheme. He is assisted in the field by eleven Colonization Officers and five Agricultural Instructors. Cooperative Societies have been established to pro-

vide credit and marketing facilities. The produce of the settlers is purchased at guaranteed prices. Certified high-yielding seed variety was supplied at regular intervals. A Socio-Economic survey carried out by the Agricultural Economic Research Unit of the University of Ceylon[10] disclosed that the colonists in their first cultivation, using traditional methods of cultivation, were securing more than the national average yield of 45 bushels per acre because of the natural fertility of the soil. Authentic records are not available of the yields in subsequent years when improved seed, agricultural techniques and fertilizer were introduced but the Agricultural Implementation Program for 1972 was aimed at targets of 72 to 78 bushels per acre.[11]

At the end of 1972 more than 6,000 families, consisting of some 35,000 individuals live and work in an area where only wild animals roamed fifteen years ago. Their income and standards of living are higher than that of the average rural peasant. Most of the colonists live in the small huts they constructed when they came into the settlement and have not started on the larger type plan house which would entitle them to a Government subsidy. Instead, they agitated for a house which the Government constructed for earlier settlers in other colonization schemes. In response, the Minister who assumed charge after a change of Government in 1970 has decided to construct and supply each settler with a framework of a house. In spite of the substantial improvement in the economic condition of the settlers, the Rajangana Colonization Scheme became a center of insurgency in 1971.

IV. ANALYSIS AND CONCLUSIONS

Factors Which Affected The Implementation Process

An attempt will now be made to analyze the factors which contributed to the success and failure in the implementation of this project. It was undertaken as part of the program in the

[10]Published by the University of Ceylon, 1969.

[11]Printed by the Government Agent **Anuradhapura**, 1972.

Ten-Year Plan to settle 100,000 families in the Dry Zone. It was a perspective plan based on assessment of national resources and their use according to economic criteria to achieve a possible and desirable rate of growth. For the plan to have any validity these criteria should have been used in project formulation and in the assessment of projects for financing.

When monetary provision was sought for the Rajangana Scheme the preparation of the annual budget, including the capital budget, was the responsibility of the Treasury. At that time the budgetary process was based on political and administrative bargaining which had not been systematized by the adoption of techniques of project evaluation on the basis of the economic criteria of the plan. Neither was there any practice of assessing the capacity of construction departments according to the available personnel and those to be recruited as well as capacity of existing equipment or those to be procured. Nor was there efforts to restrict their work load to what could be completed in the optimum period of time.

In the early years after independence, Ministers pressed for the inclusion of many development and welfare projects which had not been carefully investigated and studied. In the absence of any system of objective project evaluation to determine priorities in the use of resources the Cabinet found it difficult to refuse to include the proposals of influential Ministers. Resources were, however, limited and the Treasury resorted to the practice of making lump sum allocations to the Ministries to be distributed among approved projects according to the progress of work on each project. Once budgetary sanction was granted interested parties exerted pressure on the departments to start work on these projects. This resulted in men and resources being thinly distributed in widely dispersed areas. Politics also affected the pace of work. Sometimes work on a project started by one Government was stopped or slowed down in order to concentrate effort and resources on projects of influential pressure groups in the new Government. Such budgetary practices did not promote the rational and efficient use of capital resources. It led permanent officers to assume

that development projects were welfare schemes to satisfy political support and to overlook the important fact that scarce national resources were being used on the project as investment to promote economic growth. When more work than could be reasonably undertaken was entrusted to the department in widely dispersed areas, a ready excuse for all inefficiency was also provided.

It was in such circumstance that the Rajangana Project, based on an incomplete feasibility study, received approval for inclusion in the budget. It was sponsored by an influential Minister and the unit cost of providing irrigation to an acre of land conformed to the rule of thumb figure of Rs. 2,000 per acre which was then used by the Treasury. Monetary provision was itemized separately for personnel, services and equipment without indication of their use in each project. No form of program or performance budget was in use.

Once financial provision was made it was the responsibility of the Permanent Secretary, as administrative head of the Ministry, to initiate action. He was also the Chairman of the Standing Committee on Land Development. In 1958 the office was vacant and was not permanently filled until 1960. As a result the initiative in connection with the Rajangana Scheme devolved on the Director of Irrigation. He communicated the decision to the Government to start work to the department involved and indicated the work each department had to carry out. He played a coordinating role without authority to do so. He also assumed responsibility for the physical planning of landuse, ignoring all recommendations that it should be an interdisciplinary exercise to ensure land was used to produce maximum returns. It was reduced to a departmental routine performed by draftsmen at Headquarters using survey plans and the results of soil surveys. Allotments of uniform sizes were blocked-out from soils of varying fertility: a practice which will result in varying income to the settlers as well as their future in the resettlement schemes.

The representatives of the departments were not brought together to prepare an agreed program of development as was customarily done by the Standing Committee on Land Development. A program of development was of special importance as the project had been authorized without the preparation of a project report. This failure to prepare a development program was the cause of much subsequent delay and dislocation. The defect was not remedied even after a full-time Permanent Secretary assumed office in 1960.

The ineffective role of the Permanent Secretary needs further examination. The office was a new one in the administrative system of Sri Lanka. Prior to Independence, Ministers dealt directly with various heads of the departments that constituted the Ministry. The Independence Constitution made provision for the office of the Permanent Secrtary, who, as in Britain, was intended to be the administrative head of a department which would carry out all the functions assigned to a Minister. Like in the British model he was also made the chief accounting officer. He was expected to advice the Minister on policy and to implement the policy decisions of the government. It was intended that he should be responsible for planning, implementation, progress control and evaluation of all the activities of the Ministry. The intentions were distorted in translation into practice by the superimposition of the Permanent Secretary and a Ministerial Secretariat on the old Departments. Physically separated from the Departments he was intended to supervise and coordinate, the Permanent Secretary was not provided with the necessary supporting staff to perform the important responsibilities of the office. The Ministers, used to the practices under the Old Constitution, continued the old habit of dealing directly with the heads of department who, in many instances, resented the interpolation of the Permanent Secretary. In these circumstances, a Permanent Secretary had to possess outstanding personality and administrative capacity to attempt to perform the responsibilities attached to his office. And even an outstanding Permanent Secretary could not be

really effective unless he had the obvious support and confidence of his Minister.

In the Ministry of Lands, the Minister, because of his administrative experience as a distinguished civil servant under the old constitution, was inclined to bypass his Permanent Secretary and to deal directly with the heads of Departments and even with officials of all levels in the field. His success as an administrator before he joined Parliament was due to the personal leadership he provided to men working under harsh conditions in the remote areas by living in their midst and associating himself with all aspects of the work. As Minister, he attempted to provide the same type of personal leadership at numerous work sites — including Rajangana — without using the departmental lines of control. However, because of his national responsibilities as a Minister, in charge of a number of large departments and his duties in Parliament, he failed to establish the intimate relationship necessary for the type of leadership he sought. He was unsystematic. He did not ensure that he received a feedback on directions issued on his numerous visits. Far from providing inspired leadership his sporadic intervention and sometimes hasty decisions only succeeded in disrupting the normal lines of authority and control. In the circumstances the Permanent Secretary did not assume the administrative leadership the office required of his office. He merely attended to specific tasks assigned to him by the Minister as well as routine responsibilities of financial and personnel control.

The launching of the project without full investigation and a detailed program of implementation resulted in a number of **ad hoc** decisions being made without an analysis of their full implications. All had been made at the instance of the Minister who invariably sought the views of his departmental officials before confirming his order. There is, however, little evidence of objective examination of Ministerial suggestions in the files, though, in many instances such decisions as "advanced alienation," reduction in the size of the colonist allotment, reduction in the scale of assistance to settlers and similar proposals have been examined and rejected previously for very cogent reasons.

Permanent officers found it more convenient to echo Ministerial views rather than undertake the task of marshalling all the information and experience at their disposal and placing them before the Minister for final decision.

The absence of satisfactory arrangements at the local level to coordinate the activities of the different departments working in Rajangana towards a common objective was an obvious organizational weakness. The failure of two interdepartmental committees to function satisfactorily has been mentioned earlier. This was due to the Ministry working on certain assumptions about district administration which were no longer valid. From colonial times, the Government Agent was accepted as the administrative head of a district and he played an active role in coordinating the activities of the various centrally-organized Departments in his district. He was always a senior member of the civil service and his authority was unchallenged. When colonization schemes to reclaim the Dry Zone were started in the 1930s and 1940s, specially selected officers were sent as Government Agents to districts with such projects. He was a member of the Standing Committee on Land Development and played an active role in the planning of the scheme and when work began at the site, he coordinated the work of the various departments involved in the project.

At that time a Government Agent considered the supervision of a colonization scheme in his district to be his most important duty. He or his Senior Assistant performed the role of the project manager. By the late 1950s circumstances had completely changed. The duties of the Government Agent had greatly increased. He no longer gave his personal attention to land work. The work related to colonization schemes was assigned to a comparatively junior assistant, a member of a greatly enlarged Administrative Service whose claim to superior status and to leadership was no longer generally accepted by the engineers and other professional classes. When the Ministry created coordinating committees at project level it was a consequence of the realization that the traditional arrangements for coordination were no longer effective. But failure to define

the leadership role in the interdepartmental committee was due to the persistence of the assumption that it was the normal role of the Government Agent or his representative. In contrast, the arrangement made for interdepartmental coordination in connection with the package program to increase yields under the chairmanship of the Government Agent's District Land Assistant worked because the Government had in 1967 reaffirmed the responsibility of the Government Agent in charge of a district to coordinate all Government activities and the project officer was required to report regularly on the progress of the program to the Cabinet Sub-Committee.

The physical implementation of the project was a success. The investigation involving the collection of data over a long period, the selection of a suitable site for the reservoir, the designs of the earth bund and concrete spillway, the preparation of specifications and estimates and finally the supervision and construction required high technical skills, with equal organizational and administrative capacities. Any one who visits the project will be impressed with the achievement.

It is worth examining why the departments which possessed such high technical, organizational and administrative capacities failed to use the known tools of management to ensure completion of the project without the hardship that was caused to the settlers by delay in providing irrigation. As noted earlier, such hardship led to many settlers to abandon the scheme as well as increase the cost to levels which distorted the economic viability of the project. In the administrative set-up, the responsibility for organizing a proper management system was primarily that of the Permanent Secretary. His ineffectiveness has been explained earlier. The Minister did try to inspire a sense of urgency but his manner of leadership did not encourage the evolution of an orderly management system. It is, however, true that the technique of programming, progress control and evaluation were not normally practiced in the departments which performed regulatory and maintenance functions. They have no real appreciation of the importance of costs and speed in the implementation of a development project.

The project being treated as a departmental responsibility in the various departments affected the implementation process. No single officer was entrusted with the specific responsibility for carrying out his department's share of work within a specified date. Officers in the project were transferred according to exigencies other than the work they had on the project. No officer felt that there was a reputation to be gained or lost by his work on the project. Personnel policy in the Public Service did not provide the incentive for drive and enterprise. Promotions were largely made on the basis of seniority. The Committee reporting on Administrative Reforms at this time commented: "Too often persons in the higher levels of the administration reached the highest offices by the sheer lapse of time on the basis of seniority."[12]

The financial management was also superficial. The Engineer at site prepared a program for the expenditure of the annual allocation and submitted monthly progress reports of the work done with a statement of expenditure. These statements were scrutinized at Headquarters for regularity and to ensure that expenditure did not exceed the allocation. There was no system of unit cost analysis to identify areas where costs were exceeding estimates and to ascertain the reason for the increase. These defects stemmed from the fact that the accountant is not considered a member of the Management Team. He takes no part in the preparation of the estimates of the project. His role is restricted to bookkeeping and **post hoc** examination of financial documents for regularity. In such a role, accountants are inclined to enforce Treasury regulations rigidly and not view with understanding the practical difficulties in the field.

At no stage in the accounting records that are maintained was the interest on the capital in use recorded and brought to the notice of the technical managers. At the technical and administrative levels there was no appreciation of the time cost of money and awareness that delayed implementation in-

[12]See page 16 of the **Report of the Committee on Administration,** Sessional Paper XIV of 1966 (Colombo: Ceylon Government Press, 1966).

creased the capital cost of the project and distorted its economic viability. When attention was drawn to the successful completion of the spillway dam by a predetermined date and at a profit by the use of management technique of programming, progress control and financial management by professional managers with the same background and training as themselves, the departmental engineers attributed the success to the Company's objective — profit — being clear, and the management being able to operate unhampered by rigid Treasury regulations regarding wages, incentives to workers and centralized purchase of spares. In contrast the employment of departmental personnel and equipment was not to maximize the output but to satisfy as large a number of supporters of the Government, which led to the widely-held belief that they engaged in welfare work and not in development activity where one sought to maximize returns.

The absence of an independent evaluation of the progress of development projects outside the Ministry responsible also contributed to slow progress. Independent evaluation was only introduced when a Department of Plan Implementation was created in a new Ministry of Planning under the Prime Minister in 1966. The existence of an independent evaluating organization which called for regular progress reports in physical and financial terms on all development projects had a stimulating effect on the implementation of capital projects. The Departmental officers, when they became aware that their progress was being watched and evaluated at the highest administrative and political levels, did improve their performance and began to learn to use the tools of modern management.

General Conclusions

The implementation of the Rajangana Scheme reflects the state of public administration in Sri Lanka when the project was undertaken. An administration which had been trained to perform regulatory and maintenance functions was called upon to implement a project which was part of a plan of development. The managerial personnel involved in the implementation had

not been trained in the economics of growth and to appreciate the importance of the economic criteria as a rationale in investment. Planning had not become the accepted routine of government. The economic criteria of the Ten-Year Plan had not become the guidelines for project formulation nor were they used by the Treasury in assessing projects for inclusion in the Budget. As a result the project was implemented by the departments in the traditional manner as and when personnel and resources were available. Being long established departments they possessed the technical skills, organization and administrative capability to carry out the work in an orderly manner. What was lacking was an understanding of the economics of growth and the vital importance of efficient and speedy use of resources to achieve the objectives of planning. It was from these factors that many of the defects in the implementation of the project stemmed.

The primary objective of securing optimum returns from the new land was defeated by land-use planning being entrusted to an engineering department where it was reduced to a routine of blocking out allotments of uniform sizes and ignoring the varying soil conditions. Land-use planning which required interdisciplinary research should not be the responsibility of a department which is engaged in one discipline. Better results could have been achieved if the task is entrusted to a specialized unit in the National Planning agency or to a research organization.

The Treasury practice of sanctioning, under political pressure, more work than the departments were able to carry out with the resources that were available annually led to wasteful use of manpower and equipment. It also provided departments with a ready excuse for all inefficiencies. Traditional itemized budgeting for personnel, equipment and services separately contributed to the failure of the technical managers to realize that the estimates were being exceeded over the long period of implementation. The absence of a practice of recording interest charges in the accounting system in use was the reason why

professional engineers failed to realize that delays add to the capital cost of a project and that money has a time cost.

The practice of excluding professional accountants from the management team that prepared the estimates for a project led to accounting documents being scrutinized for regularity after expenditure had been made and to the absence of any unit cost analysis which would reveal excesses as they occurred and enable the management to take remedial measures. Highly competent and professionally qualified technicians in managerial positions were inclined to forget costs when they were not assisted by competent financial advisers.

The Minister's involvement in the project was not entirely advantageous. His interest secured the early release of resources. It also resulted in work beginning before a project report — after full investigation — could be prepared and programmed for implementation. Important details had to be settled after work began. In the stress of work officers were inclined to echo Ministerial whims and not take time to tender studied advice. Many decisions made in this manner had to be revised later. The impatient launching of the project without full investigation and a comprehensive project report did not expedite implementation or the achievement of results. Nor was the effort to provide inspired personal leadership a success. It only prevented the evolution of an orderly management system.

The office of Permanent Secretary created at Independence to play the key role in the management of a Ministry did not materialize. The adoption of a designation which has high stature and responsibility in one administrative system (i.e., British) is no guarantee that the holder of the designation will perform in the same manner in another system. The stature of the office and its responsibility have to be built up by conscious effort, by definition of the responsibilities for general acceptance and the provision of the necessary supporting staff.

Where implementation of a project requires the coordinated effort of a number of Departments, entrusting the work to the

departments concerned as departmental responsibility does not ensure efficient and speedy execution even if arrangements are made for interdepartmental coordination. This is particularly so when personnel policies of security of tenure, imprecise performance assessment and promotion largely on seniority prevail. Tasks should be entrusted to individuals or accountable groups under a project manager whose individual and collective performance could be assessed so that good work could be rewarded and failure censured. It is only in this manner that incentives can be provided for the dynamic effort required in development administration. Traditional disciplinary codes and administrative regulations may stand in the way of such arrangements. They have to be altered.

Finally, the implementation process suffered because of the absence of an authority in the administrative system with responsibility to review continuously the machinery of Government so that defects in departmental management could be identified and remedial measures could be recommended, including among others, the training of personnel for the new tasks of development administration. Had such an authority existed, it would have been sensitive to the changing attitudes towards the generalist administrator and the need to review old assumptions and myths. It would also have seen the necessity to retain the traditionally trained administrators and technical personnel who had to function in managerial capacities to understand the economics of growth and the use of tools of modern management.

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MALAYSIA

FELDA AND THE IMPLEMENTATION OF WEST MALAYSIA'S LAND DEVELOPMENT PROGRAM

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CONTENTS

FELDA AND THE IMPLEMENTATION OF WEST MALAYSIA'S LAND DEVELOPMENT PROGRAM

Tang Teng Lai*

I. INTRODUCTION AND BACKGROUND

The Federal Land Development Authority (FELDA) of West Malaysia was established in 1956 with the task of opening new lands for development and settlement. Within a period of sixteen years it has become the biggest land developer in Malaysia, having developed a total of 429,193 acres of crops (rubber, oil palm and sugar cane), resettled 25,762 families and assisted the nation in generating a total of $(M) 180 million** of agricultural produce since its inception. The total grants and loans received to date (1972) stood at $(M) 548 million. FELDA is one of the many agencies in Malaysia involved in land development. The different agencies operate under different terms of reference.

The Second World War ended with the signing in 1945 of the surrender treaty by the Japanese to the British. The pillars of the country's economy, tin and rubber, were in a shattered state and required rehabilitation. Although World War II was ended, the country was destined not to enjoy peace for the next twelve years. The local insurgents, who fought on the side of the British against the Japanese, demanded that the "British imperialists" should no longer rule the country. The outcome was the Emergency Law enforced in 1948 and withdrawn only in 1960. Subversion, terrorism and plunder countered by all measures of warfare and restriction prevailed. While the validity and solution to the claim of the insurgents were examined and debated by the British, havoc, suffering

*The author acknowledges a debt to many persons in the course of writing this study, especially to Raja M. Alias, FELDA Director General and Tungku Shamsul Bahrin.

**All figures are in Malaysian dollars.

and inconveniences posed by these insurgents had to be put up with by the local government and people. Amidst such chaos, land development of any sort was at a standstill and the need to keep the estates and smallholdings operating and productive presented difficult problems to the government.

After the war, changes in all directions were to be expected. The population of West Malaysia stood at 6.3 million in 1957 and was growing at a rate of 3.4 per cent. The economic growth could not follow population growth as is the case in many of the developing countries. By 1957, nearly 200,000 land applications, indicating a strong pressure for land, were awaiting action in the Land Office of various states. Land squatting (illegal occupation) was a serious problem and law enforcement was restrained by the fear that this could destroy the trust that the people placed on the government, a support which helped the government end the Emergency. The Land Offices, like all other government departments affected by the war, would need time to recover let alone handle this outburst in land applications. The Government machinery was conscious that if land had to be released for development, it would be in the interest of the country that the best management was practiced. But land developed in the past as small holdings left much to be desired because the management was poor and hence output was low.

II. PLANNING AND IMPLEMENTING THE PROGRAM

Identification of Objectives

The Federal Government, aware of the difficulties of the State Governments in the handling of such voluminous task, proposed to the State Governments the creation of an independent authority, under Federal auspices, to undertake land development work to relieve the State Government of this burden and to ensure a satisfactory standard of crop management. The proposal was made in March 1955. Most States approved the proposal and it was decided that before a final decision was taken, the matter should be further examined by a Government Working Party. This body was set up in August 1955.

The Government Working Party[1] reviewed methods and problems of land settlement and development in other parts of the world and had further dialogues with the various States in order to resolve questions of needs, methods and recommendations. Their findings were as follows:

(a) There was a need for planned land development.

(b) Federal help was welcome in most States.

(c) Some locations were better administered by the States in a coordinating role, leaving the administration of the projects to the States.

The Working Party pointed out that the development of land should be planned and coordinated in such a way that economic development was accompanied by social development. The report advocated that there should be safeguards on fragmentation and uneconomic size of holdings, to integrate needed cash crops and livestock to attain a balanced form of agriculture and a reasonable standard of farming. At the time the Working Party made its report on land development, action on a Land-Use Survey for the whole of West Malaysia was being implemented following the recommendation of the International Bank for Reconstruction and Development (World Bank) Mission on the national development of Malaya.

There was ample land in Kedah, Kelantan, Trengganu, Pahang and Jahore for development. While the Working Party recognized that land was a State matter, the resettling of people from one State to another and the use of Federal technical services and staff resources were best dealt with at the Federal level. One line of thought was that the proposed Authority should deal only with the higher executive and financial role, leaving the implementation of land development to the States. This thinking did not come about without other thoughts and fears since the proposed Authority could be too remote from the scene of action and the program could face many problems in implementation.

[1]Ministry of Natural Resources, **Report of the Working Party Set-Up to Consider the Development of New Areas for Land Settlement in the Federation of Malaya** (August, 1955).

The Working Party observed that if the task of planned land development was entrusted to a government department, it had to be funded on annual budgets and this meant that annual clearance with the legislature would be inevitable. It would, therefore, suffer from the vagaries of political changes in Parliament. It would be unable to utilize and contract commercial loans from non-government or external organizations. The annual budgetary allocations would also preclude programming of funds on a long-term basis. Considering all these factors, the Working Party proposed the creation of a statutory body which would be relatively free from political interference.

Following the recommendation of the Working Party, the Land Development Ordinance of 1956 was passed which created the Federal Land Development Authority (FELDA). The Ordinance gave FELDA adequate fiscal and administrative flexibility for effective action. FELDA was given the responsibility of promoting and assisting investigation, formulation and carrying out of projects for "the development and settlement of land in the Federation". Following the advice of the Working Party, the composition of the FELDA Board was kept small to prevent it from becoming "unwieldy and possibly ineffective."

The Bilut Valley Scheme Experience (1957-1960): The Early Years

FELDA went into action in 1957 with a two-pronged role:

(i) To make available Federal resources, largely finance, to the Land Development Boards or Corporations established by the State Government. In this respect, 14 land development schemes of sizes varying from 1500 acres were financed during the period.

(ii) To operate its first land development schemes (the Bilut Valley of 6500 acres for 600 families) directly planned, financed and managed by FELDA itself.

The Bilut Valley was the first land development scheme directy implemented by FELDA in 1957. It gave FELDA an

insight into the involvement at field level and in this way enabled FELDA to restructure the central organization that could effectively sustain and control these processes going on in different schemes at different parts of the country. The Bilut Valley Scheme started as a corporation for a brief period of time and was then placed directly under FELDA. The settlers came from every state of West Malaysia and all the major races of the Malaysian people — Malay, Chinese, Indian and others — were represented. The village area was divided into different sectors, each for a different ethnic group. This arrangement later developed a whole range of difficulties for the management. A synthesis of the plural heritage was made difficult by this ethnic grouping. The segregation did not allow for an integration of thinking, a tolerance of different ways of living and a respect and understanding of cultural differences. This unsatisfactory arrangement was discarded in subsequent schemes.

In developing Bilut, it was initially thought that an experienced state manager would be able to cope with the problems associated with opening a new project. However, it became clear that running an established estate and opening a new land scheme for settlers were two different tasks altogether. The replanting experience on a small scale carried out in the estate sector could not in any way be equated or judged as satisfactory experience for the large-scale clearing of jungle for plantation development. The jungle vegetation was more rugged and variable than the plantation crop (largely rubber) to be replanted. Also, for replanting within an established plantation, a wide range of facilities was generally within easy reach because established plantations were adequately provided with a good network of public roads. In the development of jungle land, such facilities were lacking.

In the plantations, the managers usually had a set of experienced staff to assist them and most managers leaned heavily on their subordinates. Such managers would inevitably encounter problems at Bilut Valley and would be themselves problems to FELDA. By the time the first manager at Bilut

Valley was changed various problems had snowballed to frightful dimensions. In the midst of this chaos, the junior and inexperienced recruits serving as field assistants were learning the trade first hand and in a hard way. They could not escape the many directives from the manager concerned with problems and in the most difficult situation. It shoud be pointed out that, initially, the technical and managerial competence of the junior staff was low since almost all of them started as casual laborers. These young field assistants later became the nucleus of experienced field personnel for subsequent FELDA ventures. From the start, the land clearing process at Bilut Valley was slow. This was caused mainly by lack of access road and the difficulty of acquiring essential commodities like food, fuel for chainsaws, spare parts for equipment, etc. Corrective actions were slow. The turnover of workers was high and morale low. The field problems continued to accumulate and multiply. Some contractors left their jobs unfinished. The consequences were nothing short of chaotic.

The land clearing process consists of 1) removal of the undergrowth by slashing, 2) felling of the big trees with chainsaws, 3) burning the fallen debris after a period of drying, and 4) pruning of half-burnt branches and stacking them for reburning to reduce the volume of litter. This was then followed by the establishment of legume covers, planting of the main crop and subsequent maintenance of the plantation through removal of noxious weeds. Award of contract for land clearing was not given to a single contractor but to different contractors, one for each part of the process. In other words, the contractors were expected to play a "passing the ball" game. As to be expected it did not work. When one contractor dropped out or failed to fulfill his obligations, the action-chain snapped. There were no stand-by contractors and retender took place. The result was a pile-up of work as well as general dissatisfaction and confusion. From this experience, FELDA later decided to give the land clearing process to only one contractor.

Other problems also developed. The less financially equipped contractor could not afford to wait till the full completion of

the contract to qualify for payment; hence, the part-payment or progressive payment method was adopted. Supervision and certification of such payments were difficult because wrong estimates of the acreage accomplished would lend itself to an incorrect release of large sums of money. Security in the form of bank guarantee or retention fund on previous payment was introduced to serve as a safeguard. Contractors, too, learned from the Bilut Valley experience. They knew what would be expected of them and were later able to organize and adapt themselves to the requirements of FELDA. FELDA personnel learned to understand the idiosyncrasies of the individual contractors and thus able to develop better relationship with the good ones and to screen out the unreliable contractors. FELDA learned to value the suggestions of contractors in streamlining their field operations and in synchronizing field activities with climatic changes. Contract specifications were later revised to the mutual advantage of both parties.

Whereas today's settlers enter FELDA schemes with their families, dependents, pets and other belongings straight into their houses, settlers at Bilut Valley were then only provided with construction materials and were asked to build their own houses. This called for a lot more physical and mental adjustments. Settlers originating from a particular region tended not only to socialize among themselves but also organized themselves to help one another. They developed into strong cliques or perhaps "fraternities" which later created problems for management. The settlers of Bilut Valley came without dependents. In addition to hard work to be done in the scheme settlers were naturally concerned for their families left with their relatives. On top of all these, some contracted malaria. Such problems emphasized the importance of settler's welfare and subsequently an administrative division was developed to look into this problem.

Settler selection for Bilut Valley was very lax. It was soon discovered that very old settlers with large families generally did not respond well. The rapid development of undesirable elements (e.g., money lenders and middlemen) within the set-

tlement had a detrimental effect on the resettlement program. As a consequence, FELDA had to revise its settler selection system. On arrival, the settlers encountered the same problems as the contract workers in finding it difficult to procure the basic daily necessities. The Bilut settlers had to walk seven miles for their provision and the question of indebtedness to outside retailers arose. At Bilut Valley, technical supervision by the management was poor for reasons given above and the settlers, many of whom were retired army personnel, were inexperienced.

The poor management, the inexperienced settlers and the desire that as much as possible of the development work be dealt with by settlers were sources of conflict and difficulties. For example, when the rubber seeds for the nurseries arrived at Bilut, they were left neglected for a long time at the scheme store and by the time the seeds were taken for germination their viability was gone. By the time fresh seeds were ordered the seed season was over, resulting in the dislocation of the field program. This meant that the fields had to be kept clean of vicious weeds without any crop growing in them. Financially, this is an expensive setback.

Other problems mounted. For instance, some agricultural roads were built by contractors without considering their gradient so that the roads became so steep that tractors could not go up during the wet season; hence, the consequent paralyzation of work, like planting and fertilization. The contractor blamed the management for lack of guidance while management reported that the contractor did not consult them. This led to greater clarification in the subsequent contract for road construction. The planting season was missed and the seedlings, now overaged, had to be planted. The casualty rate was high and led to problems of replacement of casualties, i.e., low plant population per acre.

Weed infestation, particularly lalang **(Imperata cylindrica)** was serious at Bilut in the post-planting management. Lalang, a very aggressive weed, not only will smother the crop by competing for nutrients and light but could also cause fires during

dry spells. Herbicides were applied but the lalang continued to thrive. It should be pointed out here that getting rid of lalang required skill and the costs can be as high as jungle clearing.

The Bilut Valley Scheme: Contributions to Future Planning and Implementation

The Bilut Valley experience must have been nightmarish for both FELDA and the settlers. Bilut Valley, nonetheless, was a mine from which FELDA could draw many valuable experiences and lessons for future schemes. Bilut Valley added new dimensions to the planning at the Head Office, opened up new channels of thought, stimulated an outburst of questions and conjured new methods of approach. Weaknesses in communication, the lack of rigorous financial control and the inadequacy of technical competence were quite glaring problems which demanded attention.

The various facets in the contractor system pertaining to efficiency, reliability, capability, financial backing and other weaknesses had to be thoroughly reviewed and better understood. The need for precision in timing work phases and to put tested personnel to critical tasks were vital lessons gained. FELDA also appreciated the necessity for requiring that reserves or stand-by staff and contractors should be available to meet any eventuality.

The experience during the first four years of administering the Bilut Valley scheme gave FELDA deeper insights into other problems. For example, the role of FELDA from passive to more active and direct involvement in future schemes was a significant change. The "Loans Board" role of FELDA turned out to be a disappointment because progress was slow. The physical work of clearing the jungle, the development of the land and the management of the crop were the responsibilities of the Land Development Boards in the States. This left FELDA with little influence in determining and dictating the pace of development. Even if management in the field deteriorated after payment had been made, FELDA's passive role

prevented the adoption of corrective measures. Despite the manifest problems encountered, the Bilut Valley scheme provided FELDA with the experience for its subsequent success. In closing this brief narrative during the initial phase of FELDA's implementation of the land development scheme from 1957 to 1960, it is worth noting that during this period FELDA introduced 14 schemes involving 2,772 settlers and covering an area of 14,600 acres planted with rubber trees.

A Typical FELDA Scheme

From the Bilut Valley experience evolved the blueprint of the typical FELDA scheme. The scheme size is according to the area of development and is fixed between 4,500 to 5,500 acres. The administrative staff and facilities are pre-planned for this size. If a typical scheme is for 400 settler families (with a settlement population of about 2,500) and encompasses an area of approximately 4,900 acres, it would have:

(1)	a central village	300 acres
(2)	a main Crop Area at 10 acres per settler	4000 acres
(3)	an unplantable area — swamp, steep areas, etc. at 10-15 per cent	600 acres
		4,900 acres

In the past, the whole scheme was not developed all at once. During the first year the village area of about 300 acres and approximately one-fourth of the crop area were felled for development. The remaining crop area would be cleared in phases of about 1,200 acres per phase. The size of phases was derived from the Bilut Valley experience. However, with accumulated experience, with more knowledgeable field staff and the availability of know-how among contractors, FELDA is now able to develop not only the whole scheme but also several schemes in the same locality simultaneously.

The location of the village or future town takes into consideration the maximum convenience for all concerned. In practice, the shape of the scheme area, topography, soil pattern, water resources, accessibility and so on may pose problems. The ultimate choice is arrived at after a careful study of the topo-

graphical map and the site itself. The draft of the village layout was prepared by the Public Works Department. With the public amenities in the center, the house lots fan out in sectors of 140 to 180 houses. The size of each residential lot is one-fourth acre but varying from 70 feet wide to 150 feet deep. Depending on the stage of development, the following amenities will be found in the village:

(1) FELDA Office
(2) Community Centre
(3) Clinic & Midwife Quarters
(4) Bus & Petrol Station
(5) Cinema
(6) Cooperative Shop
(7) Car Park
(8) Fire Station
(9) Health Centre
(10) Government Reserve
(11) Handicraft Centre
(12) Hospital Reserve
(13) Industrial Centre
(14) Manager's Quarters
(15) Market
(16) Mosque
(17) Public Library
(18) Police Station
(19) Post and Telecommunications
(20) Public Field
(21) Power Station
(22) Religious Reserve
(23) Schools
(24) Staff Quarters
(25) Water Tank
(26) Women's Institute
(27) Youth Club
(28) Young Farmer's Unit
(29) Burial Ground Reserve

The settlers move into the scheme after the contractors have completed the planting of the crop and when routine maintenance begins. During the first two weeks after arrival, the settler is expected to clear his house lot and plant some food or fruit crops. He receives a small financial assistance of $(M) 2.90 per day. After the initial two weeks, he is assigned to his task lot and he maintains it to the satisfaction of the management, for which he receives a monthly advance of $(M) 69.60 based on 24 working days per month.

FELDA From 1960 and After: Experience and Administrative Change

The important role given to FELDA in the Second Malaysian Plan spurred the Government to attend to the problems encountered by FELDA, especially its "Loan Board" role mentioned earlier. A special Committee was appointed in December 1960 to review the role of FELDA within the Rural Development Program as well as to examine the organization structure

of FELDA, its achievements and the improvements needed in order to assume a greater role in national development.

After a lengthy examination, the Committee criticized the composition of the FELDA's Board and recommended that members should be selected for their capability and value of participation. To improve coordination with other departments, it was suggested that FELDA's autonomy should be reduced and the Authority should be drawn closer to the Ministry of Rural Development. All land development schemes implemented by FELDA "should be, after the initial process of obtaining State land, a purely Federal function."[2] The staff structure of FELDA required reorganization with each section held answerable for their activities. The Committee suggested that administrative expenses should be borne by the Federal Government and not by the settlers. This would allow for less stringency on developing a more efficient administrative machinery. The need for expert advisory service on agricultural maintenance and field aspects was emphasized as well as suitable training for the managers or young recruits.

Following the Special Committee's report and recommendations in 1961, FELDA became more closely integrated with the Ministry of Rural Development. The Chairman of FELDA had closer and more direct contact with the Ministry and vice-versa. In brief, the line of action and communication was abbreviated and delegation of authority enhanced and made more efficient.

Other changes resulting from the Special Committee's Report were:

(1) FELDA was to abandon the role of "Loan Board" and to be directly responsible for the inception and administration of all schemes financed by the Authority.

(2) All areas of land over 2,000 acres should be developed by FELDA. While areas of above 4,000 are preferable for the economic provision of major essential services and high calibre management, the minimum acreage is reduced from 4,000 to 2,000

[2]Ministry of Rural Development, **Report of the Special Committee to Review the Role of FELDA Within the National Rural Development Program** (1961), p. 7.

acres because of the unavailability of areas above 4,000 acres in the west coast States.

(3) Two Federal committees were established — the Technical Investigation Committee and the Technical Planning Committee — consisting of representatives of ministries and federal heads of departments connected with development. These committees will assist in the investigation of proposed schemes and the planning of accepted schemes with the view to coordinating at federal level all the services required for FELDA schemes.

(4) Strengthening of the Head Office with additional officers and staff and its division into various administrative departments on a functional basis. Regional Officers in the various States were to be established and adequate ground management provided.

During the 1961 to 1965 period the developed acreage totalled 114,769 acres compared with 14,600 acres during the 1957 to 1960 period. In the early period, the development was solely on rubber but from 1961 oil palm was introduced and by 1965 the oil palm acreage scored about one-third of the acreage developed. (See Table 1)

Table 1

Year	No. of Schemes	Acreage Rubber	Acreage Oil Palm	Acreage Total	Cumulative No. of Settlers
1961	11	14,471	926	15,397	3,487
1962	11	24,673	1,749	26,422	4,368
1963	12	17,343	6,839	24,182	6,411
1964	11	22,398	8,317	30,715	7,561
1965	1	8,475	9,578	18,053	8,855
	46	87,360	27,409	114,769	
1957—1960	14	14,600		14,600	
Totals:	60	101,960	27,409	129,369	8,855

From Table 1, it will be observed that in 1964, the achievement was at its highest with a record of 30,715 acres compared to 15,397 acres in 1961. Several factors contributed to this record performance. For example, the contract system was

streamlined. Having acquired valuable experience in the field, contractors were able to synchronize their schedules to the weather pattern, adopt a part-payment system, improve supervision in the field, adopt appropriate division of responsibilities and various other new administrative innovations which accounted for the greater speed and efficiency in land clearing and planting. In 1965, there was a drop in area developed and this was due to delays in the offer of land by the State. This situation was rectified when FELDA requested for the release of suitable areas or regions rather than awaiting the States to offer. With further experience, FELDA was able to forward land applications to the State, which were far more than the target acreage needed in order to ensure adequate stand-by areas and avoid any reduction in target acreage.

During the 1966 to 1970 period, progress was further accelerated because of the momentum gained earlier. Greater attention was paid to crop diversification. The earlier practice of planting two-thirds of the total acreage for rubber and one-third for oil palm was reverted to one-third rubber and two-thirds oil palm. The aim was to dovetail crop emphasis with the speculated world demand projection for the two commodities. Natural rubber was being aggressively challenged by synthetic polymers. The achievement of 1966 to 1970 was well above target — 179,000 acres average as against the planned target of 141,000 acres. (See Table 2)

Table 2

Year	No. of Schemes	Acreage Rubber	Acreage Oil Palm	Total	Cumulative No. of Settlers
1966	1	14,442	14,032	28,474	10,320
1967	7	9,144	18,235	27,379	11,990
1968	6	2,344	31,044	33,388	15,781
1969	7	1,928	36,321	38,249	18,400
1970	9	18,007	33,554	51,561	20,718
	30	45,865	133,186	179,051	
1957—1965	60	101,960	27,409	129,369	
Totals:	90	147,825	160,595	308,420	20,718

The target for 1971 to 1975 is the opening of 60,000 acres per year with two-thirds of the total area for oil palm and one-third for rubber. The planting of a new crop (sugar cane), was attempted as part of the national diversification program. The cocoa crop is being actively considered for 1974 to further support diversification. Table 3 gives the achievement and targets for the years 1971-1975.

Table 3

		Acreage				
Year	No. of Schemes	Rubber	Oil Palm	Sugar Cane	Cocoa	Total
1971	10	19,319	28,410	—	—	47,729
1972	13	21,045	49,999	2,000	—	73,044
1973	17	31,134	68,569	1,854	—	101,557
1974	(18)	(11,000)	(70,000)	(2,200)	(1,000)	(84,200)
1975	(18)	(10,000)	(70,000)	(2,200)	(2,000)	(84,000)
1957—1970	90	147,825	160,595	—	—	308,420
Totals:	(165)	240,323	447,573	8,054	3,000	698,950

( ) proposed

The drop in acreage for 1971 was due to a glut in the international timber market. The extraction of timber was at a standstill because approval from the Forest Department required that the forest must be extracted for its valuable timber before any clearing could proceed. On the other hand, the depression in rubber trade in 1972 resulted in an increase of unemployment and this brought down development costs.

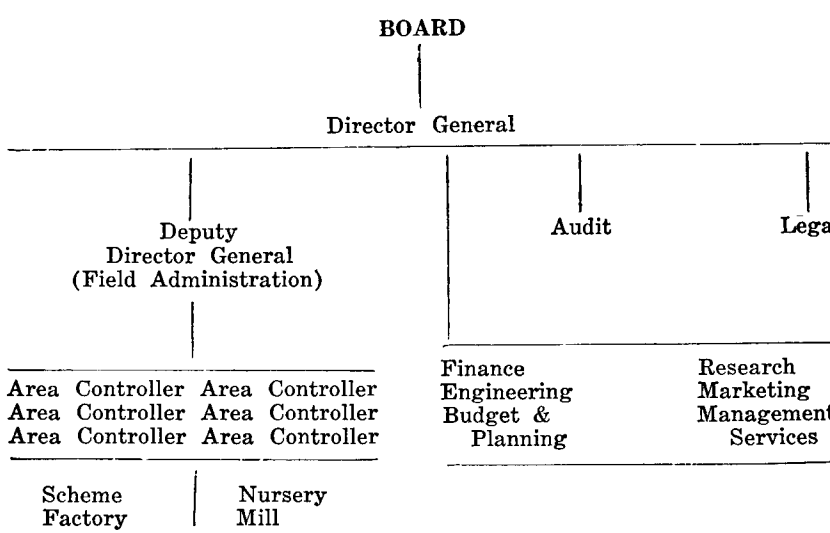
Over a period of fourteen years (1957 to 1972), with rubber and oil palm having a "vegetative" period of 6.5 and 3.0 years, respectively, FELDA was able to add $(M) 180 million to the nation's income. The productive acreage for rubber and oil palm was 91,124 and 86,572 acres, respectively. Due to the general depression of the rubber market during the last five years, oil palm appeared to be the more lucrative crop.

Organization of FELDA

FELDA is a statutory body governed by an ordinance. Its

policy interpretation, implementation and changes are managed by a Board of thirteen members representing both the government and the private sectors. The members are appointed by, and serve at the pleasure of, the Minister under whose Ministry FELDA is placed. The head of FELDA is also the Chairman of the Board. The role of the Chairman has undergone changes depending on whether his functions are executive or not. In the past, the post of Chairman was held by a civil servant but later it was held by a politician. Recently, a civil servant was again reinstated. When the Chairman is non-executive, his deputy (or the Director-General) sits as a member of the Board to assist him. Several committees were created to assist FELDA on inter-ministerial matters and operations. Members of such committees are normally drawn from the Ministries involved.

The top administrator in the FELDA hierarchy is the Director-General who is responsible to the Board and to the Chairman. The whole organization is then dichotomously structured with the Deputy Director-General (Field Administration) looking after the field aspects and all the other "service" departments under the direct charge of the Director-General. The Organization chart of FELDA is as follows:



At its inception, the FELDA Head Office in Kuala Lumpur had the Chairman, a General Manager, an Accountant, a Planting Director, a few administrative officers and supporting clerical staff. Away from the Head Office were the Regional Offices, each with a Regional Secretary who served as liaison between the FELDA Head Office and the State Government, and also between the Scheme Manager and Head Office. The Regional Secretary was also responsible for the progress and needs of the schemes in his region and for the certification of payment vouchers before payment was effected by the Head Office. Other than answering Head Office queries or reporting the scheme manager's problems to Head Office, the Regional Secretary was without power with regard to decision making. Excessive communications led to a slow-down of field operations.

Administrative Changes

With the rapid expansion in FELDA's scale of operation, certain clusters of activities were being identified and put under the charge of specific divisions. The early divisions were the Finance, Planting, Planning, Personnel and later, when the volume of a specific task increased, new divisions were created such as Purchasing, Contracts, Processing, Marketing, Settler Welfare, Settler Development, Staff Training, etc. The objective in the establishment of a division was to ensure good control, to build up proper records, to have job specialization for staff and to see that the vast assortment of duties was properly geared with one another. While the objectives were satisfied, other new problems arose; for example, problems on inter-divisional relationship. For instance, a particular field problem like a contract payment involving some work variation in the field might involve the Finance, Planting and Contract Divisions. Disputes among the divisions invariably held up work in the field. It was recognized that this was due to over-centralization of authority at Head Office. On certain issues, for instance, officers in the field could make better decisions on local problems than officials at the Head Office.

A gradual decentralization program was therefore implemented to give field officers greater authority to decide. As a result, the Regional Secretaries (whose duties were essentially of a liaison nature) were replaced by Area Controllers who are more conversant with the technicalities in the field and who could make decisions on matters which earlier had to be referred to the Head Office. The authority to call tenders and issue work orders, within certain limits, were also given to Area Controllers. At the Head Office the various service divisions were grouped into departments. For example, the Management Services Department had the Personnel Division, Procurement and Contracts. The Engineering Department had divisions concerning civil works, processing, electrical and equipment for hire. Each head of Department was accountable for the efficient running of its program and was held responsible for sound utilization of funds and resources.

III. ANALYSIS AND CONCLUSIONS

Management Techniques

Coordination and Programming

At the initial stage of FELDA, scheduling and programming were dealt with by the Chairman or by his Deputy, but since the rapid expansion of targets and activities, this function has been under the Budget and Planning Department, with various sections attending to certain specific tasks. The selection of project sites requires the assistance of the Department of Agriculture which is responsible for soil survey and mapping. The approval to fell jungle growth has to come from the Forest Department to ensure that the valuable timber is extracted. Further clearance is necessary from the Department of Land and Mines to ensure that the land is free of valuable mineral deposits. Once the above prerequisite activities are completed the Public Works Department is to assist in building the access roads and constructing the bridges. During implementation, the services of Educational, Health and other Welfare Services are requested.

Coordination between FELDA and other departments or institutional bodies, and all the activities where decisions on the financial transactions have to be made are done through various FELDA Committees. These committees are the Tender Committee, Planning and Technical Committee, Research Advisory Committee, etc. Experts are also to be co-opted to provide technical assistance and expertise. The heads or senior officers of Ministries, the University, the Rubber Research Institute and well-established commercial organizations are appointed to be members of the various FELDA committees. In this way, the best available expertise within the country is exploited. Foreign technical assistance is provided through experts from the FAO or from bilateral assistance arrangements. They are posted to the various FELDA departments and to the field operations.

The Field Administration Department (originally the Planting Department) resolved the specifications for the clearing of jungles and for the planting and early maintenance of crops prior to settler entry. The Engineering Department prepares the site plan for the village with its roads and house lots mapped, the building plans of scheme offices, quarters, settler houses, oil palm mills and rubber factories. When all plans and specifications are ready, the tenders for the works are dealt with by the Management Services Department. Tenders for the supply of all field requirements such as fertilizers, crop protection chemicals, tools, implements, vehicles and all factory or mill requirements are also called for by the Management Services Department. The ground level officers are informed of the successful tenderers and are given the tender specifications for their supervisory role and payment certification.

Control and Monitoring

The control and monitoring of activities are effected through the holding of periodic meetings at the Head Office, the Regional Offices and the scheme offices. During the early stages, the Head Office meetings (referred to as Development Meetings) were held fortnightly to check progress, track prob-

lems and render solutions. Later, when expertise had been developed and appropriate linkages and coordination created, meetings were held monthly. The meetings at the scheme offices and the Regional Offices served as feedback and enabled a two-way flow of information which kept the organization working as a system.

The Director-General, the heads of Departments and the Area Controllers made periodic visits to the schemes and projects to observe, ascertain progress and assist in eliminating bottlenecks. What cannot be sorted out at the field level is generally brought up at the Development Meetings for comment and resolution. Statistical information on work progress is centralized at the Head Office in the Operations Room[3] where progress reports from the field to the various departments at the Head Office are summarized or extracted and the important statistics reflecting achievements are made to appear on various charts or score boards for the scrutiny of the Director-General. Areas, regions or departments not fulfilling their expected targets within the time scheduled are reflected in the progress charts. This easy reference to statistical data in work performance, together with his regular field tours and questioning at the Development Meetings, ensures that projects are developing at the desired pace.

Budgeting

During the initial period, some elements of budgeting were exercised at the Head Office by the Finance Department before the establishment of a separate Budget and Planning Department. At present, budget proposals are sent to the Head Office by the various departments, regional offices and schemes for summary and approval. Over the years, the basic costs of materials and operations with their trends and variability are fairly well understood and do not pose difficulties in management.

[3]For a more detailed study on the Operations Room as a management tool in Malaysia, see Mavis Puthucheary, "The Operations Room in Malaysia as a Technique in Administrative Reform," in Hahn-Been Lee and Abelardo Samonte (eds.), **Administrative Reform in Asia** (Manila: EROPA, 1970), pp. 165-198.

Standard Setting

The crops that are being handled by FELDA were already well exploited by private local and foreign investors. This gives FELDA opportunity to establish and compare standards for production costs so that there are bases for gauging FELDA's performance. Although handicapped by its inability to hire and fire the on-site labor, FELDA's costs are comparable to those achieved by the private sector.

Staff Management

Staff integrity is vital for sound progress. At the rapid pace FELDA is operating, quick payment or movement of money is inevitable. In this regard, problems include the selection of the right caliber of officers who will certify payment as well as finding an efficient method of detecting fraud. The time-consuming process of checking delays the payment for services rendered or goods received and this frustrates the contractor or the supplier. This often leads to increase in prices or rates. On the other hand, speeding up the process does not give adequate time to detect irregularities. Experienced senior staff would be the answer but there is also high demand in the private sector or in other statutory bodies for staff with such qualifications and experience.

Since the administrative hierarchy is always pyramidal, the loss of top-ranking staff slows down progress. But many developing countries have to live with such problems. Fisk's[4] observation seems worth noting:

> After self-government, when the indigenization of public and private decision-making has made some progress, these expatriates are replaced by indigenes from the educated elite. For this elite the attractions and benefits of the urban area are even more important and it is common experience in many countries after such indigenization that it becomes increasingly difficult to keep any good officer, public or private, in a rural post when there are vacancies in the main urban centers. This applies even to agricultural officers and it is under-

[4]E. M. Fisk, **Development Goal in Melanesia**, A/D/C, February, 1972.

> standable enough, for not only are the main towns more comfortable places in which to live, but they are also better for promotion, for keeping oneself before the eyes of the great, and for schooling and health services available for one's children. Finally, there is this tragic alienation of much of the educated elite from the village people who bred them, a process in which the pride of new knowledge leads many to scorn and reject their village culture and its association.

Whereas this may be true in itself, it does not mean that it is in any way different to the situation in the colonial days when administrators equally avoided being posted in the rural areas. FELDA, however, is quite a deviant in this respect in that its officers are closer to their field duties and problems.

Other factors also cause the loss of staff. The resignations fell into two categories: those who resigned after having acquired the experience and skill but finding their salary not commensurate with their responsibilities and those who were unable to adapt to the trying working conditions. Loss of skilled personnel had grave consequences. Many of the intricate follow-up activities requiring good background knowledge were truncated and their ill-effects were deceptive but nevertheless felt. Personal conflicts, intolerance, pride and other sensitive issues also resulted in the loss of a few personnel. But in spite of all these difficulties FELDA was able to forge ahead. Now, other established bodies initiated with objectives different from those of FELDA are beginning to duplicate the functions of FELDA. All will be competing for the same contractors as well as for field and technical staff. How this is likely to end up is difficult to predict but right now the competition for staff is very keen.

The implementors at the scheme are people from the urban or sub-urban areas where modern medical facilities are available. I have quoted Fisk's observation on the educated elite bred by rural poverty. Opportunities are available for them in the urban regions, with government support to offset racial imbalance in the urban regions. Medical attention in the remote settlement areas is not so readily available. Depend-

ıg on the employee's state of mind, the type of sickness and ersonal background, this lack of immediate medical attention an often result in loss of staff.

As development is pushed deeper into the interior of the ountry, FELDA schemes would appear to be located in the ıiddle of nowhere. Road, water and electricity will take ıonths to arrive and the field staff have to live as pioneers ı the wilderness. They are left to their thoughts, interests nd solitude. The consequences are either that they pull through r fold up. If they pull through, they emerge with a deeper ense of purpose. If they do not, FELDA is better off without them. This poses a question that only time can answer. ɜ the harshness of life an excellent screening process? In reas where work is at the pioneering phase or back-logged due the lack of appropriate expertise, for example, Surveyors, :esearch Experts, Training Experts, etc. FELDA looked to ɔreign assistance for solution. While it is acknowledged that xperts solve problems, there had been cases where the experts reated some problems, especially those who were not motivated 'ith any missionary zeal. In FELDA schemes, managers who ›ok after the settlers are an assortment of young people from econdary schools, the agricultural college and the University. n spite of all the difficulties, progress has been satisfactory. 'ELDA was quick to realize the situation and immediately ɜtablished training at all levels to fulfill this need which canot be tapped from the public service.

In the early period of FELDA, the lack of field manageıent expertise constituted the biggest drag in its progress. ;ut with the implementation of "crash" training programs, the roblem is made less serious but not entirely solved because here is still room for improvement. Higher standards of mangement are closely associated with higher levels of technical now-how. FELDA has established its own low-level technical raining leaving the higher levels to be attended to by the Col›ges and the University. Expertise is training **cum** practical xperience, and it takes time to develop expertise. There has een a constant turnover of graduates serving as agricultural

officers. These officers are lost either through promotion to executive posts or to the private sector which skillfully taps trained and experienced personnel without any second thoughts. The replacement with young and newly graduated officers solves only partially this high turnover problem.

Procedures

Guidelines on field practice and administrative procedure are issued in the form of circulars and bulletins. These are subjected to constant scrutiny and changes by the departments concerned in order to maintain efficiency and economy and, at the same time, to ensure the adoption of the latest methods on management. Inasmuch as the departments are to ensure full responsibility for their tasks and the realization of objectives, coordinated tasks often pose difficulties between departments if the spirit of coordination fails to exist because no rules or procedures are absolutely adequate. Also, any attempt to define rules and procedures in great detail inevitably develops a bigger administrative set-up and bogs down the speed of implementation. A fair range of tolerance and flexibility in the interpretation of procedures is allowed so as to achieve a less expensive and more efficient management.

Resources

The total operation of FELDA depends on the following resources: finance, land, skilled personnel, contractors, settlers and equipment. The Federal Treasury backs the commitment of FELDA with Federal and foreign loans. Therefore, the question of uncertainty in financial support does not arise. Land resource in West Malaysia may not be a problem for another 10 to 15 years but any projection beyond that is very much a matter of speculation. Skilled personnel can be a limitation because skill is currently with urban individuals who find no difficulty in being absorbed by the emerging industrialization in the urban regions. Contractors were at one time short but more are picking up the trade fast and do a good job. There is no shortage of applicants for settlement in FELDA scheme.

With adequate planning and projection, availability of equipment does not usually pose any problem.

Resource requirement became clearer when FELDA implemented its first land settlement scheme, i.e., the Bilut Valley. It gave FELDA both a qualitative and quantitative insight — from the planning process to the implementation process of the project in the field. Inputs in terms of manpower, skill and policies governing their management were better understood. The magnitude of financial and physical inputs that go with the human resources became clearer. The capability not only to plan and allocate but also to generate resources was found crucial. The resilience of FELDA in dealing with resource inputs has been a vital factor in its success from its early period to the present.

Leadership

The Chairman of FELDA used to exercise executive functions, but following the change of the role of the Chairman into a non-executive one, the leadership of FELDA fell on the Director-General. The administrative machinery of FELDA is financed by the Federal Government, and the settler, under the guidance of FELDA, has to work out for himself a living aside from paying back the agricultural investments on the holding put in by FELDA. The staff of FELDA most closely associated with the settler is the scheme manager. In this respect, the scheme manager can be regarded as the field leader.

Experienced scheme managers are promoted to be area managers. The area manager has a bigger responsibility in that he sees to it that all schemes under his control are running smoothly. He guides the younger and inexperienced scheme managers, imparting to them his technical knowledge and field experience. The scheme manager and his field staff are always the first "settlers" of each scheme and the task of the area manager is to see to it that they develop technical and managerial skills along the way. Viewed in this light, the area managers constitute the next echelon of leadership. The area managers are directed by the Regional Controller and the

Regional Controllers are subordinate to the Deputy Director-General (Field Administration). The linkages are all important and manned by persons with considerable experience in field activities. They, too, constitute a higher order of leadership.

In FELDA, the leadership role rests on almost everybody. The difference in leadership between individuals lies in their responsibility, workload and skill. Implementation activities are highly integrated from top to bottom and in all other directions. Over the years, FELDA's appointments board and promotions committee have developed skill in putting the right persons to the right job. Errors are human and inevitable but correction of such errors can be almost immediate. Under such a system bottlenecks or impediments are never allowed to develop. Decision-making is collective and implementation is pursued with almost total determination.

Leadership has to be present at all levels of the organization if it is to achieve success. In FELDA, there is no specific design or strategy to develop leadership and yet it is present at all levels. FELDA's leaders of the past and present speak not of themselves but of the tasks at hand and ahead. But FELDA's leaders spend more time in action, right at the forefront of activities, rather than talking about action. It is the achievements of FELDA that speak for the leaders.

Environmental Linkages

Several favorable environmental linkages for FELDA could be identified. The political party in power is pledged to uplift rural income and to develop greater rural prosperity. Land resources were not limiting and the technical services of soil survey, land mapping, and road development were available. Large private enterprises have developed the two crops: rubber and oil palm, and even though the desired number of skilled persons was not available technology in handling these two crops are available. The oil palm industry was suitably advanced in research to provide the planting materials required. The Rubber Research Institute with several decades of research could provide all the required advisory expertise.

The country is served by adequate good roads and highways and the major towns are provided with workshops for the desired repairs of machinery and even the fabrication of spare parts. Modern health facilities are within reach by some form of communication. In recent years, the press, radio and television have played an important role in spreading information on the activities of FELDA.

Project Planning, Feedback, and Evaluation

The Bilut Valley scheme provided the experience for better planning of future schemes. Subsequent to Bilut, all new schemes underwent more detailed preparations, scheduling, financial control, appraisal and periodic reporting. With about 130 land schemes in operation, many features have become routine but supervision can never be relaxed if expectations are to be fulfilled. Feedback is achieved essentially through the periodic meetings at the different levels of the organization, through the reporting system and through visits made by the head of department and the Director-General. The assembling of progress scores in the Operations Room is another aspect of the feedback system. At times, various **ad hoc** committees are called from within FELDA to conduct evaluations of procedures or activities. These assignments generally wind up in reports or information papers. Recently, following the recommendation of management consultants employed to examine the management of FELDA and to propose improvement changes, all aspects of finance are being computerized. This should eventually supply preplanned press-button evaluation of any activity at Head Office or in the field.

FELDA utilizes monetary loans from the World Bank for the development of one of its projects — the Jengka Triangle. To date, about 66,000 acres of this project has been developed in different stages. FELDA's feedback and evaluation system will inevitably need to satisfy the expectations of the lender. Every activity is costed and any attractive innovation is tested with the aim of reducing costs in development and in produc-

tion. Changes are considerable since the days of the Bilut Valley scheme.

To recapitulate, this case study on FELDA shows that unavoidably the social activities and the economic development of a country are dislodged by regrettable events of history. For Malaysia, land development has stagnated amidst population growth and rehabilitation was required immediately after the post-World War II period. The problem was examined by a Working Party and resulted in an ordinance for the creation of FELDA. The initial phase was full of problems and rather than succumb to the problems FELDA managed to forge ahead. The secret of this success lies in its leadership. It was a leadership that speedily removed obstacles, patiently searched for solutions, humbly exploited any relevant idea — irrespective of source of authority — and keenly harnessed the talents together and actively imbued into the staff the spirit of challenge and dedication. It was a leadership that used more action than words, that developed a climate of goodwill among FELDA staff and contractors, that induced a climate of cooperation of all involved, directly or indirectly.

FELDA's effort has enabled 25,762 families (or about 160,000 people) to lead a better life and has used all effort to ensure that they will continue to enjoy the good works of FELDA, not only for themselves but also perhaps for the generations to come. Perhaps what Feinberg says, "there's a tremendous satisfaction that comes from knowing that others have benefitted because we have lived, because we have given ourselves and made ourselves available"[5] is found widely in FELDA's staff. But FELDA's effort only fulfills a small fraction of the national need. There are still ventures and missions to be accomplished and perhaps FELDA's performance could serve as an inspiration and a lesson on human endeavor.

[5]M. R. Feinberg, **Effective Psychology for Managers** (Princeton, N.J.: Prentice-Hall, 1955), p. 107.

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II. IMPLEMENTING INDUSTRIAL AND INFRASTRUCTURE DEVELOPMENT PROGRAMS

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INDIA

RURAL INDUSTRIAL ESTATES AS A TOOL FOR REGIONAL DEVELOPMENT

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CONTENTS

RURAL INDUSTRIAL ESTATES AS A TOOL FOR REGIONAL DEVELOPMENT

Ram K. Vepa

I. INTRODUCTION

The primary purpose of the case study is to examine the effectiveness of a rural industrial estate program as a tool for the development of backward areas. While considerable studies were made on the success of the industrial estate program in highly urban and metropolitan areas, there are relatively fewer studies of estates in the more backward areas of the country. In this study, an attempt is made to evaluate the impact of the Industrial Estate Program on regional development and dispersal of industries in India. If the program has made any significant role on the development of the backward regions of the country what key factors influenced its impact in regional development? Has the mode of implementation been a major factor that has determined the ultimate success or failure of the individual Estate? Could we draw meaningful conclusions from a study of a few typical individual estates which we consider successful and unsuccessful? This study assumes that the Indian experience could provide important lessons relevant to developing countries using this approach to development.

The problem of regional imbalances has assumed considerable significance in recent years and has figured prominently in many international deliberations. The First Development Decade which witnessed a rising curve of prosperity in most countries has also revealed that the gap between the developed and the developing nations is widening every year. Even within a country, the problem of regional disparities is becoming acute, particularly where the growth process has been undertaken in a planned manner. Development Plans often tend to favor those which are relatively well-off as against the underprivileged sections of the population and regions of the country. This, in turn, has given rise to conflicting demands

for the location of new industrial projects and for the taking of positive steps to redress regional imbalances.

In India, although the Industrial Policy Resolution of 1956 and the successive Five-Year Plans have enunciated the basic policy to "provide balanced development in different parts of the country," some of the more advanced parts of the country, such as Maharashtra, West Bengal, Gujarat and Tamil Nadu have obtained a significant proportion (60 per cent) of all new industrial licenses approved by Government. Even in the small-scale sector, more than 80 per cent of the units are located in these four states. The assistance provided by the major financial institutions of the country has also been channeled to these relatively advanced states, thus aggravating the trend towards regional imbalance. To remedy the situation, the Government of India has, since 1957, accepted as one of the cardinal policies of industrial growth the development of small industries which would provide new employment opportunities in rural areas as well as utilize local raw materials and meet local demand for consumer products. One of the main features of this policy is the formulation and implementation of a program to establish Industrial Estates all over the country which will provide ready-made facilities to small and medium entrepreneurs.

The term "Industrial Estate" has been variously employed in many countries. An early definition was provided by Dr. William Bredo as "a tract of land which is sub-divided and developed according to a comprehensive plan for the use of a community of industrial enterprise."[1] Dr. P. C. Alexander has described an industrial estate as "a group of factories constructed on an economic scale in suitable sites with facilities of water, transport, electricity, steam, bank, post offices, watch and ward and first-aid and provided with special arrangements for technical guidance and common service facilities."[2] The United Nations has defined the industrial estate as "a planned clustering of industrial enterprises offering standard factory

[1]William Bredo, **Industrial Estates—Tool for Industrialization** (Menlo Park: Stanford Research Institute, 1960).

[2]P. C. Alexander, **Industrial Estates in India** (Siet-Hyderabad: Asia Publishing House, 1963), p. 5.

buildings erected in advance of demand and a variety of services and facilities to the occupant."[3]

Industrial Estates (or Industrial Parks as they are known in some countries) have been used in the developed countries for a variety of purposes. In the United Kingdom, particularly after the War, Industrial Estates were established to provide for the development of certain areas through control over location of industrial premises so as to secure a proper distribution of industry. In the U.S.A., planned Industrial Parks have provided a focal point for community planning and have been promoted primarily by private agencies without any direct intervention from the Federal Government. Industrial Estates have formed a significant feature of the development program launched in Puerto Rico, popularly known as "Operation Bootstrap." In Italy, industrial zones have been created in the backward section of the country, e.g., in Southern Italy for purposes of regional development. Industrial estates have been set up in Japan by cooperative associations to whom the government extend various subsidies like interest-free loans and grants. In Prime Minister Tanaka's "Memorandum for the Refashioning of the Japanese Archipelago," Industrial Estates have figured as a valuable tool for dispersal of industries.

II. PLANNING AND IMPLEMENTING THE INDUSTRIAL ESTATES PROGRAM

Among developing countries, India has formulated and implemented what is perhaps the most ambitious program of economic decentralization through Industrial Estates. The Industrial Estate program was initiated at the end of the First Five-Year Plan (1951-56) but it was only during the Second Five-Year Plan (1956-61) that the program gathered momentum. The State Governments were vested with the responsibility for the construction and management of such estates while the Central Government advanced the entire cost of setting up the estate in the form of a loan. As many as 110 estates were

[3]United Nations, **Establishment of Industrial Estates in Underdeveloped Countries** (New York, 1961), p. 1.

sanctioned during the Second Plan period and 53 of them began to function by 1961. The rental for the tenant industrialists on the estate was fixed at only 50 per cent of the actual cost, payable within a limited period of 5 years and the balance being borne equally by the State and the Central Government.

In the Third Five-Year Plan (1961-66), the Industrial Estate was continued as a key program and by the end of that period, as many as 198 estates were functioning while another 260 estates were in various stages of completion. Today, the Industrial Estate Program comprises a total of more than 500 estates on which an aggregate outlay of Rs. 570 million ($78 million)[4] has been expended. The total production of the estates is about Rs. 800 million ($110 million) and employment is provided to more than 100,000 persons. Of the 366 Estates which are actually functioning, 161 are located in the urban areas, 114 in semi-urban areas and 91 in predominantly rural areas. The rate of utilization (i.e., the percentage of the sheds in which units are actually functioning to the total number constructed) for all the Estates taken together is approximately 76 per cent in the urban areas, 51 per cent in the semi-urban areas and 39 per cent in the rural areas.

The objectives of Industrial Estates found in successive Five-Year Plans have been varied through the years. Obviously, while the primary objective is to promote the rapid industrial growth in the country there are a number of secondary objectives which, over the years, had grown around the program such as: 1) the growth of the small-scale sector,[5] 2) improvement of the productivity of such units, 3) growth of new entrepreneurship in the backward areas, 4) creation of new employment opportunities in the rural areas, and 5) relieving congestion in the metropolitan areas.

The pattern of organization and management of Industrial Estates has also tended to change a great deal in the last fifteen years. While many estates which were originally established

[4]All figures in brackets are in U.S. currency.

[5]Small-scale industry is defined as one whose plant and machinery is less than Rs. 750,000 (approx. U.S. $100,000).

were multi-functional and catered to a wide variety of industries there has been a trend towards uni-functional estates and, in some cases, as ancillaries to large-scale industries. The management of the Estates has also tended to vary: e.g., they are run or operated by 1) government departments, 2) government corporations, 3) joint stock companies, and 4) cooperative associations. To understand more fully the implementation of the Industrial Estates Program, three typical Estates from different parts of the country and whose performance has ranged from being indifferent to excellent are described in some detail. It is believed that a comparative study of estates operated under different conditions may provide some insights into the variables affecting their performance.

Three Typical Cases of Rural Industrial Estates

1) The Vikarabad Industrial Estate in Andhra Pradesh

One Rural Industrial Estate is located on the outskirts of Vikarabad town in Andhra Pradesh. The state of Andhra Pradesh is situated in the peninsular region of India and is rich in agriculture and minerals. Vikarabad town has a population of 30,000 and is 67 kilometers from Hyderabad, the capital city of Andhra Pradesh. Hyderabad is a growing metropolis of two million people and has recently emerged as one of the main industrial centers in the country, particularly in electronics, pharmaceuticals, machine tools and light engineering.

Vikarabad is itself in the midst of a backward area, although mineral deposits are available nearby. The funds for the construction of the work sheds and the development of the Estate were provided by a Regional Committee especially set up to watch the interests of the backward areas of the State. The primary objective in locating the Estate at Vikarabad was to promote the industry in a backward area which is predominantly rural in character. In other words, the choice of location of the Estate at Vikarabad and the mode of allocation of funds made the objective unmistakably clear. The actual site

of the Estate was at a small village about four kilometers from Vikarabad town. An area of thirty-one acres was initially acquired for the Estate and construction was begun in 1965 at an estimated cost of Rs. 1.5 million ($200,000). The construction of the building was completed by the end of 1966 and the Estate began to function from 1967.

Factory sheds were built in four categories — 'B,' 'C,' 'D,' and 'E.' There are 4 sheds of 'B' category, 4 of 'C' category, 8 of 'D' category and 8 of 'E' category. The plinth of standard block area of each of these categories varies from 3200 sq. ft. for a 'B' category shed to 1362 sq. ft. for an 'E' type shed. The subsidized rent per month of each of these categories was Rs. 381 for 'B' category, Rs. 256 for 'C' category, Rs. 194 for 'D' category and Rs. 167 for 'E' category. These were calculated initially as 50 per cent of the rental based on actual cost. Subsequently, since January 1969, only 40 per cent of the subsidized rent (which amounts to 20 per cent of the rent based on actual cost) has been collected to provide additional incentive for attracting industrialists to backward areas.

Besides the twenty-four Work sheds, a Watch and Ward Block, Administration Building, Stores Shed, Warehouse, Canteen and Guest House were also constructed. Nineteen industrial units were allotted for producing various types of industries, such as paper conversion machinery, hospital-ware, steel furniture, band-saw blades, agricultural implements, bicycle accessories, general engineering works, cables, electrical chokes, spectacle frames, plastic conduit pipes, corrugated paper and card-board boxes, water-proof packing materials, cycle tyres and tubes, hydraulic brake fluid, lube oil for refining clay, bakery and malted milk powder.

The Estate is provided with the basic facilities like roads, power and water. Since water supply was not readily available, an existing well, adjacent to the Estate, was acquired and a submerged electric pump has been fixed in the well and water supplied through a pipe line. The canteen building has been leased to a local contractor. Provision has also been made for a Post Office and a bank. Currently, a proposal is under con-

sideration to acquire additional land for constructing houses for the staff and workers of the Estate. Out of the 19 units allotted, only six units with an annual production of Rs. 360,000 (approximately $50,000) are at present working and providing an employment to 35 persons. The rest of the units have either not commenced production or have closed down after working for a few months.

It is seen from the above that the performance of the Estate has been indifferent and it is useful to analyze the reasons for this poor performance considering that Hyderabad is a growing industrial center and it is normally expected that an Industrial Estate within easy reach of the city would develop quickly into a prosperous growth center. Much of the raw material for production is purchased in the city and the finished goods are taken back to Hyderabad for marketing. Despite these obvious advantages, the location of the estate at Vikarabad was not preceded by a careful techno-economic survey which could identify the specific factors favorable to the area as well as the use of the raw materials available in that region. It would appear that the choice for establishing the Estate in Vikarabad had been motivated by the consideration that it was the constituency of a powerful local politician.

Even if Vikarabad had been chosen, the actual location of the Estate four kilometers away from the main town made it more difficult to provide the normal infrastructural facilities like water and power. In fact, even after the Estate was formally completed, there was a considerable time-lag before electric power could be provided. Since water supply was not available, special arrangements had to be made for supplying water from a well situated near the Estate. It would appear that prior to the establishment of the Estate little or no planning was made regarding these two basic amenities and, as a consequence, a considerable amount of capital expenditure remained unutilized since it was obviously difficult for any entrepreneur to begin production without such facilities.

The selection of the entrepreneurs was also done on a somewhat haphazard basis. The District Industries Officer

who is responsible for such selection preferred to persuade persons from Hyderabad City to come and set up the industries on the Vikarabad Estate. Hence, none of the entrepreneurs had any local roots nor were they specifically interested in the development of the area around the Estate. Due to lack of transport facilities from Vikarabad town, there was difficulty in obtaining labor. Absenteeism tended to be high among those recruited. The latest proposal to build a housing colony adjacent to the Estate clearly underlines the increased capital expenditure that has become inevitable due to the faulty location of the Estate.

No specific training programs for labor or management programs for the entrepreneurs were undertaken by the Department of Industries, the agency running the Estate. Such training is particularly important in a backward area where certain skills (which are relatively common in the big towns) are noticeably absent. Unless positive steps are taken by the agency concerned to stimulate the development of such skills, it is difficult to expect any significant growth in the entrepreneurship of the area.

The product-mix selected for most of the units tended to be conventional. The Department of Industries has a ready-made list of items which can be manufactured by potential entrepreneurs and which is drawn up irrespective of the specific resources of the region. The District Industries Officer, who is supplied with the list, tends to persuade entrepreneurs to set up such units even if they have little relevance to the resource pattern of the particular area. In fact, if one examines carefully the type of industries which were sought to be set up at Vikarabad, it is immediately apparent that none of them was geared to the mineral resources of the area nor to the considerable amount of fruits that are grown in that region. There is a considerable dependence on imported raw materials whose availability becomes uncertain because of its dependence on the foreign exchange budget of the country.

The local involvement with the operation of the Estate was negligible excepting for the fact that the estate itself was

located due to local political pressure and was regarded more as a status symbol for the local politician. No attempt made by the Department of Industries to involve local groups or individuals in the operation of the Estate at Vikarabad, thereby contributing to its isolation because of lack of linkages with its environment. Such an Estate is hardly likely to make any impact on the future growth of the region around it.

2) The Baruipur Industrial Estate in West Bengal

Another Rural Industrial Estate is located at Baruipur which is the headquarters of one of the oldest Community Development Blocks in West Bengal. Baruipur was also one of the nine pilot project areas organized by the Government of India for integrated development of the rural economy. Although situated close to a metropolitan area (Calcutta), it is predominantly rural in character being dependent mainly on agriculture and traditional artisans. The non-agricultural skills in the area are confined to carpentry, handlooms, surgical instruments making and pottery. Therefore, the primary purpose for locating the Rural Industrial Estate at Baruipur was to develop the skills in the area in order to make a greater impact on the further growth of the region.

The Industrial Estate itself is about ten kilometers south of Calcutta and is accessible both by rail and road. The Grand Trunk Road from Calcutta to Delhi passes close by the Estate. Once an area of 1.2 hectares was acquired in 1956 the construction of the sheds was begun immediately. They were completed in February 1958 and allotments were made on October, 1958. Due to a disturbance in the area, there was some time-lag between the allotment of the sheds and the occupation by the tenant industrialists. Production, however, commenced in most units by 1960.

The total cost of the land and the development was about Rs. 108,000 ($15,000), while the construction of the sheds and other buildings was Rs. 479,000 ($66,000). Twenty-two factory sheds were constructed on the Estate in six different sizes, varying from the smallest with a total plinth area of 647 sq. ft.

to the largest with an area of 3,183 sq. ft. Taking all the Factory Sheds together, they occupy an area of about 33,000 sq. ft. or roughly a fourth of the total estate area. This is somewhat smaller than the norm recommended for such estates which is usually 40 per cent of the total area. This, in turn, has had an impact on the high value of rentals charged on the Estate due to the comparatively large open area that was left for roads and lawns.

The sheds in the Baruipur Estate were originally made available on a hire-purchase basis with an initial down payment and the rest of the amount spread over twenty years. Later on, however, rents began to be collected from the tenant industrialists which led to some discontent among them. They, then, stopped paying the rent and demanded that the earlier terms on which the Estate was constructed should be retained. This has caused a large amount of rent to be in arrears due to the somewhat uncertain conditions on which the tenant industrialists were allotted the sheds. They were later given an option either for long lease rentals spread over 99 years (which meant virtual ownership) or 40 years which provided reasonable security of tenure but not ownership.

The selection of the entrepreneurs was made through a Departmental Committee from among the applications invited through notices in the newspaper. In making the selection, preference was given to light industries which do not involve any problem of pollution and also to those whose import requirements are likely to be small. In actual practice, however, these principles were not always adhered to and there was a general complaint of inadequate supply of scarce raw materials in the operation of the units on the Estate.

It is also noticed that more than one shed has been allotted to a single entrepreneur: for example, one was able to secure four sheds while eight others were allotted only twenty sheds. However, there has been no difficulty in finding suitable entrepreneurs on the Estate primarily because of its proximity to the Calcutta region. Some of the units on the Estate were those which had merely moved from the Calcutta area since it was

felt that the climate for operation was better at Baruipur than in the Calcutta region where peace and order is uncertain.

Due to the comparative success of the first phase, an extension scheme was implemented at Baruipur in 1970 on land adjacent to the Estate measuring 1.90 acres. Twelve sheds have been constructed on this Estate at a cost of Rs. 5.38 lakhs ($74,200). These sheds are larger in size than the ones built earlier and all the eleven sheds in the second phase of the Estate have been occupied. The types of industries operating in the Estate produce toilet goods, fountain pen ink, pneumatic tools, electrical goods, cycle seats, survey and drawing instruments, textiles, agricultural implements, twisted coir, paints and varnishes, card-board boxes and cartons, industrial machinery, heaters and other scientific instruments. The total annual production on the first unit is around Rs. 25 lakhs ($350,000) providing employment to 189 persons, while that on the second unit it is around Rs. 5 lakhs ($70,000) employing 45 persons. Most of the persons employed on the Estate are drawn from the neighboring area.

The Baruipur Estate is typical of the Industrial Estates which have achieved a modest degree of success. Although no precise techno-economic surveys were undertaken before the Estate was actually established, there were certain favorable factors which contributed to its success. Baruipur is barely sixteen miles from Calcutta and has also been the center of a pilot project in which an Industrial Training Center was located. Furthermore, traditional occupations such as handloom weaving, mattress making, basket making and rural pottery are existing so that skilled and semi-skilled artisans are available for employment by the units on the Estate. Another factor is the low labor cost in the region nearby. The government has also provided special facilities to the units on the Estate — for example, a Tool Room — in addition to essential facilities like electricity, water, power and road.

The "product-mix" of the units on the Estate, however, does not reflect fully the materials and human resources available in the area. Most of the units are heavily dependent on

raw materials to be purchased in Calcutta or imported from abroad. Morever, although the Estate was situated fairly close to a railway station, the fact that it was on a branch line has tended to serve as a deterrent to easy transport of goods. Many entrepreneurs expressed the view that they had to take the goods by road to Calcutta for shipping to the final destination rather than use the nearby railroad facilities where shipments tended to get unduly delayed.

The growth of local entrepreneurship stimulated by the Estate has not been significant. Only five new businesses had been established at the Estate, of which three are by entrepreneurs who are new to the field. Only a third of the units on the Estate can be said to represent an addition to the industrial growth of the area. The management of the Estate by the Industries Department of the State of West Bengal left much to be desired. There has been interest to keep the buildings and roads in the Estate in good condition. The general appearance of the State is somewhat shabby which was explained by the fact that the government was not inclined to spend any large amount of money on maintenance of the Estate due to the large arrears of rent from tenant industrialists.

There has been little local involvement in the operation of the Estate. No Advisory Committee has been formed and neither the entrepreneurs on the Estate nor the workers employed in them have any voice in the operation of the Estate. This has tended to inhibit the effectiveness of the Estate in making a more significant impact on the region. However, in view of the other favorable conditions such as the nearness of a metropolis and the ready market it provides, the Baruipur Rural Industrial Estate has achieved a partial measure of success.

3) The Kolhapur Cooperative Industrial Estate in Maharashtra

The Cooperative Industrial Estate at Kolhapur in Maharashtra State was one of the earliest to be started on the cooperative lines. Maharashtra is a state in Western India

with Bombay as the capital and where the Cooperative movement had taken strong roots, particularly in organizing industrial ventures for the manufacture of sugar and textiles.

Kolhapur town itself is an important center for the oil engine industry and after the Second World War a number of oil engine service units had come up in that area. From the fifties, the manufacture and assembly of oil engines also began to be undertaken by a number of workshops but their growth was somewhat uneven. There was a need for well-developed and organized premises for the further expansion of these units. With this idea in mind, a Cooperative Society was registered in August, 1957 and an area of twenty-seven acres was purchased by the owners, the value of the plots being credited towards their share capital in the society.

Basically two sizes of sheds were constructed on the Estate according to the specific requirements of the members. The smaller one covered an area of 400 sq. ft. and the larger one, 4,900 sq. ft. Every member was eligible to own the factory shed by contributing 10 per cent of the estimated value of the land and building, the remaining 90 per cent being financed by the Cooperative Society. Buildings were constructed by the Society and made available to the tenants on a hire-purchase basis. The amount financed by the Society was recovered in 15 years in monthly installments at 6 per cent interest.

The Society has a membership of 283 with a share capital of Rs. 1.31 lakhs ($18,000). The Government of Maharashtra sanctioned Rs. 68,000 ($9,000) as a matching contribution towards the share capital as well as a loan of Rs. 8.76 lakhs ($120,000) for the construction of factory sheds. The Society initially constructed 62 sheds and a further expansion is underway. It has at present plans to acquire more land on the Poona-Bangalore road.

Out of the 62 factory sheds, 60 were allotted to industrial units for the manufacture and servicing of oil engines and their spare parts. This was taken up by 40 units out of which six are assemblers of engines, seven repair units, and 27 units

manufacture various components like gun metal castings, valves and guides, liners and pistons, connecting bolts, lubricating boxes, and so on. Out of the remaining 20 units, 16 are in light engineering industries engaged in the repair of electric motors and manufacture of electric starters, centrifugal pumps, wire products, pattern making, cast iron castings, automobile batteries, structurals, agricultural implements, sheet metal products, steel furniture and RCC pipe making machinery. The remaining four units are engaged in miscellaneous industries such as leather seats for bicycles, engraving, book binding, block making and art printing. Currently, 54 units in the Estate are actually functioning, providing employment to 558 persons with a total annual production of more than Rs. 68 lakhs ($0.9 million).

The Estate represents an example of a successful industrial Estate program and has helped to promote orderly growth and expansion of the existing industries. It is interesting to analyze the reasons for the undoubted success of the Kolhapur Industrial Estate. First, the Estate met a "felt need" of the community, where there was already a spurt of economic activity and entrepreneurship. The way in which the Cooperative Society was formed and organized testified to the fact that the Industrial Estate was not merely a decision from the top nor just a "status symbol" but something that emerged from within the community itself.

Furthermore, the "product-mix" of the units on the Estate was carefully chosen and based on the skills and resources of the community. Although it is not formally designated as an "Ancillary Estate," it has been organized in such a manner as to provide a balanced growth around one product; viz., the oil engine which was developed in the area. The component manufacturers on the Estate supply their products to the assemblers of engines located on the Estate as well as to others situated near the Estate. Thus, there is a close integration between the various units on the Estate as well as with the industry in the surrounding area.

The pattern of integration is not merely limited to the supply of component parts to the assemblers of oil engines. Special-purpose machinery required by the various units is also manufactured in the area and is made available to the small scale units operating in the city. These include such machines as boring machines, gear shapers, automats, and heat treatment equipment, products which provided another avenue for the general growth of industry in the area.

The ready assistance of the State Government in the formation of a Cooperative Society as well as in the setting up of the Industrial Estate was another major factor contributing to its success. Maharashtra is one of the best administered States in the country, and its Directorate of Industries is manned by competent official cadres. Besides, infrastructural facilities such as roads, power, water and sewage, technical consultancy services were made available to the members of the Industrial Estate. The Kolhapur Engineering Association, which is an active body of industrialists, is located close to the Estate and its facilities were open to the units in the Estate. Similarly, the National Productivity Council provided the services of a consulting engineer to the tenant industrialists on the Estate.

The Government of India opened an Industrial Extension Center, a branch of the Small Industries Service Institute, to help industrialists in solving technical problems as well as provide special facilities such as Tool Room, grinding machinery, metal working section and test equipment. It also conducts training courses on heat treatment, shop practice and industrial management. The Government of Maharashtra operates a "Quality Marking Center" near the Industrial Estate to test the oil engines made on it and to mark the product with seals both for internal consumption as well as for exports. Arrangements are made for any unit which has enrolled with the Center for testing of 5 per cent sample of its production regularly, while for export purposes, a 10 per cent pre-shipment inspection is done. The Quality Marking Center has facilities for testing centrifugal pumps, foundry products and oil engines.

The cost of establishing the Estate was lower for the one set up by the Cooperative Society than by Government. In Kolhapur, the average cost of developing the land and providing the infrastructure was barely Rs. 0.30 per sq. yd. in a Cooperative Estate as against Rs. 1.21 per sq. yd. in Government estates. This is similar to the experience in Gujarat, where Cooperative Industrial Estates were set up and required less than half the corresponding cost of a government sponsored estate.

Perhaps, the most important factor contributing to the success of the Kolhapur Estate was the role played by the Cooperative Society both in the initial stages as well as in its continuing management. The Society not only took the lead in the acquisition of land and the construction of buildings but also continued to provide important services, such as the procurement of scarce raw materials like pig iron, coke and molasses for distribution to the members whenever required. Marketing assistance is also provided by procuring orders from various purchasing agencies. Any special problems of individual units are taken up with the concerned Departments of Government so as to relieve the entrepreneurs of day-to-day worries or the considerable expenditure incurred in making trips to State headquarters for this purpose. Enlightened and dynamic leadership of the Society has, therefore, been an important factor in making the Kolhapur Industrial Estate a focal point of growth in this region.

III. ANALYSIS AND CONCLUSION

The comparative assessment of the three Industrial Estates located in the rural and semi-urban areas provided some insights into the variables that contribute to the success or failure of such a program.

Relationship to Macro Plan

Although the Industrial Estate Program is broadly included in the successive Five-Year Plans formulated for the economic

growth of the country, there is no specific linkage at the local levels to the Area or the District Plans. While the Industrial Estate Program forms a part of the Industrial Sector Plans both at the Center and State levels, it is not integrally related to the area Development Plans at the District or the sub-District levels.

The broad objectives of the Program are, however, fairly clear. In addition to the primary goal of economic growth, a number of sub-goals such as increase of employment opportunities, growth of rural entrepreneurship and development of the backward areas have been added to the list. However, no clear-cut demarcation of the trade-off between these objectives has ever been laid down. It is broadly assumed, by both planners and implementors, that there is no inherent conflict between one goal and the others and that what serves one of them is likely to be useful to all the others. But this is not always so. At times there can be a real conflict between two objectives such as rapid growth and creation of local entrepreneurship, the latter necessarily requiring a longer time-frame. Although this dichotomy existed, it was not recognized since plans do not often take into account deviations from the objectives.

Location

By and large, the selection of any particular area for the establishment of a Rural Industrial Estate is rarely based on any techno-economic survey specifically conducted for the purpose. In the case of the Baruipur in West Bengal, a project development block was already in existence in that area and it was, therefore, considered natural to establish an Estate as part of the development plan. In Kolhapur, the establishment of such an Estate arose out of the "felt needs" of the community and the existence of a large number of manufacturers and repairers of oil engines. On the other hand, Vikarabad is more typical of the many Estates that have been set up due to pressures of local politicians or "hunches" of administrators. There seems to be an assumption in the selection of most such Estates that an Industrial Estate is a short-cut to economic

development. But this seems to be somewhat of a myth since a minimum level of development is now recognized as a necessary condition before Industrial Estates can function satisfactorily. A World Bank Team which toured India in 1971 succinctly summed up this view when it quoted many local officials at the field level as saying that "it is impossible to grow small scale industry where nothing else grows."[6]

The preparation and appraisal of the project for the establishment of an Industrial Estate is laid down by the Ministry of Industrial Development at New Delhi. Detailed blue prints are drawn up for the pattern of such an Estate and even the sizes of the worksheds are specified. No accurate cost-benefit calculations have been carried out to ascertain whether the Estate as a whole can be expected to yield reasonable returns to the community. In recent years, however, there has been some feedback from the field levels and it is recognized that it may be desirable to allow for local variations both in the construction of worksheds as well as in the sizes of such sheds.

The supervision and the follow-up in the construction of such Estates does not normally adhere to any time-bound program. Although the three Estates described in the present study have been fortunate not to have suffered any long time-lags, it is often found that such delays occur at almost every stage in the setting up of such an Estate. For instance, a significant time-lag occurs between the sanctioning of the Estate and the start of building construction. After the buildings are constructed, there are delays in allotment of the sheds. Another time-lag happens between the allotment and the installation of the machinery by the entrepreneurs. The start of actual production also involves a certain amount of delay due basically to the following reasons:

a) Procedures for land acquisition by the Estate Development agencies are complicated and time-consuming.

b) Since infrastructural facilities are to be provided by various Departments of Government such as

[6]International Bank for Reconstruction and Development (World Bank), **Small Scale Industry in India** (May, 1962), Vol. I, p. 21.

roads by the Department of Roads, buildings by the Public Works Department, water by the Water Department, and power by the Electricity Board, there is not always adequate coordination between them to ensure that such facilities are set up at the right time to enable full utilization of capital investment. In fact, as in the case of Vikarabad Estate, two basic amenities such as power and water do not come up on time, and entrepreneurs are naturally reluctant to move into the Estate without such facilities. In some states, a Civil Engineering Cell has been set up in the Industrial Department itself so that the building program is directly under the supervision of the State Director of Industries.

c) No specific criteria are laid down either in the selection of industries or in the choice of entrepreneurs. While vague generalizations are made, such as that the industries should be relevant to the resources of the area, even this criterion is not always followed in practice. Recently, however, the choice of entrepreneurs is being done more systematically and special preference accorded to technically qualified persons who are putting up units of their own.

d) Construction costs by Government Departments tend to be unreasonably high and hence the rent (or the hire-purchase installment) offered by the Department is somewhat on the high side. As long as a subsidy is given by the Government, this does not cause much discontent but once such subsidy is dropped, the entrepreneurs feel that they have been given a "raw deal." The finalization of terms and conditions for giving sheds on rent or hire-purchase often takes an unduly long time and tenant units are kept in the dark as to the basis on which the allotment has been made. This process sometimes takes years, which makes it difficult for the units to make any meaningful projections into the future.

e) The supply of imported machinery, particularly where this is undertaken by Government agencies on a hire-purchase basis, is both laborious and time-consuming. There is also delay in the issue of

import licenses for the required raw materials which delays the starting of the unit.

f) The availability of skilled labor is often a matter of difficulty since they are to be brought from the nearest urban area and provided suitable facilities for accommodation and work.

Management

The management of the Estate in its day-to-day operation is another factor which seems to have a considerable bearing on the success or failure of the Estate. Most of the Estates are being operated by Government either directly through the State Director of Industries or through Government-sponsored agencies such as the Industrial Development Corporations. The latter are generally free from the tedious procedures and regulations that normally inhibit Government Departments, although, in practice, even the Industrial Development Corporations tend to conform to such regulations in day-to-day administration.

In the case of the Kolhapur Estate, the management of the Estate is vested in a cooperative association composed of the tenant industrialists on the Estate itself. The close involvement of the entrepreneurs certainly contributes to a better management of the Estate. It would, however, seem more desirable for some of the workers on the Estate, as well as local bodies or municipalities, to be actively involved in its management. Although the District Industries Associations have been associated to some extent in the promotional campaigns, they had no significant role in the day-to-day functioning of these Estates.

There is scope for improvement in Estate maintenance since complaints are often voiced by the industrialists regarding the inadequacy of facilities made available to them. In one case, power was cut off in the entire Estate for almost three months due to non-payment of the bills to the concerned authority by a single unit. The maintenance of the roads as well as the buildings is not given much attention, particularly when the ownership of the sheds has been transferred to individual en-

trepreneurs. In the case of Baruipur where there are large arrears of rent, the concerned Government Department does not feel inclined to spend money on the proper up-keep of the Estate. No special preference is being given to the units on the Estate in the allocation of raw materials resulting in low capacity utilization — often as low as 30-40 per cent — of the many units on the Estate. Common service facilities like tool room, heat treatment and electro-plating add to the effectiveness of an Estate although the charges for providing such services seem to be higher than what is available outside the Estate. Besides, the services rendered in such facilities are not always adequate or of good quality.

An important point in Estate management is whether it should continue the current practice of catering exclusively to small industries or whether a few large units may be allowed to act as "demonstration models" and also to allow sub-contracting to be done to the small units. Opinion on this issue is somewhat divided: some have expressed the view that if large units are allowed on such Estates they will soon tend to monopolize the facilities to the detriment of the small units. On the other hand, a view was expressed that it might be desirable for carefully screened large and medium units to be brought in so as to help the small scale units in marketing their products. As an Italian observer puts it:

> It is irrational and un-economic for a Government program established with a view to extending and accelerating industrialization to make use of an instrument of "Industrial Estates" occupied exclusively by small and very small entrepreneurs who have a low level of productivity, maintain a low economic and technological standard and are incapable, by definition, of setting an example of drive and growth.[7]

In practice, one has to find a balanced view and determine on a case-to-case basis, the optimum mix.

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[7]Alexander Molinari, "Some Controversial Questions Regarding Industrial Estates," in UN Report on **Industrial Estates in Asia and the Far East** (New York, 1962), p. 423.

An important administrative point is the transfer of key personnel during the implementation of the Program. Government departments often tend to transfer such personnel for a variety of reasons, the most inexplicable being labelled under the vague heading of "administrative exigencies." This causes considerable delays in the execution of the Program since any newly-appointed person takes some time before becoming fully conversant with the work. Sponsoring agencies should, therefore, make it a point to ensure that during the implementation of a particular scheme, the key personnel connected with it are not transferred but are allowed any advancement which they might have earned during that period.

Coordination at the field level in the day-to-day operations of the Estate also seems to be inadequate. Where the operating agency is a Government Department, e.g., the Industries Directorate, decision-making is vested at the State headquarters which may be 500 kilometers or more away from the Estate. Inadequate delegation to the field officer causes considerable delays even in small matters. In one state, the District Officer who is charged with the collection of land revenue and maintenance of law and order as well as supervision of the development program was also made responsible for monitoring industrial program in the District. In Maharashtra, Regional Development Corporations have been formed so as to plan for the growth of the region as a whole. This would seem to be necessary since the Industrial Estate cannot by itself generate growth and has to be part of a much larger scheme of regional development.

As a U.N. Report succinctly observes: "It would be useful if Industrial Estate Projects in underdeveloped countries were integrated or co-ordinated with development plans or program at local or even regional level — integration of plans for the establishment of an Industrial Estate with town and country planning programs would be of great importance."[8] Such integration, however, requires as a prerequisite a single authority

[8]United Nations, **Physical Planning of Industrial Estates** (New York, 1962), p. v.

or agency with the necessary power to look at the entire problem of regional development as a whole of which the Industrial Estate is a significant part.

Technology

Technology is now being recognized as an important parameter to the ultimate success of the Industrial Estates. For instance, there is a need for more adequate counselling by a competent agency on product identification. Although the Small Industries Service Institutes as well as Consultancy Cells of the State Industries Department are expected to provide this information, such information, in practice, is often outdated or unrealistic. Feasibility studies of individual projects by these agencies may be relevant from an overall national or state point-of-view but may not be equally so where a particular area is concerned. Most of such studies are woven around imported raw materials and where these are not available, the unit is underutilized. More extensive use of the research findings of National Laboratories would ensure utilization of more local raw materials. This would provide not only more income to local procedures but also assure an uninterrupted supply of raw materials to the industry.

Even in the selection of capital goods, there is a tendency to obtain more machinery for a project than what is really necessary. This is because most of the schemes are formulated at the state or the national levels and are largely urban-oriented. The application of **appropriate technology** to rural areas is a matter which has not yet been given the attention it deserves. Semi-automatic machinery in most cases will do just as well besides costing far less and being easier to operate and to maintain. The question of developing an optimum technological "mix" of machinery and manpower is, therefore, a problem on which more thought needs to be given and suitable machinery devised for operating in rural areas.

The impact of suitable technology is revealed in capital-labor and capital-output ratios of units on Rural Industrial Estates. A study made in West Bengal has indicated that the capital per

person employed averaged Rs. 1666 ($225) as against a corresponding figure of Rs. 3529 ($480) for urban estates. Similarly, the output-capital ratio for a rural estate was 6.90 as against 1.20 for an urban estate. These figures suggest that under favorable conditions and given optimum technology, the overall efficiency of operations in a Rural Estate is much better than the one located in urban area. Studies in this regard are, however, scanty and need to be supplemented by more intensive data.

The infrastructural facilities for technological services are equally important factors in the success of an Industrial Estate. In Kolhapur, this is offered through facilities from a variety of sources—the local Industries Association extended facilities to entrepreneurs on the Estate, the Extension Center of the Small Industries Service Institutes offers special facilities such as Heat Treatment and Tool Room, and the Quality Marking Center of the State Government provides facilities for testing the final product so as to ensure consumer acceptance. The Cooperative organization itself renders valuable marketing assistance to the entrepreneurs. It is this package of assistance both in technology and marketing that has been responsible, to a large extent, for the striking success of the Kolhapur Estate. Quite often, in making plans for the establishment of a Rural Industrial Estate, this factor is often overlooked. While this may not always have an adverse impact in an urban area where facilities are available, it could become a key factor in the success or failure of the program in the rural area where there are no alternative agencies providing essential services.

Local Involvement

The most important factor which could contribute to the success of any rural Estate program is the close involvement of local leadership and the growth of local entrepreneurship. A major factor in making Kolhapur successful was the active leadership of local entrepreneurs in organizing the Estate and in obtaining the necessary facilities from various agencies. In contrast, there was hardly any local involvement or meaning-

ful contact with the local bodies in Vikarabad. The entrepreneurs came from outside the area and did not develop any strong involvement in the growth of the region.

State agencies who intend to establish an Industrial Estate in the rural area must, therefore, carefully prepare the groundwork and identify associations and individuals whose cooperation must be secured before as well as after the establishment of the Estate. There is a need to establish a stronger link with the local community, preferably through an Advisory Committee composed of representatives from the industries associations, local bodies, banking institutions, prominent individuals, entrepreneurs, and workers associations operating on the Estate. Unless a systematic and carefully worked-out program of actively involving various sectors is designed, the Industrial Estate will tend to be an isolated phenomenon with very little impact on the growth of the region as a whole.

In conclusion, the Rural Industrial Estate program may be regarded as an important tool for the development of the rural and semi-urban regions in most developing countries. Although they have been employed widely in India for the development of backward areas, their impact fell short of expectations. For example, a World Bank Team which toured India in 1971 noted that the "somewhat indifferent impact of the rural industrial estates program either in attracting units away from urban areas or in providing an adequate impetus in the growth of local entrepreneurs cannot be entirely divorced from the identification of facilities on these Estates."[9] While there have been undoubtedly some success stories in the Program, many Estates have failed to make a significant impact due to the many factors discussed above. It is necessary for developing countries who wish to employ a similar program for developing their backward regions to keep these factors in mind and avoid the drawbacks revealed in the Indian experience.

It is important to recall the note of caution made by the International Perspective Planning Team which toured India

[9]International Bank for Reconstruction and Development (World Bank), **op. cit.**, p. 26.

in 1962 and whose recommendations formed the basis for the entire program of small industry development in India:

> Industrial Estates alone cannot create Industry. An integrated approach to industry is necessary combining preliminary analysis of industrial opportunities in an area, proper attention to locational opportunities in an area, proper attention to locational requirements, improvement of transportation facilities, proper product design, technical improvement, raw materials supply, managerial and labour training and finance. In combination with these other elements, the Industrial Estate can be a useful tool for industrial development, but it is not a magic wand. To launch Industrial Estates in the absence of these other factors is, therefore, likely to be futile and wasteful.[10]

This is an advice which industrial administrators and planning agencies in developing countries should bear in mind in using Industrial Estates as a tool for regional development.

IV. GUIDELINES FOR THE FUTURE

Based on the analysis made in the previous section, the following specific guidelines can be formulated for the implementation of Industrial Estate programs in other developing countries.

(i) Any program for the establishment of Industrial Estates in rural areas should be meshed closely with regional and local development plans. Such a perspective should be clear not only to policy-making personnel at the top but also to the staff at the field level so that there is a better appreciation of the objectives.

(ii) Before any final decision on location is taken, a realistic techno-economic survey should be made to identify the potential of the area in terms of resources, personnel and material. The traditional linkages of any particular place with the region should also be taken into account.

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[10]**Development of Small Scale Industries in India — Prospects, Problems and Policies** (Report of the International Perspective Planning Team, Ministry of Industry, 1963), p. 108.

(iii) Once a locational decision is made, there should be close coordination between the various Departments of the Government concerned with the provision of amenities, such as roads, water supply, drainage and power. Modern management techniques such as PERT/CPM may be employed to ensure that these facilities are made available at the right time so that no capital investment becomes infructuous. It is desirable if one single authority is designated for making available all the necessary facilities at the appropriate time. Such an agency should publicize the facilities available on the Estate and also the terms on which allocations will be made to prospective tenant industrialists.

(iv) In addition to the obvious requirements mentioned above, the Industrial Estate has a better chance of success if specialized testing and production facilities such as Tool Room, Heat Treatment, Electroplating, etc. are set up well in advance for the benefit of the tenant units on the Estate. This would also be a positive inducement for entrepreneurs to come to the Estate and counteract the disadvantage of a remote location.

(v) A government promotional agency should prepare realistic feasibility studies of industries that can be set up on the Estate. Such studies should give all the relevant details such as the investment required, the personnel necessary and the type of machinery that can be obtained both from within the country and abroad. It would be useful if such machinery, particularly those to be imported, are made available on a hire-purchase basis repayable in easy installments.

(vi) Competent consultancy services should be provided to potential entrepreneurs to enable them to set up their units and also to remove any difficulties in their operation. This is an important requirement which is often overlooked and can become a critical variable for the success of any enterprise particularly in areas where technical assistance is normally not readily available.

(vii) A Raw Material Depot should be set up by the Government agency to ensure adequate and timely supply of

scarce raw materials as well as imported ones. The allocation of raw materials to the units should be done on a preferential basis and steps taken to ensure a continued flow of raw materials to enable industrial units to utilize their installed capacity fully.

(viii) Marketing assistance may be undertaken by the tenant units themselves on a cooperative basis or provided through Government-sponsored agencies.

(ix) Administrative procedures need to be both flexible and pragmatic. There should be no prohibition on a few large- and medium-sized units to be established on these Estates and complementarity between them and the small units should be encouraged. There should be adequate authority delegated to the field officer and supervisory authority vested in the local District Officer who should be made fully responsible for the success of the Estate. Key personnel should be designated for the implementation of the project and should not be disturbed for a specified period till the Estate begins to operate successfully.

(x) The Rural Industrial Estate Program should be closely linked with the community in many ways. Local institutions as well as prominent individuals of the region should be actively involved in the planning and implementation of the Estate and in its management after it has been set up. Local banking institutions should also be fully involved from the planning phase so that the credit necessary for the unit is made available on time. The success of the Estate should, in the ultimate analysis, be a matter of pride for the entire community and not just the concern of one Government Department or a few officials.

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JAPAN

OSAKA SOUTH PORT DEVELOPMENT PLAN

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Shigeo Yoshitomi

I. INTRODUCTION AND BACKGROUND

In general, in order to achieve the best results in the formulation and implementation of development plans, it is necessary that 1) the plan should incorporate a perspective of future growth and prosperity of the community and welfare of its people as well as secure their support; 2) human and material resources should be concentrated in a single organization which should utilize these resources most rationally and effectively; and 3) all possible efforts should be made to increase community support and secure better understanding of the plan. This study hopes to shed light on some administrative problems — and their characteristics — in the formulation and implementation of the South Port Development Plan in Osaka, Japan.

This study hopes to analyze the significance of the following aspects in the formulation and implementation of the South Port Development Plan: 1) while a development plan is intended to fulfill certain social and economic demands of the community, it is nonetheless necessary to secure the support and participation of the city council as well as the citizenry to ensure effective implementation; 2) the solution of organizational problems — e.g., personnel and leadership — is a **sine qua non** in the formulation and implementation of the plan; 3) securing, and effectively managing, financial resources is often the key to the success in plan implementation; and 4) it is necessary to establish a unified system of relationship with the central government in a country such as Japan where well-organized administrative systems have been established from the level of central government to that of local government.

A. ADMINISTRATIVE BACKGROUND

The organization which plays the key role in plan formulation and implementation is the public administrative organization. The Japanese bureaucratic system has been reputed both domestically and internationally to be a very effective system. This effective bureaucratic system in Japan has had a long tradition since the Meiji Restoration and since then the formulation and implementation of government policies have been influenced by individual abilities of bureaucrats.

Tradition of the Absolute Bureaucratic System

The Regulation on Civil Service Candidates of January 1886 served as the main basis for the establishment of the Japanese bureaucratic system to support the supreme power of the Emperor. Other pertinent laws and regulations to strengthen the bureaucracy may be mentioned. The enactment of the Regulation on Civil Service Examination, Probationary Candidates and Apprentice in July 1886 introduced an examination system in the appointment of Civil Service officers in Japan. The promulgation in October 1893 of the Ordinance on Appointment of Civil Service Officer and Civil Service Examination Regulations completed the system for the recruitment of the Emperor's government officials.

In March 1899, the Ordinance on the Limitation of Civil Service Officers Authority and the Penal Code for Civil Service Officers were passed to prevent political parties from securing advantageous official positions in the civil service. The Ordinance on the Appointment of the Civil Service Officers, Ordinance on the Limitation of Civil Service Officers Authority and Penal Code for Civil Service Officers formed the main pillars of the Japanese pre-war bureaucratic system.

An effective bureaucratic system is based not only on laws and ordinances. Under the Emperor System before the World War II, government officials who had direct responsibility in the execution of the "Supreme Power of the Sublimest" (the Emperor) were guaranteed strong and special positions in contrast with members of the **Diet** (the legislature). The bureau-

cratic society, protected by the authority of the sovereign rights, attracted able men. The Japanese bureaucratic system which was interrelated with, and reinforced by, the educational system and the strict examination system was regarded as even superior to the Prussian bureaucratic system, then considered the model of the absolute bureaucratic system. The ablest personnel joined the government service and **esprit de corps** among the Emperor's government officials fostered a monolithic unity among the government officials. This characteristic of an absolute bureaucratic system tended to weaken not only the control by the Diet but also shielded itself from public opinion. This resulted in self-complacency among the bureaucrats and fostered a climate in which they "respect the government as the symbol of sovereign power and humiliate the people as mere subjects to be ruled."

There were some noteworthy steps taken since the end of World War II to democratize the bureaucratic system in Japan. The adoption of the new civil service system led to the creation of a Civil Service Commission and the installation of Position Classification, Service Rating and the Merit System. The Emperor's bureaucratic system of pre-war days was re-established as the present civil service system but this time the bureaucrats were expected to be the servants of the people. The civil service has remained as an attractive profession which draws competent people and constitutes a stronghold against political party interference because of its internal cohesiveness.

Characteristics of the Osaka Municipal Administrative Structure

Local government officials in the Osaka Municipal Government occupy classified civil service positions. Therefore, they have no tradition of being the Emperor's government officials. This is due to historical developments since Osaka was created as a town self-governed by merchants during the Tokugawa Era. The wages of Osaka city officials were higher compared to central government officials and the mayor's position was equivalent to that of Prime Minister. Because of this back-

ground, the City was able to obtain not only administrative personnel comparable in ability to central government officials but also very able and outstanding mayors. Generally, the elective city council did not interfere with the administration of the city.

Since World War II, the city of Osaka has experienced a relative weakening of its economic potential due to the so-called economic land "subsidence" in western Japan and was given the status of an ordinary municipality in contrast to that of Tokyo which was given a special administrative status of "To" (Metropolitan government) — i.e., combining the functions of prefecture and municipality. However, the tradition inherited even before World War II did not diminish. Furthermore, in view of the introduction of a new merit system in the city government, the municipal government continued to attract good and able personnel to its staff. Since unlike other prefectural governments the Osaka city government does not receive any transferred officials from the central government, Osaka has had no problems in promoting its staff officers and in providing ample opportunities for its employees. There is no doubt that sound personnel management, especially in-service training which has become a tradition in the city government, has greatly contributed to the improvement of the administrative competence of the officials. The establishment of the Efficiency Section within the Inspection Division in 1928 and the adoption of the new scientific management methods after the end of World War II are examples of efforts to rationalize municipal administration.

The same examination given to staff officers of the Port and Harbor Bureau are also given to municipal officials and a special selection system used technical and engineering criteria in the appointment of officials. This special examination is not only very fair and strict but also very difficult and it helps give added prestige to staff officers. While the administrative organization of the Port of Osaka is similar to other bureaus under the Mayor, it is noteworthy that the South Port Development Division was established with the view of concentrating both human and material resources to ensure the effective implementation of the plan.

II. PLANNING AND IMPLEMENTING THE OSAKA SOUTH PORT DEVELOPMENT PROGRAM

First Plan

Development plans are, in effect, responses of the public administrative authority to socio-economic problems and needs. A South Port Development Program already existed as early as 1939, but the program, aimed primarily at developing the land for wharves, was shelved because of the war. The present South Port Development Program was formulated in November 1957 and after it was reviewed by the Port Advisory Council, it was sent to the Minister of Transport for approval. Upon approval by the Minister, the plan was to be implemented spanning a ten-year period starting from 1958 and terminating in 1967. This program called for the prevention of the so-called "subsidence" of the economy of Osaka, to promote industrial development, and to reclaim a 574-hectare littoral industrial area. The plan also aimed at inducing basic industries, such as steel, petro-chemical and electric power generation in the area. This would further transform the economic structure of Osaka which was generally built around small and medium-sized business and light industries.

Second Plan

Japan, which already enjoyed rapid economic growth starting 1955, made a far greater rate of development since then, resulting in the doubling of income and in reducing regional economic disparities. As a consequence, the country started to suffer from excessive concentration of population and industries in the cities and this created chronic demurrage and accumulated cargoes in the ports.

This necessitated a re-examination of the South Port Development Program in 1965 from a different perspective. At this time the Arabian Oil Company, which was to establish its complex in this area, abandoned its plans to construct a petro-chemical complex and cancelled the contract on purchase of developed land signed between the city government and the

company in August 1964. The cancellation was made on the grounds that (1) the establishment of oil refineries by a newly established oil firm was no longer possible due to the restrictions on facilities stipulated in the Petroleum Industry Law promulgated in May 1962, and (2) failure of the negotiations with other firms which would have joined the complex.

The City had to postpone the implementation of the plan temporarily. As a result, the original program of creating the littoral industrial area was modified and the new plan was designed to develop modern port facilities for comprehensive distribution functions as well as to develop an entire area on a new concept. This plan was authorized by the Minister of Transport in August 1967 after it was approved and endorsed by the Port Advisory Council.

The cancellation of the contract by the Arabian Oil Company was the turning point of the plan. However, socio-economic conditions which were the very foundation of the plan were already changing. These conditions were: 1) due to the increase in the volume of cargo handled at Osaka Port, port facilities for both domestic and foreign trade became inadequate; 2) the need to improve and expand port facilities, such as container terminals for foreign trade was urgent in order to cope with the development of containerization, which was then a revolutionary method in marine transportation; and 3) the development of the littoral area with emphasis on the development of heavy and chemical industries in the light of relative recession of the economic potential of Osaka under the high economic growth policy which was characteristic of the First Plan. However, stronger criticisms were made against various pollution caused by these heavy industries. There was a new demand for the establishment of the so-called urban-type industries which required less water and would not produce any pollution in this area. Moreover, the establishment of new factories became very restricted under the "Law on Restriction of Factories in the Already Established Cities in the Kinki Region" which was promulgated in 1955.

Other socio-economic changes may be mentioned. First, in order to keep pace with the development of highly concentrated economic society, urban renewal became an important task not only for purification but also for land utilization in the city. However, the expanded city area made commuter travel between the residential areas and the urban center difficult and this created a new demand for making the residence and work places close to each other. Under these conditions, it became necessary to develop new sites for residential, industrial, and business estates. Second, since the ferry terminals and container terminals for foreign trade have already been developed and its distribution base already secured in the South Port, it had become necessary to develop a new scheme for a terminal complex to be used as the base for marine-land transportation and to fully utilize the established facilities. Finally, to cope with increasing amounts of imported foodstuff caused by increased food consumption, and to secure constant supply of fresh food, a food terminal was established to serve as the center for importing foodstuffs as well as food distribution.

For the above reasons, a new plan was made to establish container, liner, ferry, domestic sundry goods and food terminals, and a terminal complex for the purpose of rationalizing the distribution of sundry goods, and to provide spaces for offices, estates for non-pollution type of small and medium-sized enterprise, residential estates and large-scale parks and green areas.

Relationship with National, Regional, and City Planning

All the plans for ports and harbors in Japan must be approved by the Minister of Transport after being reviewed by the Port Advisory Council of the Minister and as far as the program covering the port itself is concerned there is no problem in relating it with the national development plan. The National Development Plan, prepared by the Economic Planning Agency, poses no conflict with any other plans of the national government departments since it is limited within the area of overall and basic planning and every effort is made to coordi-

nate the various plans of other ministries with the National Development Plan.

The national plan covering the Kinki Region (which includes Osaka) is based on the Kinki Regional Basic Development Plan. This was formulated by the Kinki Regional Development Headquarters in 1963 and it was finalized in May 1965. Its implementation period was set for sixteen years — between 1965 and 1981 — and it called for a balanced development of the entire Kinki Region covering eight prefectures.

The Kinki Regional Basic Development Plan, which touches on the South Port Development Program, noted that the Port of Osaka had developed around the domestic trade and short distance coastal transportation and is strongly characterized as the import and relay base for raw materials. However, since this plan is a superior national plan and incorporates in itself the Osaka South Port Development Program, there is to be no basic contradiction nor conflict between the two. Furthermore, close relations are maintained with the Third Port Construction Bureau which is a field office of the Ministry of Transport. Since the Third Port Construction Bureau concerned itself with coordinating the functions of the Port of Osaka and Kobe Port, close administrative and technical relations are maintained between the two agencies.

The Osaka Municipal Comprehensive City Plan was formulated in 1966. The Comprehensive Planning Bureau was established in June 1963 and the long-range development program which was to be completed in 1990 was formulated by taking into consideration the views and opinions of citizens and specialists. The South Port Development Program was routinely incorporated into this plan but its inclusion was meant to place in proper perspective the South Port Development Program which was to be implemented ahead of the comprehensive plan.

The Port of Osaka is the gateway to Osaka City, and the base port for importation of raw materials and foodstuffs, distribution center of raw materials and semi-finished goods for

manufacturing in West Japan and the relay station for transit cargoes. Since the port plays a very important role in the development of Osaka City — the economic center of Western Japan — the South Port Development Program occupies an important part in the Comprehensive City Plan of Osaka. At the Mayor's request, the comprehensive plan was formulated by an advisory council composed of fifteen scholars and other experts. The council's involvement provided a mechanism for reflecting the opinions of the citizenry on city planning and development.

As for the roads in the South Port, the plan for the construction of the coastal road must be approved by the Ministry of Transport while the general city streets are under the jurisdiction of the Ministry of Construction. Subsidies are given independently by the two ministries. The Osaka Municipal Comprehensive Planning Bureau is to maintain coordination between the two ministries since the bureau is responsible for the formulation of the street plan throughout the city, including roads in the South Port area.

A. ORGANIZING FOR PLAN FORMULATION AND IMPLEMENTATION

Whereas the planning and implementation functions are separated at the national level — e.g., the Economic Planning Agency is solely charged with the planning functions for the national government — the planning and implemetation functions of city governments are vested in the same organization and the merit of this system can be found in the guaranteed implementation of programs. The separation of planning and implementation may be desirable for long-range and prospective program but it is a difficult system in ensuring the implementation of the program unless the authority to allocate the budget as well as to administer program implementaton is properly delegated to the organizations concerned.

Since the South Port Development Program requires a highly advanced level of technical expertise, it is quite natural that the South Port Development Division was vested with the

power to plan and implement the plan. Most of the projects connected with ports must be approved by the national government and once the plan has been formulated and approved by the national goverment its implementation becomes automatic. Plan implementation is carried out by the South Port Development Division, which is the sole organization responsible for all data collection in the formulation and implementation of the South Port Development Plan. However, implementation of the composite projects of the development plan is carried out by the designated organizations concerned with various projects in the plan.

Relationship with Other Organizations

Administration and management of the port is complicated since both the national and city governments are involved. Hanshin (Osaka Bay) Port Development Authority, which is an auxiliary organization of the Ministry of Transport, is charged with the construction of container and liner terminals. The Port and Harbor law stipulates that the approval of the Mayor of Osaka — who is the administrator of the port — is required in the implementation of these projects. Hence, the Authority cannot proceed with any construction without securing the Mayor's approval. Designation of boundaries of reclamation and development of port facilities must first be approved by the Port Advisory Council and finally by the Minister himself. This system is designed to prevent any conflict among the national and city governments and the Authority. Commercial firms also construct wharves for their exclusive use but very strict conditions are imposed on these commercial firms at the time of sale of the land.

The Hanshin Expressway Corporation, an auxiliary organization of the Ministry of Construction, is responsible for the construction of the bridge and coastal roads. The Municipal Comprehensive Planning Bureau ensures effective coordination — from the viewpoint of sound city planning — between the Corporation and the Port and Harbor Bureau which administers the roads in the port. A project team was established with the participation of the Osaka Municipal Buildings Bureau, the

Osaka City Housing Supply Corporation and the Japan Housing Corporation (an auxiliary organization of the Ministry of Construction) for the construction of the New Town.

Flexibility of Administrative Organizations

The Industrial Area Development Division was established in the Osaka Municipal Port and Harbor Bureau in April 1958 as the first organization connected with the South Port Development. The Division is primarily concerned with the development of the littoral industrial area. As noted earlier, the Development Plan had to be suspended because of the cancellation of the contract for the purchase of the developed land by the Arabian Oil Company. This led to the abolition of the Industrial Area Development Division in July 1965 and the transfer of the remaining work to the Administration Division.

However, when the climate for South Port Development became favorable the South Port Development Division was established in June 1967 and it immediately (in August 1967) formulated a new South Port Development Program called the Osaka Port Second Revised Plan. This type of organization is **ad hoc** and is designed to function most effectively to achieve a specific objective. However, **ad hoc** organizations often create problems because they tend to persist even after the objectives have been achieved. Sufficient consideration should be given to this organizational problem in the future. As far as past cases were concerned very flexible actions were taken. Generally speaking, only the city council could create and abolish bureaus under the Job Description Ordinance. However, the same ordinance stipulates that divisions and departments as well as lower level organizations within bureaus can be established at the discretion of the Mayor.

Personnel Management

As city employees, personnel of the bureau as a rule are assigned from among those who passed the examinations of the Osaka Municipal Civil Service Commission. However, for the purpose of maintaining competent technical staff, special selec-

tion has been conducted recently among those who are recommended by professors of specially designated universities.

The technical qualification of the Port of Osaka staff is the highest in the entire technical staff of the Osaka city government and some directors of the bureau often serve as lecturers at the universities. However, maintaining a sufficient number of the technical staff is difficult since, in recent years, the technical level of the commercial civil engineering firms has been upgraded and their demand for personnel has been increasing. There is also greater demand for, as well as greater difficulty in, securing qualified technical personnel because of the increasing scale and volume of the government's public works projects.

B. FINANCIAL ASPECTS IN PLAN IMPLEMENTATION

It is a principle that reclamation costs, as in the reclamation of a littoral industrial area, should be covered by the floating of bonds and the bonds should be paid out of the revenue from the sale of reclaimed land. Accordingly, land was to be reclaimed as a littoral industrial area and upon completion of the contract on purchase of the land between the city and Arabian Oil Company, the company was to absorb the reclamation cost of district Nos. 1 and 2 (two of the three reclaimed districts of the South Port) in the form of "privately issued bonds."

This method of financing reclamation projects was adopted so that it will not put additional financial strains on the city government as well as serve as substitute to the advance payment system. Arabian Oil Company was also to share the costs in the construction of roads (which connect the reclaimed area with the city) and the littoral railroad, the industrial water supply system and the dredging of channels. Its total share of Y6,655,000,000 was in the form of privately issued bonds for district Nos. 1 and 2.

The cost for district No. 3 was to be absorbed by bond flotation —Y7,132,400,000 to be acquired through the floating of bonds in West Germany and Y8,367,600,000 from the sales

of the reclaimed land. However, the cancellation of the Arabian Oil Company contract in 1965 necessitated a review of the original plan for the South Port Development Program. As mentioned earlier, it was completely revised to be a littoral area development program by incorporating the development of lands for port activities, urban renewal projects and residential estate.

The cost for this project was estimated to be Y10,552,000,000 for district Nos. 1 and 2 and Y15,500,000,000 for district No. 3. Based on the financing plan, Y143,000,000 would come from the general account of the city budget, Y17,256,400,000 from bond flotation and Y8,652,600,000 from the sales of the reclaimed land to cover the entire cost of reclamation. The rationale for utilizing a portion of the funds acquired through bond flotation in West Germany for the No. 3 district was that it was easier to float bonds in a foreign country because bond issues in the Japanese market were not suitable for any large-scale project — i.e., the national government strictly controls the total sum of bonds issued by local governments.

Problems in Financial Resources

It should be noted that the South Port Development Program required huge financial resources, the latest technology and competent personnel. Financial resources affected the program directly, and this was clearly evident in the implementation of the South Port Development Program. After the Minister of Transport approved the program in November 1957, the program was implemented in 1958 with 1967 as target year for completion and since then the program has been revised twice — in 1960 and in 1965.

As a rule, this type of program is financed through bond issues and repatriation of the bonds must be generated from the revenue accruing from the sales of the developed land. However, the approval of the national government agency in control of bond issues is required for floating bonds by local governments in view of the nationwide financing plan, and the entire sum of bonds to be floated may not be authorized even if the municipality deems a certain project indispensable and of high-

est priority. Therefore, insofar as this area is concerned, the projects of the local government are greatly affected by the amount of bond issues authorized by the national government.

The reclamation project of the South Port was further expanded and the 300-hectare New South Port was added to the original 600 hectares. As of April 1, 1971 Y44,000,000,000 for the New South Port was added to the Y43,000,000,000 of the original South Port making the aggregate budget for the entire project Y87,000,000,000. This fact shows that the biggest problem of implementation is financing. When the project was started in 1958, there was not much fund available because there was no land to sell and a revolving fund had to be secured. However, as mentioned earlier, the Arabian Oil Company proposed to purchase the developed land in 1960 and absorb privately issued bonds. Even after the cancellation of the contract with the Arabian Oil Company, sales of the already developed land made the financing of the project rather fluid. Since the land price would rise as soon as infrastructures were developed, revenue from sales of land would increase as long as demands existed. This made the implementation of subsequent projects easier. Although the approval of the Finance Minister was required for bond issues in order to control the total amount of bonds issued throughout Japan, the South Port Development was given a large allocation and bond issues presented no practical obstacle to the implementation of the projects.

Port development projects such as reclamation and construction of seawalls are covered by funds accruing from sales of developed land and bond issues whereas the development of public wharves, foreign trade liner terminal and others, which would be executed as public and government projects, are funded from national government subsidies. The subsidy rates are set at 50 per cent for the public wharves and 60 per cent for the foreign trade terminals. As a rule, subsidies require matching funds from the city so that the implementation of projects is affected by the city's financial position. Therefore, it can be said that projects designated as nationally subsidized

projects are affected by the political judgment of the national government and the condition of the general account of the municipal budget.

C. LEGISLATIVE AND CITIZEN PARTICIPATION

Under the Japanese local governments system, the adoption of the South Port Development Plan required the approval of the council. Communist councilmen opposed the First Plan on the grounds that the Port of Osaka was shallow in draft, its geographic location was not convenient and the earth foundation was soft and weak. They also argued that the available funds should be spent instead to finance school education and other projects. However, the plan was finally approved because the majority opinion in the council considered the littoral zone development indispensable for the development of industries and the port.

Discussions in the council of the Second Plan was understandably acrimonious because of the Arabian Oil Company's cancellation of its purchase contract. Nonetheless, the Second Plan was also approved since it was designed to cope with the demands and needs then obtaining and the revisions found in the Second Plan reflected more the needs and welfare demands of the citizens.

Citizen Participation: Formal and Systematic

Needless to say, the success of development plans depends largely on the support of the citizenry and therefore, it is important to study the system adopted to ensure citizen participation in the administration. A systematic way of formally enlisting citizen participation may be achieved through: 1) the city council, 2) the auditing committee, 3) demands for auditing, 4) public hearings, and 5) appeals and petitions to the city council. The systematic and formal involvement of citizens have been established for certain general or specific reasons and they do not pose any major problem. However, the non-systematic and unofficial participation often create many difficult problems.

Citizen Participation: Informal and Non-Systematic

Under the era of democratic government after World War II, relationships between the government and the people have been much improved. Specific relations between the government and the citizens in connection with the South Port Development may be mentioned.

The most difficult issue involved in the reclamation of land from the sea is compensation for the fishing industry and this issue was finally settled when the government paid Y802,530,000 between 1958 and 1967 as compensation. The major concern of the citizens in the area is the road and attention has been given to their opinions in road planning, particularly in the construction of the now completed Northshore Road on Yamato River and the Shikitsu-Nagayoshi Road.

As for the housing plan (within the framework of overall housing plan of the city), municipal housing is now being constructed to meet the demand of the citizens in the area and special consideration is given to the selling of lots for housing to personnel of enterprises in the locality. Unused land is also utilized as playgrounds. While the utilization of household refuse for filling is not suitable for creating residential or industrial sites it can be applied in creating land for parks. However, care and attention should be given to prevent bad smell and flies until the filling is completed.

Because of the careful attention given to citizen's participation in the formulation of the South Port Development Plan, good community relations were achieved. Nonetheless, efforts should not be spared to develop means and techniques to involve the citizens in order to create greater understanding of future plans.

III. CONCLUDING COMMENTS

Up to this writing, the South Port Development Plan is still being implemented and it is premature to evaluate the effectiveness of the overall plan at this stage. However, if this plan has any special characteristics, it will be that while the plan matches the national plan, it still satisfies the require-

ment of uniqueness and independence as a city plan. If local autonomy is to be anchored on the so-called grassroots democracy, it should accurately grasp the needs of the local citizen and while meeting the citizens' demand for administration, it should develop and implement such plans to match the overall national plans by making individual municipal plans integral components of the national plan. Osaka, being a major city and with a strong financial and administrative capability, is a major factor in the successful implementation of this large-scale plan.

However, in such a major city as Osaka, it cannot be denied that there still exist some limitations on its autonomy and they derive from the shortcomings in the development of autonomy in Japan. Local autonomy in Japan has been termed ironically as 30 per cent autonomy. The Mayor, who is the municipal chief executive officer in terms of authority, is often swamped with matters delegated to the municipalities by the national government. Local independence is further eroded by financial dependence on the central government. For example, the national subsidies constitute a large share of the municipal budget. Thus, both in the areas of authority and finance, the realm of autonomy of the municipal government is extremely limited and even a large city as Osaka is no exception. On the contrary, simply because it is a large city, it is faced with a myriad of problems which must be solved through its own initiatives although, in reality, its scope of action is circumscribed by limited power and financing. As compared with other cities, Osaka City has a much larger power as "a designated city by the government ordinance" and has richer financial resources because of prosperous business and industries. Naturally, in terms of the abilities of its employees and level of infrastructures and facilities, nothing can be said to be inferior and inadequate. However, should there be any shortcomings and inferiority, they must be traceable to the inadequacy of the local autonomy system itself. For major cities as Osaka, more initiative should be given to the local government rather than subject them to the protective supervision of the central government.

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INDONESIA

THE IMPLEMENTATION OF INDONESIA'S JATILUHUR PROJECT: 1953-1970

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THE IMPLEMENTATION OF INDONESIA'S JATILUHUR PROJECT: 1953-1970

Bintoro Tjokroamidjojo

I. INTRODUCTION

This is a narrative reconstruction and analysis of the implementation of the multi-purpose Jatiluhur dam project. In particular, this study focuses on the process of decision-making and on the factors which influenced the implementation of the project. The role of a number of important factors and variables which may have facilitated or hampered its implementation will also be analyzed.

The Jatiluhur project is a multi-purpose program comprising irrigation works, electricity generation and transmission, and flood control. In addition, the project aimed to supply drinking water and improve the sewerage for Jakarta. Several problems of interest to this study were encountered in the course of this project. Despite the clarity of its objectives and targets, the multi-purpose character of the project created some problems because it was not carried out through a single organization. Another problem was the somewhat long gestation period (from 1953 until 1970) from the formulation of the initial ideas until their approval, and from the period of implementation of various phases of the project as well as the frequent reviews and reformulation up to the stage where most of its objectives were accomplished.

The long period covered by the study made it impossible to make a more detailed and deeper analysis; instead, an attempt was made to identify only the salient events, factors, and variables which appeared critical in influencing the process of implementation. Nonetheless, it is hoped that the study would afford insights of wide significance. The project was implemented under different changing economic and political condi-

tions which required constant adjustment, an experience generally shared by many countries. Moreover, a project of this category is of interest to developing countries, many of which have been undertaking multi-purpose programs as a strategy for accelerated development.

Multi-purpose development projects such as the construction of huge dams have often been given high priority by developing countries in the early stages of independence. In view of the fact that in the fifties industrialization was regarded as a sign of development and also because of increasing urbanization, these countries were strongly inclined to build large-scale electric power projects. Indonesian decision-makers, in particular, tended to lay stress on hydroelectric generation to the relative neglect of thermal sources of power and of the transmission and distribution phases. Later on, a more integral view became apparent wherein a more harmonious linkage between hydro and thermo generation was attempted. These are some of the problems which provided the decision-making background in the implementation process of the Jatiluhur project.

II. THE CONCEPTUALIZATION PHASE: 1953-1957

Seen from both the supply and demand sides — that is, the geographic location and condition of the dam on one hand, and the need for irrigation and electricity, on the other — the Jatiluhur area had caught attention as early as 1935, when Prof. J. W. van Blommestein brought up his ideas.[1] Research conducted before the Second World War, for example, had revealed that the Citarum river had a volume of up to 5.5 million cm., a great potential for both irrigation and electricity. Studies made later showed that the optimum utilization of water could be accomplished by the construction of dams at three locations. The Citarum river had the potential of both irrigating vast areas of agricultural land and providing a much needed addi-

[1]Prof. Ir. W. J. van Blommestein, "Een welfaarts plan voor het westelyk gedeelte van Java," ("a Welfare Plan for the Western Part of Java") in **De ingineur in Indonesia 1948/1949**, Nos. 4 and 5.

tional supply of electricity for the cities of Jakarta and Bandung — the first and third largest cities in Indonesia.

After the transfer of sovereignty from the Netherlands to the Republic of Indonesia in 1949, Sediatmo (an expert in irrigation) was transferred from Yogyakarta to Jakarta and requested to assist Prof. J.W. van Blommestein in formulating the Welfare Plan of the Western part of Java. Both were experienced experts in the field of irrigation. They were particularly interested in the problem of using water resources (water **kracht**), including the operation of water pumps.

It was in 1950 when Sediatmo, then Head of the Office of Construction, Directorate of Power, PLN (**Perusahaan Listrik Negara**, the state-owned Enterprise for Electricity Business), suggested the construction of a multi-purpose dam on the Citarum river. Sediatmo's idea, if implemented, would have been the first multi-purpose development project (i.e., covering both irrigation and electric power generation) in Indonesia. He was determined to translate his ideas to reality since the project would raise Indonesia's dam capacity of less than 100 million cm., to about 3,000 million cm.

This proposal was sent both to Ukar Bratakusumah, then Minister of Public Works and Power, and to Prof. Sutedjo, Head of Irrigation Works. It seemed that it was considered such a big project that there was doubt whether it could be realized. On Sediatmo's suggestion the project proposal was sent to the Office of Irrigation and to the Office of Hydro Power for their approval. When the response of the Office of Irrigation was unsatisfactory, Sediatmo proposed that, pending further decisions, preliminary and preparatory works be carried out. The Government approved Sediatmo's recommendation to assign to the French firm, Coyne and Bellier, the preparatory work as well as to conduct a feasibility study. The feasibility study revealed that the dams should be built in Saguling, Cirata and Jatiluhur.[2]

[2]The feasibility study was conducted mainly by Mr. Coyne, one of the principals of Coyne and Bellier, and by Mr. Lecomte of the Neyrpic Company, Grenoble, France. Coyne, "Barrage de Djatiluhur," 15 January 1954 and Lecomte, "Djatiluhur Dam-Hydraulic Study," 1953.

Further studies were made: one towards the end of 1953; another at the beginning of 1954 by Messrs. Coyne and Jarige; and in 1955 by Messrs. Coyne and Bellier.[3] The results of the studies created a controversy among experts as to which of the dams should be built first. Blommestein suggested that the first dam should be built in Cirata since he considered this the most suitable site for a hydro-electric power plant.[4] Sediatmo, on the other hand, strongly favored Jatiluhur because it would serve the dual purpose of irrigation and electricity. Although the Central Government had not yet given the project its support, preparatory work was started by the Office of Construction Works of PLN. A major reason for the lukewarm support was the view that the project was too expensive if it can generate only 5 x 25,000 KW of electricity. A number of proposals supported by politicians, which included H. Djuanda and Prime Minister Mohammad Hatta, considered it more realistic for Indonesia to develop steam electric power plants with 2 x 25,000 KW capacity. This controversy lasted from 1955 to 1956.

Nevertheless, Sediatmo continued to press for the construction of the project at Jatiluhur since he felt that the country would benefit more if the idle energy potential of Jatiluhur could be harnessed to provide irrigation water as well as electricity. Despite the risk of an administrative mistake, Sediatmo was determined to push through the project proposal.[5]

The then Minister of Public Works, Moh. Hassan, reacted favorably to the proposal. He was convinced that the Jatiluhur Project was important both for increasing rice production through the construction of irrigation works and for electrical power through the installation of generators with capacity of 5 x 25,000 KW. When Minister Moh. Hassan presented the issue to the Cabinet meeting, the Government adopted the pro-

[3]Coyne and Bellier, "Jatiluhur Dam-General Description," 1955.

[4]It should be noted that Professor Blommestein, although no longer a government official, was very influential in the field of hydro-technical power.

[5]According to Sediatmo, the construction office of PLN would assume the responsibility of constructing the dam should the need arise. Interview, Jakarta, 1973.

posal. It may be noted that the Cabinet's decision might have been influenced by the political balance at that time, since Minister Moh. Hassan also represented the Party of the Indonesian Islamic League (PSII) in the Ali Sastroamidjojo Cabinet.

III. THE ELECTRICITY ASPECT OF THE JATILUHUR PROJECT

A. Start of Construction and Better Formulation of Objectives and Targets: 1957-1959

Following the government's decision to adopt Jatiluhur as a government project, the project study was resumed and again entrusted to the consulting firm headed by Coyne in 1957. On the advice of Mr. Coyne, the construction of the first diversion tunnel for the channeling of water was started in 1957. The immediate problem was to decide which engineering firm would be given the task. Since the construction of the diversion tunnel should be carried out during the dry monsoon, Sediatmo decided to assign the task to the French firm C.F.E. **(Compagnie Fransais d'Enterprise)** on a cost-plus basis without tender.

This decision was initially opposed and criticized but the project later gained support when Djuanda, the then Director of the State Planning Bureau, supported Sediatmo's decision. After the Cabinet decision mentioned earlier, the Jatiluhur project was included in the program of succeeding Cabinets. Financing of the project, therefore, did not face any significant difficulty especially after a settlement reached between PLN and the Treasury General of the Department of Finance which provided direct funding for the project; that is, by direct submission of financial plans and direct accountability for the expenditures to the Treasury General.

Preliminary works such as the building of houses, offices, and godowns, as well as the undertaking of surveys and others were initially carried out by the PLN Construction Office and thereafter by the Hydro Power office of the Ministry of Public Works. The work proceeded under the direction of Sediatmo,

with the assistance of Mr. Coyne and Messrs. Buillet and Hammond for the construction works.

During this period, discussions were held to secure foreign credit for the construction of the Jatiluhur project. In addition to the need for technical experts, a considerable amount of foreign exchange was needed for project financing. Negotiations were made by the Foreign Credit Committee at the Department of Finance and foreign credit from the French Government, amounting to US $9.7 million, was finally agreed upon in 1968.

Along with the receipt of foreign credit from France was the extension of the contract for the execution of the Jatiluhur dam construction works. The Jatiluhur Project was mainly managed under the supervision of the Indonesian Government; i.e., the Directorate General of Hydro Power of the Department of Public Works with the help of the consultative engineers of Coyne and Bellier and from **Bureau D' enginieures Conseils** (Paris) and other foreign contractors.

The operations were carried out by Sediatmo in his capacity as an official of the Directorate of Hydro Power but since the river dam project was also a multi-purpose undertaking he had to coordinate the activities of irrigation officials.

This involvement dated back to 1955 when the Directorate of Irrigation of the Department of Public Works presented the need to adjust activities in the field of irrigation in terms of the overall Jatiluhur plan. Discussions were held between Schravendijk (who was later succeeded by Agus Prawiranata) and the Directorate of Hydro Power because of the insistence of the government that the Jatiluhur project is basically an irrigation program. Henceforth, the objectives of the Jatiluhur project could be formulated in a more orderly way by taking the multi-purpose aspects into consideration.

The development objectives of the Jatiluhur multi-purpose project were described as follows:

1. Irrigation. A dam having the accumulating capacity of 3,000,000,000 m3 of water could be utilized to

irrigate 260,000 hectares of ricefields during the dry season enabling harvest annually.

2. Flood prevention and control, especially in the Krawang region.
3. Electric power generation. For the purpose of lighting and power generating in industry, the capacity required was 125,000 KW, and it could be increased to 150,000 KW if necessary.
4. Transmission. Electric power was to be transmitted through two 150 KV transmission channels, one of which to Jakarta (Cawang) while the other to Bandung (Cigareleng); in Cawang and Cigareleng the voltages were reduced to 70 KV and 30 KV, respectively, to be distributed to local electric networks.
5. Development of inland fishery.
6. Water and drinking water supply for industry, mainly in Jakarta.
7. Creation of tourism facilities at and in the surroundings of the artificial lake.

For this purpose a dam construction system of earth and rockfill type was planned. The length of the dam was 1,200 m. at the top and the maximum height was 105 m. above its foundation. The total volume (including the secondary dams on the upper course of the river) was 100,000 m3. The tower also served as a site for hydraulic control. The multi-purpose tower had the following functions:

1. Routing of floods liable to raise the water-level at which level the sill is capable of spilling 3,000 m3/s.
2. Providing water for irrigation by means of two intakes.
3. Housing in its lower part the hydro-electric power station, with six 31,000 KVA sets.

B. **Project Implementation: 1959-1967**

In 1957, O.F. Patty was appointed project manager of the Jatiluhur dam construction, although the management of the whole operation was still in the hands of Sediatmo, the Head of the Construction Directorate of PLN. From 1959 until 1964 Sediatmo assumed the post of PLN Director charged with con-

struction works. He was therefore the person responsible for the construction of electric power generating works. He took a leading part until 1963. Hartono Kadri, one of the assistants to Sediatmo, became Head of the Electricity Directorate from 1963 until 1966. Meanwhile Patty was succeeded by Masduki Umar in 1961. It is evident that young Indonesian experts have been developed and were gradually assuming responsible positions in the course of implementing the Jatiluhur electricity project.

The following works were accomplished during this period: the construction of the basin, the Jatiluhur dam, dam tower, and completion at the operational stage of the electricity generating installation. For example, the dam tower, built towards the end of 1959, was completed in 1964. The construction work of the main dam started in 1961 and completed in 1965. The cofferdam was completed in mid-1962. In the middle of 1961 penstocks were furnished while at the end of 1962 turbines were installed and in 1966 four turbines became operational.

As noted earlier, the Jatiluhur project was always included as a Cabinet program and even became one of the "People's Mandatory Projects." However, the conception of a more balanced development between hydro and thermo generating had developed during the year 1963. In view of the fact that thermal installations could be assembled sooner and the location problem could be solved more easily, its transmission did not pose a major problem. Indeed, in the past there was a weakness in the use of thermo power because technology in those years required a more complex operational system. On the other hand, hydro generating, when already put into operation, had a relatively little operating cost compared to thermo generating.

Meanwhile, because of the staging of the Asian Games in Jakarta in 1962, the Government decided to build — and completed within the same year — thermo power electric plants in Tanjung Priok and Senayan (Jakarta). Because of the urgent need for electricity, the construction of the plants did not alter the Government's decision to continue the Jatiluhur

›lectricity project. In 1963 the Jatiluhur project was seen from ı wider point of view. This was reflected in the drawing up ›f the first comprehensive plan for the development of the West Tava electricity system, a plan based on a report by M. Bertoye.[6]

Inflation and the deteriorating economic situation was ınother factor which affected the project, particularly its finan-:ial aspects. However, the Jatiluhur electricity project was n a far better position to overcome financial difficulties com-›ared to the irrigation project because of the French credit ıssistance to the electricity project. Foreign credit for the Tatiluhur electricity project was US $97.5 million out of a total $173.1 million. The French credit ensured that rupiah financing :ould be available from the government. The credit scheme ;ave an indication that the Jatiluhur project was still considered mportant by the political decision-makers at that time.

Another reason why the disharmony between hydro and hermo power generating was more keenly felt was the fact hat the Jatiluhur project, because of the considerable high :osts required, was disadvantageous when seen from the per-ıpective of the national interest in electricity development. The Tatiluhur project development was hampering the development ›f other electricity projects since the hydro electricity project ıctually needed a much longer period for its completion. The ›ressing need of electricity made it necessary during this period (starting from 1960) to start with a research in the develop-nent of several thermo electricity projects. This was also the 'eason why the Government was compelled to abandon the Karangates and the Selorejo electricity projects in East Java ınd use them entirely for irrigation.

Another significant development during this period was the ›merging unbalanced growth between electric power generation, ransmission and distribution. In the fifties there had been a endency to prefer the hydro generating projects, including the levelopment of electrical power transmission and distribution. However, it was realized that there was a long gestation period

[6]M. Bertoye, "Development of the Electrical Network of Jakarta Raya ınd West Java," 1963.

needed for the completion of a hydro power generated electricity. This presented a problem since the transmission and distribution networks could only be built afterwards. On the other hand, when thermo electricity plants in West Java were built the problem of improving the distribution system was seriously felt. The Jatiluhur project electricity generation and transmission construction costs were covered by domestic financing and foreign credit whereas efforts to obtain credit for financing the distribution networks in 1965 encountered great difficulties.

C. Improving the Organization: 1967-1970

The Jatiluhur electricity project was incorporated in 1968 into the Department of Basic and Light Industry. The shift within the sphere of industry was made because it was expected that electricity could be more consistent with the industrialization efforts. As already mentioned, the work on the Jatiluhur project was practically completed in 1967. However, certain operational management and maintenance problems immediately plagued the project. As a result, officials at the Department of Industry seriously considered the idea of making the Jatiluhur a PN (State Enterprise) status project on the assumption that the project should operate on a sound commercial basis and should finance its own operational costs.

Thus, in July 1967 the Jatiluhur project became a State Enterprise. Discussions were held among Drs. Barli Halim, Secretary General of the Department of Industry, Husni, Director General of Electricity, Husein Abdillah, PLN Director, and Masduki Umar, Manager of the Jatiluhur Electricity Project on the organization and management of the project. On the 28th of August, 1967, the project was inaugurated with the formal organizational status of **PN PLTA (Perusahaan Negara Pembangkit Listrik Tenaga Air,** or State Enterprise of Hydro Power Generated Electricity). Masduki Umar, the former project manager, was appointed Chairman of the Board of Directors of the state enterprise.

A problem which arose from this development was the change in the functions and tasks of the technical team work-

ing at the project. They had been assigned as a team of experts to carry out the construction work of the electricity project. Now that the work was completed they had to perform other functions, i.e., to manage the operation and maintenance of the project. The change of functions also brought about changes in personnel policy within PLN because of the cancellation of the planned placement of personnel which had been prepared for operating the Jatiluhur project.

IV. THE IRRIGATION PROJECT

A. Formulation of Objectives and Targets

The activities and operations in the field of irrigation were not planned and regulated within one organization of the Jatiluhur Project. The irrigation work in fact proceeded with due observance of the possibility of the Jatiluhur Project development as a multi-purpose project. Based on the studies earlier made by Blommestein in 1948 and surveys undertaken respectively by Mr. Lecomte in 1953 and Mr. Coyne in 1954 on the Jatiluhur Project, J. F. van Schravendijk, who was at that time Head of the Irrigation Office, compiled a report on the development of the Jatiluhur dam[7] at the beginning of 1955. On the basis of this report a start had been made to develop the Bekasi irrigation sub-system in 1955, the work of which was completed in 1958. In 1956 the Barubug/Cilamaya irrigation sub-system was also developed and the construction work was completed in 1959.

Thus, in spite of the organizational disunity between activities relating to electricity and to irrigation in the frame of the Jatiluhur project implementation, various partial irrigation works had already been done in the years mentioned with the multi-purpose objective of the Jatiluhur project taken into account. The partial works were done with the aim of irrigating from 240,000 to 260,000 hectares of rice fields during the dry season. Water from the Jatiluhur basin was intended

[7]J. F. van Schravendijk, "Waduk Djatiluhur-Exploitatie" ("Jatiluhur Dam Exploitation"), 1955.

(after being used to set the turbines in operation for electric power generating) to be channeled into the Citarum river and here the stream was again dammed up by the Curug dam and then, by means of water pumps, the water was allowed to flow into the West and East Tarum through the main canals to all the irrigation sub-systems of the Jatiluhur irrigation area.

It is necessary to use water pumps at the Curug dam to discharge the stream to both canals since the upper surface of the canals is higher than the waterline at the Curug dam. The water level at both main canals was determined by taking into account the total acreage of the rice fields to be irrigated. The water level as determined was also meant to enable the exertion of pressure which would result in the flow of water from the opening gate of the main canal to areas of destination. In addition to the Curug dam on the Citarum river it was also necessary to build dams on the Cibeet, Cikarag and Bekasi rivers on the western part and on the Ciasem river on the eastern part in order to increase the efficiency of the Jatiluhur irrigation system.

Under this scheme a total of 240,000 hectares was irrigated twice yearly, broken down as follows:

a. technical irrigation*	117,000	hectares
b. semi-technical irrigation	101,200	"
c. area dependent upon rain (rainfed)	8,100	"
d. area where irrigation was still non-existent	13,700	"
Total	240,000	hectares

Van Schravendijk was replaced in 1956 by Agus Prawiranata as Head of the Irrigation Office. In that year an important event took place which signified that while there were some difficulties in coordinating the electricity and irrigation aspects of the Jatiluhur project, efforts towards closer coordi-

*Technical irrigation refers to more or less permanent irrigation facilities constructed by the Department of Public Works in contrast to simple and temporary irrigation structure constructed by the farmers themselves.

nation were also taken. In order to irrigate rice fields covering an area of 240,000 hectares, the water upper surface at the main canal (East and West Tarum) should reach the height of 30.00 meters above sea level. The height was evidently about 4.00 meters above that of the Jatiluhur main dam (the water line was about 25.00 meters) which would exceed the height of the main dam and consequently could cause trouble to its stability. Besides, the shorter head jump of water would reduce the electric generating capacity.

The controversy arose because the Curug dividing main dam was constructed at the height required for irrigation, and this unfavorably affected the capacity for electric generation as well as the function of the main dam. On the other hand, if the dam were constructed to serve the needs of electricity the water level at the Curug dividing main dam need not be high enough to irrigate a greater area of rice fields. As noted above, the main controversy centered on the problem of water storage. The electricity side held that the difference between the maximum and minimum heights of water level should not be too big to ensure the dam's stability for electricity generation. The irrigation side, on the other hand, needed a water storage at the higher maximum level during the dry season to enable the irrigation of dry rice fields. This also concerned the planned water level at the Curug dividing main dam which was still considered problematic by the electricity side because the zero point level of several irrigation sub-systems was not the same at that time. For that purpose the zero point should be equalized so that the water level as needed at Curug could be known.

Another main problem was how to devise a formula to optimize the total benefits of the Jatiluhur project by synchronizing and balancing the interest and output of electricity and irrigation. The original concept for the Jatiluhur project envisioned that maximum benefit could be derived for both electricity and irrigation if three dams were built in Jatiluhur, Cirata and Saguling.

In 1956, a meeting was called between Agus Prawiranata and van Schravendijk, both irrigation officials on the one side and Sediatmo and Coyne, who represented the interest of electricity, on the other. The meeting was also attended by Srigati Santosa and Kusumangingrat of Public Works. The meeting led to a decision that the Curug dividing main dam would not be built at the water level needed; instead it should be built at a lower level so that this would not endanger the Jatiluhur main dam. The electricity side was willing to help raise the water surface to the level required by installing pumps at the Curug dam. The pumps would be set into operation by electric power. As calculated, the cost of electric power for installing the pumps was 30 per cent from the lost potentials if the construction of the Curug dam had a fathom of 30.00 meters above the water level.

Fearful that the decision would adversely affect irrigation, van Schravendijk filed a minority note. In this dispute, Srigati Santosa succeeded in reconciling the differences of opinion between the irrigation and electricity sides. This fact revealed that even in the planning stage of the Jatiluhur project efforts were already made to synchronize the interests of electricity and irrigation. As noted earlier, all efforts during the 1957-59 period were concentrated on the building of a diversion tunnel for the Jatiluhur main dam as well as the completion of the Bekasi and Barugbug-Cilamaya irrigation sub-systems. It is worthwhile to note that the location of the Curug dividing main dam was not determined until 1960. However, the construction of the irrigation works and the main dam proceeded slowly due to internal security factors which often hampered construction work.

B. Implementation Problems: 1959-1966

In the years 1959 and 1960 a significant development took place. In 1959 there was a stronger pressure to make the irrigation plan consistent with the Jatiluhur dam construction. This was due, in part, to the actual construction of the dam already started by contractors working under the supervision

of PLN (Electricity State Enterprise). One reason concerned the physical aspects of the project; that is, the need to start work on the digging of the West and East Tarum main canals for the discharge of water from the Jatiluhur area. The other was economic. In 1959 and 1960 Indonesia seriously felt food shortages as exemplified by the staggering amount of $100 million spent for food imports. As a result, the government adopted the view that increasing irrigation facilities would help in surmounting the acute food problem. During this period, meetings were held between Agus Prawiranata and Prime Minister Djuanda. These discussions led to a decision by the Working Cabinet under Prime Minister Djuanda to complete the Jatiluhur irrigation project and to assign the task to the Irrigation Office of the Department of Public Works.

As mentioned earlier, since the Jatiluhur Project involved two different kinds of activities done by two different organizations, synchronization became the main problem. In 1960 Abdullah Angoedi submitted a note entitled "Proyek Pangan dan Pembangkitan Tenaga Exploitasi Waduk Jatiluhur" (Food Project and Power Generating of the Jatiluhur Basin Exploitation). The statement further explained that the main problem in synchronization was in determining the water level and water supply. The note had the following objectives in mind:

a. To determine principles in irrigation construction planning as a follow-up of the Jatiluhur basin (dam) construction being realized under supervision of PLN.
b. To frame a basis for the exploitation of the Jatiluhur basin so that the accumulation of water with high costs could be utilized to the utmost.
c. As a reaction to the Coyne and Bellier Contractor's plan concerning the Jatiluhur basin works which arranged the discharge of water on a more constant water level.

The main problem was that for rice culture since the supply of irrigation water at a more constant water level all year long would be impossible. To secure the advantage of a good harvest of rice grown on dry rice fields it was deemed proper that the volume of water discharged during the East monsoon should be bigger because the water level at rivers was low while rain

could not be expected. The irrigation officials wanted precisely an unequal discharge of water in acoordance with the need of rice fields during the year. On the other hand, PLN preferred a more constant water level all year long for electric power generation.

These problems would continuously exert influence on the Jatiluhur project implementation although efforts were always made to increase harmony. During that period a series of events took place which influenced the decisions on the implementation of the Jatiluhur project. First, there was the exodus during 1958 to 1960 of Dutch experts after the nationalization of foreign enterprises and political affairs during Irian Jaya (West Irian controversy) and Indonesians had to take over the management of all jobs, including irrigation. The situation influenced the government's decision to take over project management and construction from 1960 onwards. This meant that the work was not assigned to a contractor; or if entrusted to the contractor's care, he just carried out a task which was part of the entire operational work. Contracts were concluded with local contractors and suppliers. The government in 1965 established a self-management system for the implementation of the irrigation project by setting up the following committees: 1) Jatiluhur Main Irrigation Project Command (KOPPINJAT) and 2) Jatiluhur Complementary Irrigation Project Command (KOPPELJAT).[8]

At this time the building and completion of the sports arena for the Asian Games competed with the Jatiluhur project, causing great difficulties in the acquisition of materials for the irrigation projects, such as cement and concrete iron. During the implementation of the Jatiluhur Project young technicians like Purnomosidi, Swasono, Sunaryono, Sarwoko and others played an important role in putting forward ideas concerning the system of management and methods of construction. For example, they introduced the use of a set of stones and a mixture of red cement, fine ground stones, limestone, chalk and sand for cement construction.

[8]Under Decree No. 45/KPTS/AIRDAS/1965 and Decree No. 35 KPTS/AIRDAS/1965 the Minister of Basic Irrigation, respectively.

The third problem was the more intensely felt effects of the deteriorating economic situation caused by inflation. Because of continuously increasing prices financial allocation based on estimates in the earlier plan could no longer meet the need to accomplish the physical targets. At that time the procurement system of financing was carried out through money allotments by each Ministry and the subsequent delays in financial releases caused a decline of activities, a less efficient result and a decrease of working quality so that time targets for the completion of the irrigation works could not be attained. The Jatiluhur main irrigation project was planned to be completed in three years ending in 1963 but up to 1963 only the irrigation subsystems in Walahar and Ciasem had been rehabilitated. Communication between the electricity and the irrigation sides to improve coordination in the context of the Jatiluhur multi-purpose project had produced, among others, a frame of hydraulic structure for an irrigation system adapted from the system earlier applied in the construction of the main dam, particularly for the Curug dividing main dam.

Meanwhile, Abdullah Angoedi replaced Agus Prawiranata as Head of the Irrigation Office in 1964. In its development it was apparent that at the earlier stage of the irrigation project implementation the role of certain individuals (e.g., van Schravendijk and Agus Prawiranata) was important. But at a later stage the role of other experts in the decision-making and management of the project became more evident. For example, when Dutch irrigation experts left, young Indonesian technicians came to occupy more important posts.

Another implementation problem was caused by inadequate consideration given to the financial aspects during the planning stage. Feasibility studies emphasized the technical aspects and ignored the need for accurate economic calculations. This was further complicated by the mounting inflation since 1957. It is noteworthy that not a single economist was involved in the course of implementing the Jatiluhur project. Aside from several problems previously mentioned, there were other factors which influenced the decision to continue the Jatiluhur project,

either relating to its electricity or irrigation aspect. There was an objective need to increase electric power, although ideas had developed toward a more balanced development of hydro and thermal power generation. As noted earlier, the Jatiluhur Electricity Project was still considered a priority project by the government.

An urgent objective factor in the field of irrigation was the increasing critical food situation. Between 1960 and 1966 the average rate of increase of food production was 2.2 per cent annually, a smaller rate compared with the rate of population growth. Moreover, there were the recurring devastations caused by floods (nearly once in two years) on rice fields in areas covered by the Jatiluhur irrigation system. For instance, serious damage caused by the big flood in 1962 influenced the government's decision to pay more attention to the Jatiluhur irrigation project despite limited financial and material resources.

The importance of Jatiluhur irrigation system may be seen in the increase of acreage of dry field areas irrigated since the project was started:

Year	Acreage of dry ricefields	Increase of acreage compared with the acreage in 1960
1960	30,000 hectares	—
1961	49,000 "	19,000 hectares
1962	58,000 "	28,000 "
1963	70,000 "	40,000 "
1964	65,500 "	35,500 "
1965	65,600 "	35,600 "
1966	77,900 "	47,900 "
	Total	206,000 hectares

The regional aspect which was felt by the irrigation sector was more or less not encountered by PN Jatiluhur, because the output was sold to PLN, and consequently the transmission and distribution of electricity to regions became the concern of PLN. The regional allocation of its electricity generating capacity of 180,000 KW would be: 90,000 KW for Jakarta through Cawang,

and 60,000 KW to Bandung and its surrounding areas through Cigareleng. In 1968 the Jatiluhur project was placed under the jurisdiction of the Department of Public Works and Electric Power. However, this change did not create important changes in the PN Jatiluhur operations. Its Board of Management, for example, did not undergo any change.

To utilize water of the Jatiluhur basin with the aim to ensure the irrigation of 240,000 to 260,000 hectares of agricultural lands, the following irrigation works and channels were planned and implemented:

1. **Curug main dam**
   Built on the Citarum river which would become the center of the Jatiluhur irrigation system. The Curug dam was to receive the discharge of water from the Jatiluhur basin and further distributed to rice fields on the Eastern, Northern and Western part, each covering an area of about 80,000 hectares.
2. **Main Channel:**
   (1) East Tarum from Curug to Salamdarma as long as about 67 KM.
   (2) West Tarum from Curug to Bekasi as long as about 70 KM.
3. **Dams:**
   Bekasi, Ciasem, Cibeet and Cikarang to increase the efficiency and capacity of the whole irrigation system by gathering the water levels of rivers involved.
4. **Complementary dams such as:**
   Watergates, siphons, bridges and others at the East and West Tarum main channels, numbering 142 and 150, respectively.
5. **Road for supervision.**
   Along both main channels which later could be used for the public.

C. The Need for Closer Coordination: 1966-1970

From 1966 to 1970 there were conditions which influenced the course of development of the Jatiluhur Irrigation project implementation, especially the strong need to harmonize irriga-

tion with electricity. Meanwhile, the dam tower was completed in 1964 and the tower served as spillways and irrigation intakes. The main dam itself was completed in 1965. Thereafter, the irrigation works concentrated on the construction of the main channel, the Curug dividing main dam and other dams as well as the primary, secondary and tertiary irrigation works.

The main difficulty emanated not only from the differences in their operational organizations but also in the fact that different Ministries had jurisdiction over them. From 1964 up to 1966, Jatiluhur was under the Ministry of Electricity and Power (under Setiadi Reksoprojo and later, under Brigadier General Hartono) and the Ministry of Basic Irrigation (under Minister F. C. Harjosudirdjo). Meanwhile, the tertiary irrigation system was under the Village Irrigation Office of the Department of Home Affairs whereas regional governments administered irrigation organized by the people. Fragmentary and conflicting jurisdictions seemed to characterize the administration of irrigation. From 1966 to 1968 the Jatiluhur Electricity Project came under the jurisdiction of the Department of Basic, Light Industries and Power.

Another implementation problem which affected the development of the Jatiluhur Irrigation project was the disruption in government operation caused by the deterioration of the economic situation through inflation. In addition, there was no plan to sychronize the relationship between the plan itself and the budget. Estimates or calculations became more difficult as a result of inflation and unlike the electricity project, irrigation did not receive any foreign financial assistance.

A more serious problem felt during the implementation was the involvement of the regional governments in irrigation matters. As explained earlier, some fields of irrigation, namely, village irrigation and irrigation organized by the people, were the concern, respectively, of the Department of Home Affairs and the regional governments. Moreover, it was intended that in the future water charges would be levied on the use of irrigation. The output of the Jatiluhur project will go to two regions:

namely, West Java, and the special territory of Jakarta Raya, particularly in the supply of electricity and drinking water. It was felt that regional interests should be considered in decisions on the implementation of the Jatiluhur project.

In view of the problems mentioned earlier, an overall re-evaluation of the Jatiluhur irrigation project was initiated by Sutami, appointed Minister Coordinator of Public Works and Power (comprising the former Department of Electricity and Power and the former Department of Basic Irrigation).[9] The evaluation focused on (1) the reformulation of objectives of the irrigation project in the context of the Jatiluhur multi-purpose program, (2) the evaluation of the result of construction works until 1966, and (3) the identification of problems and difficulties and the formulation of the next operational plans. This was intended to gain the support for the completion of the Jatiluhur irrigation project. Several economic calculations and implications were also put forward, including the planned efforts to arrange the operational work.

During the period between 1966 and 1970 the implementation of the Jatiluhur irrigation project was supported by new policies of the Indonesian Government. Implementation of project was based on new working systems in which priority scales and economic analysis, financial feasibility, and technical evaluation among others, were considered. Secondly, budget and financial planning was done consistent with the physical plan. The high rate of inflation in 1966 was gradually controlled, enabling the government to make more definite financial estimates and calculations.

There was a favorable economic factor which spurred the completion of the Jatiluhur project as soon as possible. The government since 1966 paid primary attention to the problem of increasing food production. Hence, the problem of irrigation became vital and the Jatiluhur irrigation project became a factor in exploiting a major agricultural potential for Java.

[9]Department Pekerjaan Umum, "Proyek Pengairan Jatiluhur" (Department of Public Works, "The Jatiluhur Irrigation Project"), 22 September 1966.

Another development during this period was the effort to create better coordination between irrigation and electricity through organized and integrated program of activities; that is, each became components of the Jatiluhur program which was multi-purpose in character and comprising electricity, irrigation, agriculture, forestry and regional government.

This process of integration was influenced by developments abroad on multi-purpose project implementation; for example, the introduction of a new technology for the planning and design of a river basin system. Susanto Sudibyo was one of those experts who brought out these ideas in government circles. Studies developed between 1968 and 1970 led to the idea of creating an "authority" to encompass the field of electricity and irrigation as well as regional and agricultural elements. Similarly, the World Bank which would provide the aid to the Jatiluhur project, also suggested the authority idea. Thus, the PERUM OTORITA JATILUHUR (State Enterprise of the Jatiluhur Authority) was finally established in 1970.

V. THE "JATILUHUR AUTHORITY"

An important development which involved irrigation but also had a great deal of influence on the Jatiluhur electricity project were the efforts to intensify work on the Jatiluhur irrigation project. Negotiations were held at the level of the Central Government with the World Bank on the credit aid intended to rehabilitate the irrigation project. To efficiently utilize the allocation for the Jatiluhur project from several sources, Central Government officials looked for sounder principles on which to base the Jatiluhur project operation and which would be appropriate to its multi-purpose character. First, it required an organization which would coordinate all electricity and irrigation activities and second, the organization had to cover the regional aspects as well.

As noted earlier, a Presidential Decree was issued in 1970 which established the State Enterprise of the Jatiluhur Author-

ity.[10] In view of its inter-departmental character, the enterprise was placed under the authority of the State Minister for Economic, Financial and Industrial Affairs rather than under the Department of Public Works and Electric Power or the Department of Agriculture. Another rationale for the establishment of the Authority was that the enterprise would be able to finance itself in the future. Nevertheless, coordination, especially in the financial field, could not yet be fully achieved for some time. While the electricity side could fully finance its own operations irrigation still needed substantial financial assistance from the government budget. In the future a water charge system would be developed for the use of water from Jatiluhur Authority.

VI. ANALYSIS AND INTERPRETATION

It is difficult to draw any specific conclusions from the study on the implementation of the Jatiluhur program. However, it is possible to note several basic tendencies discernible in the implementation process.

1. Leadership in Program Formulation and Implementation

The first basic tendency is that at the initial stage of the Jatiluhur project development the leadership role of some persons was important and decisive. With respect to the formulation of ideas which led to the project it may be noted that Blommestein, Sediatmo and Schravendijk played important roles. However, Sediatmo appeared to have made a more significant contribution since he was mainly responsible in having the program accepted by the government in view of his leader-

[10]The composition of the Board of Directors was as follows: Srigati Santosa, Chairman; Masduki Umar, Director of Electricity; Ulama, Director of Irrigation. It should be noted here that Srigati Santosa acting as Secretary General of the Department of Public Works and Power had played a big role at the initial stage of the Jatiluhur project development by his effort to synchronize electricity (Sediatmo) and irrigation elements (Agus Prawiranata and Schravendijk) in the years 1955-1956. Later, Sediatmo held the post of PLN Director and afterwards member of BPU PLN (Board of Directors of PLN) between 1960-1965.

ship role at the early stage of the work. He also made decisions which were, to some extent, controversial at that time. For example, he took the initiative in setting up the organization for electricity and in assigning the work to a contractor of his own choice.

He was also able to elicit significant support from political decision-makers; first, from Moh. Hassan, Minister of Public Works and Power, and afterwards, from Prime Minister Ali Sastroamidjojo and Djuanda, and later President Soekarno. Indeed, in the development of the Jatiluhur project the implementation of the electricity side showed more initiative. On the other hand, the irrigation side showed, from the beginning, a strong determination to take care of its interest in the context of the multi-purpose program. In this regard, van Schravendijk, Agus Prawiranata and Abdullah Angoedi played important roles during the critical initial stage. In its further development it appeared that the role of a number of persons who applied an orderly management system was more discernible. One of the many aspects of leadership during the process of implementation was the role of those who tried to bridge the differences of interest between electricity and irrigation. This role was often performed by the government itself, e.g., Department of Public Works and Power, particularly Srigati Santosa.

2. Organizational Structure

The second main implementation problem was the multipurpose character of the project which necessitated coordination of different activities in one organization. This was not carried out in the beginning. The electricity part did its own work and so did irrigation, although now and then both interests were synchronized. For some time during the implementation period, electricity organizations were placed under the sphere of authority of a department which also supervised irrigation organizations. But between 1964 and 1966, two separate departments assumed the jurisdiction: the Department of Electricity and Power and the Department of Basic Irrigation although both

agencies were later placed under the jurisdiction of a Minister Coordinator. In 1966 up to mid-1968 electricity became the concern of the Department of Industry. Thereafter, electricity and irrigation belonged to one department.

In the field of irrigation itself there existed different managerial authorities; namely basic irrigation under the Department of Public Works, rural irrigation under the Department of Home Affairs and people's irrigation under the regional government. The management by different operational organizations and the frequent organizational changes had adversely affected the implementation process. From 1968 to 1970 a situation had developed which was advantageous to the integration of the organization considering the multi-purpose character of the program. First, since 1968 electricity and irrigation were placed under the jurisdiction of one Department, although Jatiluhur electricity project was already transformed into a state enterprise. The second was the development of the river basin system design with a multi-interest approach as a special technology. This new concept was very much appreciated by many technocrats and technicians in Indonesia. This development helped in the establishment of an integrated organization — the Jatiluhur Authority.

3. Formulation of Objectives and Targets

In the formulation of the objectives and targets of the Jatiluhur project in its entirety, several problems were encountered revolving on the issue of basic objectives caused by conflicting interests.

First, the setting of project objectives presented a complicated problem because of competing interests caused by its multi-purpose character (i.e., between electricity and irrigation). For instance, the choice of the dam site created a controversy as to whether the objective is to achieve electricity output or balancing the need for both electricity and irrigation. This basic conflict was resolved when efforts were made to synchronize the needs of these competing interests by fixing the water

level to attain a balance between electricity and power generation and the irrigation acreage of rice fields.

Second, in organizational terms, the failure to define objectives clearly led to problems of jurisdictions. Several government agencies representing different interests in the Jatiluhur project added to the difficulty in coordinating planning and implementation.

Third, the nature of support of important officials affected the project. The targets of the irrigation project, compared to electricity, did not attract much attention and this accounted for the frequent reformulation of targets, including the reassessment made in 1966. The assured financial support for electricity at the earlier stage emanated from strong political support. Later, the irrigation aspect of the project was beneficiary of strong political support after the crisis created by the food shortage.

4. Mobilization and Allocation of Resources

The support of influential political decision-makers for the Jatiluhur electricity project made available greater resources in the form of funds, personnel and materials. In contrast, less resources were allocated for the Jatiluhur irrigation activities at the beginning stage and even after it obtained the status of a national project in 1959. In the field of electricity the problem of manpower, funds and material resources was to some extent solved by the French credit aid since 1957.

On the other hand, the problem of limited resources was more seriously felt in the implementation of the irrigation project, often causing frequent delays in achieving targets. However, it was not until 1967 when, on the basis of a situation assessment in 1966, a plan was devised to allocate bigger resources to the Jatiluhur irrigation project. This was spurred by the food crisis and the subsequent high priority given to the program to increase food production within the framework of the government's economic development policy. In that year negotiations were started to obtain credit from the

World Bank to supplement the financing from the government itself.

Along with the shift in thinking to allocate bigger resources to irrigation was the awareness of the fact that the huge outlay of financial resources to the Jatiluhur electricity project in the past was harming the electricity development as a whole. As a result, a reallocation of resources to the whole electricity program was considered necessary, and this led to the construction of thermal power plants throughout Indonesia. The Jatiluhur electricity project was fortunate because in 1967 it had already started operating. As reflected by the change in its status from project to a state enterprise, the Jatiluhur electricity was already financially viable and could operate independently without any subsidy from the government.

5. The Management of the Economy and of Program

Another aspect which affected the development of the Jatiluhur project implementation was the manner with which the government managed the country's economy. In this case a quite clear difference can be seen between the period 1957-1966 and 1966-1970.

During the first mentioned period the management of economy went toward **etatism.** Almost all economic activities were either undertaken by the government itself or placed under its direct control. Undertakings were not based on thorough considerations of economic merit of benefit nor on the design of sound systems of priority. Political and other considerations were often used as criteria for giving higher priority to a project or undertaking. When an undertaking or project obtained political support from the government the allocation of financial resources depended on the efforts of those who wanted to have the project accomplished by the government rather than on sound technical, economic and financial analysis.

This situation was compounded by the deteriorating economic situation, especially the runaway inflation noted earlier. Since 1957 the Jatiluhur electricity project was fortunate

enough to have generated the sustained interest and support of high government decision-makers. Nevertheless, it was apparent that this attention and availability of huge resources for the Jatiluhur electricity project might have contributed to the neglect of other electricity projects which could have achieved a more balanced generation as well as regional distribution of electricity. It was not until later that broader concepts of priority-setting were developed.

Compared to the electricity project the Jatiluhur irrigation project had experienced greater disruption by the construction of facilities for the Asian Games which caused reductions in manpower, financial and material resources for the irrigation works. As a result, the irrigation project, which should have been started in 1959 and completed in 1963, was postponed until 1966 and 1967 when it was eventually carried out.

Starting in 1966, and more clearly in 1967, the government launched a system of administration which was aimed at **deetatism.** The government endeavored to act as agent of development by managing and directing development but not by directly intervening in each undertaking. Indirectly, the government tried to give guidance with the end in view of stimulating economic activities in the society.

In the government sector itself various changes had been made. In regard to program and project implementation, the government had made efforts to frame a sounder system of priorities which would enable a stage-by-stage steady development. Program and project planning was done on the basis of better technical, economic, and financial analysis and considerations. The State budget, especially the development budget, was directly related to the financing of activities or projects which could be justified in accordance with the priority scale as well as the achievement of targets at a given stage. It was intended that each activity should support the achievement of the development objectives; i.e., to be based on a clear working program and financed according to actual needs.

The improvement in the economic situation and the control of inflation improved estimates for physical and financial planning. The new system of the government administration under President Suharto influenced implementation. Soon after the completion of the Jatiluhur electricity project, a system of management was developed which would ensure stability of projects. Greater operational autonomy, especially after the Jatiluhur project became state enterprise in 1964, ensured the project's earning capacity.

Coordination and synchronization of electricity and irrigation interests continued to be a problem even during the period from 1967 to 1970. After many periodic meetings between the Directors of PN Jatiluhur and the Jatiluhur irrigation project, a mechanism was devised to solve this problem. The irrigation side presented a schedule of needed irrigation water to PN Jatiluhur and on that basis they adapted a scheme of water storage where the maximum interest of both sides was served.

During this period PN Jatiluhur succeeded in increasing its revenues considerably so that it could now cover all its operational expenses. This was mainly done through the receipt of traditional income; that is, through the sale of the electricity produced to PLN. The price of the electricity sold was determined in meetings between PLN and PN Jatiluhur under the coordination of the Directorate General of Electricity and then stated in a letter of agreement. The price in 1967 was first fixed at Rp 0.45/watt and this was increased later to Rp 1.05/watt in 1969. In addition, PN Jatiluhur also performed the function of contractor and technical consultant in industrial development in the Jatiluhur area and its surroundings. Another source of revenue was related to the development of tourism. It is worth noting here that in 1968 the Government ceased to give any subsidy to PN Jatiluhur.

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THAILAND

BANGKOK'S METROPOLITAN IMMEDIATE WATER IMPROVEMENT PROGRAM

Chakrit Noranitipadungkarn

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BANGKOK METROPOLITAN IMMEDIATE WATER IMPROVEMENT PROGRAM

Chakrit Noranitipadungkarn

A. BACKGROUND: PRELUDE TO PLANNING

The 1960's saw an unprecedented growth of Thailand's capital city of Bangkok-Thonburi. The size of this primate city expanded from 96.4 square kilometers and a population of 1,622,000 in 1958 to 141.5 square kilometers and a population of 2,717,000 in 1968.[1] This rapid growth has brought about complications and overwhelming requirements for people in Bangkok and at the same time challenged the capacity of the government to provide adequate services to meet the needs of residents. Among the basic services which the government has to provide is water supply.

The first treated piped water was made available to Bangkok inhabitants in 1914. Since then, extensions were added from time to time. However, water supply requirements soared above the existing capacity of the waterworks authority and this led to a great deal of serious criticism against the authority and the government. The residents of greater Bangkok area blamed inefficiency and corruption as root causes of the inadequate water service and manifested their discontent and frustration in a number of ways: emotional outburst, satire, suggestions, petitions and even prayers.

At the height of the crisis in 1967, the Metropolitan Water Works Authority (MWWA) was able to produce 327,262 cubic meters of water per year[2] to serve 205,700 clients. The water available to the clients was far below the average or standard

[1]Litchfield Whiting Bowne & Associates, **Greater Bangkok Plan 2533** (2nd ed.; Bangkok: Kanachang Co., Ltd., 1964), pp. 22-23.

[2]MWWA Research Division, "Statistics on Water Production of MWWA During the Years 1914-1971." (Mimeograph).

requirement of 1,600 cubic meters per client per year. The shortage of available water led to an unavoidable scrambling among residents. Worse, there were still areas within the municipal boundary and in the growing suburbs not yet covered by the service.

This lack of adequate supply and effective service indicates poor planning and implementation in coping with the changing needs of the society. Much of the time lag was caused by the notorious Degremont case,[3] which deterred government authorities from tackling the water supply expansion problem for almost five years. This large expansion project of the Bangkok-Thonburi water supply, which was planned to improve the service in 1964, turned out to be insufficient to the increasing demand. The improper handling of construction work — slow, negligent, and expensive — induced charges of corrupt practices against high-level officials in the government, as well as doubts as to the efficiency of the Public and Municipal Works Department (PMWD), to which the Division of Bangkok Water Supply was formerly attached. Public dissatisfaction was so strong that the government took very great care in planning the next action to improve water supply.

It was not until 1966 that the Cabinet under Marshal Thanom Kittikachorn decided to take steps towards reforms in the capital. The National Economic Development Board (NEDB), perturbed by the inadequate infrastructure facility to support economic and social development in the national capital, proposed the creation of a national committee. The committee, chaired by the then Deputy Secretary-General of NEDB, Professor Chamras Chayapong, was to study the situation and the problem of water supply in the Bangkok Metropolitan area and to propose a plan of action.

The first recommendation of the committee was the reorganization of the agencies which provided water to the metropolitan area. There were then four waterworks systems which

[3]The Degremont case was a turn-key type of project. Thus, it was difficult for the government to supervise its operations and to coordinate its construction with road repaving works.

provided service to the four contiguous cities of the greater Bangkok area — Bangkok, Thonburi, Nonthaburi and Samutprakarn. The Cabinet agreed to consolidate them in order to reduce cost and increase efficient operation.[4] Another assignment given by the Cabinet to the committee was to determine the type of studies and recommendations for improvement which should be made. The committee later decided to select a firm of consulting engineers to make the feasibility studies.

It took the committee some considerable time in 1967-1968 to evaluate 59 proposals of engineering firms from 13 countries before making a final selection. A contract for preparing a master plan for water supply and distribution was awarded to Camp, Dresser and McKee (CDM), an American firm from Boston, to start work in June 1968. It was to be the first detailed plan for future growth in more than 50 years in the history of the Bangkok Metropolitan Water Works Authority (MWWA) and the first to be drafted by a firm of experts. The recommendation for the management improvement of the MWWA was also required under the terms of reference.

The Bangkok MWWA as it stood in 1967 was in a critical condition. On the one hand, it was just a new single unit which waited for sound direction for improvement. The process was painstaking and time-consuming. Although determined in its development effort, the MWWA could not proceed with its work without an effective plan and authorization for action. On the other hand, demand for water was steadily increasing despite the extension of water service to some areas for the past ten years. The pressure was somewhat alleviated when some residents, disgusted with the unsatisfactory service, decided to provide their own water supply by constructing their own ground water wells.

The master plan would involve the construction of major facilities and a comprehensive reorganzation of the MWWA administrative system to cope with the rapidly changing situation and the increasing congestion of the Metropolitan service

[4]MWWA Act B. E. 2510, Royal Gazette, Vol. LXXXIV, Section 75, August 15, 1967.

area. Implementing the plan required a large amount of investment funds to be obtained from internal and external sources. The extensive survey, forecast, calculation and planning for the next thirty years' service were contracted to be finished in 18 months. By that time the water problem in the Bangkok Metropolitan service area would have aggravated to a point where the public concern might pose a political threat to the government. After the master plan was finished, it was estimated that several more years would be needed to complete the first phase of the project for water supply improvement. As an interim measure, the committee asked the consulting engineering firm to give urgently needed advice on a short-term improvement plan.

It is interesting to note that after many years of neglect, the Cabinet felt obliged to assign the responsibility of policy planning for improvement of the Metropolitan area water supply to a higher level authority, and on a collective basis. The Committee's inter-departmental composition was expected to facilitate coordination and ensure acceptance of the proposed development program. The committee felt confident that the technical ability of the consulting firm would result in the formulation of a reasonably suitable operations plan. Thus, adoption of a short-term improvement program was seen as a means of blunting the continuing criticism regarding the lack of initiative for improvement, there being considerable suspicion after the Degremont case.

In February 1969, after seven months' work, Camp, Dresser and McKee presented a package of recommendations through its "Preliminary Report on Water Supply and Distribution." It suggested immediate action to cope with the interim water shortage and recommended that this work be completed within two fiscal years. The recommendation was accepted by the committee and the MWWA Board although the implementation of the recommendations took a longer time and cost more money than had been expected.

This paper focuses on this package of recommendations comprising what may be termed as "The Immediate Water

mprovement Program 1969-1970."[5] Questions were raised 'egarding the nature of the program and its planning since both :omponents would have an influence on achieving implementa- ion targets. Other relevant questions raised were: 1) What vere the crucial factors which contributed and/or inhibited ;uccess in implementing and achieving program goals? 2) What :xperiences could be drawn from studying the program?

This study also focuses on the following factors considered mportant in implementation: (1) management technology, (2) objectives and targets, (3) resources, (4) organizational ;tructure, and (5) leadership. This study assumes that dis- :repancies between plan objectives and targets and actual ıccomplishment may be attributed to timing and change during :he implementation process.

B. THE PROGRAM TO BE IMPLEMENTED

The immediate water improvement program was not recom- nended to the Metropolitan Water Works Authority in the form)f an action-oriented administrative program nor did it involve najor expansions. Rather, it consisted of a package of recom- nended measures to satisfy the single objective of providing naximum water supply to clients within the shortest period)f time and with a minimum of disruption to the existing 'acilities.[6] However, the report also contained targets for each)peration, the estimated costs of operation, some details of mprovement needed, and a general statement of the com-)lementary activities required by the main program. The MWWA administration was given the responsibility to work out :he specific details and procedures.

As an emergency plan, the recommendation's objective was not to solve the whole problem of water shortage in the area but only to ensure that a reasonably adequate supply would be

[5]A program is defined here as a set of inter-related activities designed to achieve specific objectives or purposes. **EROPA Research Project Design on Implementation: The Problem of Achieving Results.** (Mimeograph)

[6]Camp, Dresser and McKee, **Organization and Administration of the Metropolitan Water Works Authority**, February 1969, pp. i and ii.

made available to satisfy the minimum requirements of the cities of Bangkok, Thonburi, Nonthaburi and Samutprakarn up to 1975. Thus, it should be realized that complaints about water shortage could not be entirely eliminated even if the program achieved its goal since the program was merely intended to keep a bad situation from becoming worse. Four major measures or projects were to be undertaken to arrive at such an elusive goal: first, the improvement of surface water and water treatment plants; second, the development of groundwater; third, the detection and repair of leakage from pipes; and, finally, the improvement of water metering.

Two-thirds of the water supply produced in Bangkok-Thonburi (598,000 CMD) was surface water. The surface water was treated at the two plants — Samsen and Thonburi. With advanced engineering techniques derived from the expertise of the consulting firm the water supply could be further increased to a higher capacity. Camp, Dresser and McKee also saw the possibility of an increased water supply from groundwater wells. Groundwater accounted for one-third of the total water supply produced in Bangkok and Thonburi and all the municipal water provided in Nonthaburi and Samutprakarn.

According to CDM's survey,[7] 65 percent of the water produced in Bangkok and 80 percent in Thonburi were unaccounted for. Several places were unmetered. Leakage from the distribution system and service pipelines reduced the volume of the water available to users. Illegal water connections were suspected in many places. Defective meters increased in volume in the service area, resulting in greater temptation to over-use water. There was an urgent need to stop these abuses to ensure the achievement of the overall development goal. The newly-created MWWA would carry out some of these functions and some would be contracted to private firms. The consulting firm considered that the implementation of this recommendation would generate an additional 362,000 cubic meters, or a 42 per cent water increase per day and another intangible increase in the water supply available to the clients through the

[7]Ibid., pp. 11 and 14.

reduction of wastes in the main distribution system. This could be achieved with a minimum cost of around 92,600,000 baht.

The breakdown of targets and needed financial resources proposed follows:

Project	Contents	Targets
One	Water production increase from raw surface water	145,000 CMD*
Two	Water production increase from ground water 131,000 CMD from deep wells 86,000 CMD from shallow aquifers	217,000 CMD
Three	Leakage detection and repair of main and distribution pipelines	99.70%
Four	Repairing or replacing defective water meters	120,000 pcs.

*This figure was for the improvement of only nine water treatment plants, but later the MWWA decided to improve all the ten plants, bringing the new water increase up to 168,000 CMD.

Project	Total Cost	Fiscal Year* 1969	Fiscal Year 1970
One	31,000,000	8,500,000	22,500,000
Two	19,500,000	4,500,000	15,000,000
Three	8,900,00C	8,900,000	—
Four	33,200,000	18,100,000	15,100,000
Baht	92,600,000	40,000,000	56,900,000

*Fiscal year runs from October to September of the next year.

It is interesting to note that the time, the cost and the achievement of targets, which are considered the necessary components of an effective implementation of the plan, were quantitatively stated by the planners.

C. THE TECHNOLOGY OF IMPLEMENTATION

Implementation of the program, however, could not be immediately and simultaneously launched, since it was not an action-oriented program. Instead there were different features in the recommendations which would have to be considered — and treated — differently. At least, detailed planning had to be worked out for each of the projects.

The improvement of a treatment plant was a large short-term project, while metering improvement appeared to need a longer time to accomplish. While both involved huge investments, they would tax the MWWA resources differently. While the MWWA could delegate such a responsibility for a large construction to a private contractor it could hardly do so with the metering project. Once objectives were accomplished in the first round, the implementation of the metering projects as well as the leakage detection and repair project had to be taken over by the service and maintenance unit on a routine basis. Thus, new organizational arrangements were required to effectively cope with these functions. The improvement of the treatment plan and the deep-well system were construction projects. The MWWA had prior experience in these types of projects since they were used extensively in previous years. For instance, construction techniques and process as well as cost estimates appeared to have been standardized. However, they had no experience in enlarging the capacity of existing plants since this required new technical and administrative details and studies.

As a consequence, the MWWA authorities had to review and approve each recommendation on a case-to-case basis and the assignment of detailed planning was given separately to different organizations or parties concerned. After such planning was finished, it was then sent up the line of hierarchy for project approval, budget request and authorization for action. (See diagram showing the process of implementation of this Immediate Water Improvement program.)

Despite the enthusiasm for modern planning, the consulting firm was not able, given the pressing circumstances, to introduce realistic program planning or project management to the MWWA. As a result, hope for any concerted efforts to be carried out to achieve the single objective of the emergency plan as outlined in the preliminary report faded. The MWWA implemented it functionally and without recognizing that simultaneous attainment of the objective was necessary. Not only had the MWWA insufficient time to spend in working out the single action program but the very structure of the then existing organization was not conducive to this line of action. Understandably, it had foregone, for example, any network or critical path analysis to have the four projects programmed and/or budgeted as a single program. There was, therefore, no relationship in the timing of the activities. Considering the many steps involved in the process of detailed planning and project implementation, it was quite obvious at the outset that the two-year period of implementation implied in the proposal was difficult to attain.

The report containing the recommendation was presented to the MWWA in February 1969, with only nineteen months remaining for detailed planning and implementation. In the absence of time schedules in the implementation process, each step or phase of work could not be done with ease and without being pressed. Without appropriate programming and accompanying timing, objective achievement would undoubtedly vary independently. There were, moreover, changes in the process of detailed planning and implementation which would consume more time than had been conceived originally. First, the attempt to utilize water from shallow aquifers to feed the Thonburi treatment plant failed after the test survey proved unsatisfactory, i.e., the water was too salty.[8] Second, there were at least two to three months delay before detailed planning of an alternative project was completed, i.e., the construction of a second pipeline conveying raw water from the Samsen and Bang-

[8]The water from the shallow aquifers was intended to feed the Thonburi Treatment Plant which at that time operated only at half capacity. The total production capacity of the plant is approximately 200,000 CDM.

khunthien canals to be treated at the Thonburi Plant. Third, a change in the estimated number of defective water meters to be replaced also caused an increase in the magnitude of the metering improvement project and added more complexity and time delays in implementation.

The courses of action of the program which varied from project to project, all went beyond the time limit of September 1970 implied in the original CDM proposal. In project one, a sub-committee of the MWWA Board was appointed to negotiate with Camp, Dresser and McKee, the provision of engineering designs and specifications for the improvement of canal water and treatment plants and assistance in supervising the construction work. The Cabinet approved the request. The bidding management was handled by the MWWA personnel and the award for construction was given to three private construction firms. The work was to be finished on September 29, October 23 and December 17, 1971, respectively.[9]

Project two was divided into two parts — deep wells and shallow aquifers. In the case of deep wells the work was simply passed on by the high MWWA administration to its Engineering Division. The division was responsible for drawing the detailed plan, the design and the specifications, and award was given through bidding to each individual contractor to carry out the construction. The shallow aquifers first called for specific location tests with the assistance of the Public and Municipal Works Department. When the result was unsatisfactory, the Engineering Division proposed an alternative project to construct the 13-kilometer main pipeline from Samsen Canal to the Thonburi plant. The division then drafted the detailed plan, the design and the specifications. Construction award then followed in the same manner as the above projects.

In project three, the leakage survey and repairs recommendation was referred to the Engineering Division which communicated closely with the consulting firm's affiliate, Pito-

[9]MWWA Letter No. 2873/2515 to National Institute of Development Administration.

meter Associates, in preparing the new organizational arrangements as well as the training of personnel to fit them. Pitometer operated the first round of detection and repair and at the same time assisted in the on-the-job training of some of the MWWA personnel who would be designated to take over this function. Two new units dealing with leakage were created and implementation of the project was transferred from the consulting firm affiliate, Pitometer Associates, to its own MWWA units.

In project four, the meter improvement recommendation was sent to the Water Meter Division, which then worked out the project proposal. This was a long-term development project, which was subject to review by the NEDB and approved by the Cabinet. The MWWA finally decided, through the advice of the NEDB, to set up a new program organization to carry out the crash project on meter improvements, the completion of which would probably not come until 1976.

The terms of agreement in the construction contract always specified the MWWA payment for each installment whenever the stipulated work was completed. There were also supervising engineers to see to it that work was carried out in accordance with the specifications. These two provided the satisfactory effective mechanism for control. On the other hand, the work which had to be carried out mostly by MWWA personnel was much more difficult to enforce and this will be discussed later in this study.

D. THE GOAL OF ACHIEVEMENT

The emergency nature of the program necessitated the limitation of goal aspiration to only "more water availability to the consumers of the metropolitan area." The technicalities did not permit the consulting engineers to suggest a drastic improvement measure ample enough to cope with all the demands in the metropolitan area. This would involve designing a rather completely new and expanded metropolitan water works system. The immense growth of population and the

sprawling of the urban area during the past several decades had outpaced the suitability of the existing system of water production and distribution.

Nonetheless, quantitative targets set to guide and evaluate achievement of goals were attempted by Camp, Dresser and McKee in their preliminary report. Their information, compiled during seven months of work, was based on review of reports, interviews with MWWA and MPWD officials, inspection of location and plants, and sample surveys. It is possible to fix most of these targets by the engineering designs in terms of the production capacities. By stating that the improvement had to be financed by the 1969-1970 budgets and leaving out all the necessary time scheduling for program implementation, CDM meant that the time dimension of the program could be rearranged to suit existing conditions. And yet when the MWWA worked out their own new time schedules, only half of the program could be completed in time. The discrepancies are shown in the next page.[10]

Some observations should be made on the targets and the timing schedules appearing in the table. The revised targets were set after the preliminary survey was again made by the MWWA operating division to review the basic data before writing the plan for action. While the targets for the surface water and treatment plant improvement, the deep well development, and the leakage detection and repair remained relatively constant as calculated by the consulting firm, the target for water metering improvement was rather elusive and uncertain. This was partly due to the difficulty in surveying the whole water meter system and to unanticipated changing conditions. The Meter Division itself estimated that while detailed planning was being prepared, about 900 to 1,000 water meters more became defective each month.[11]

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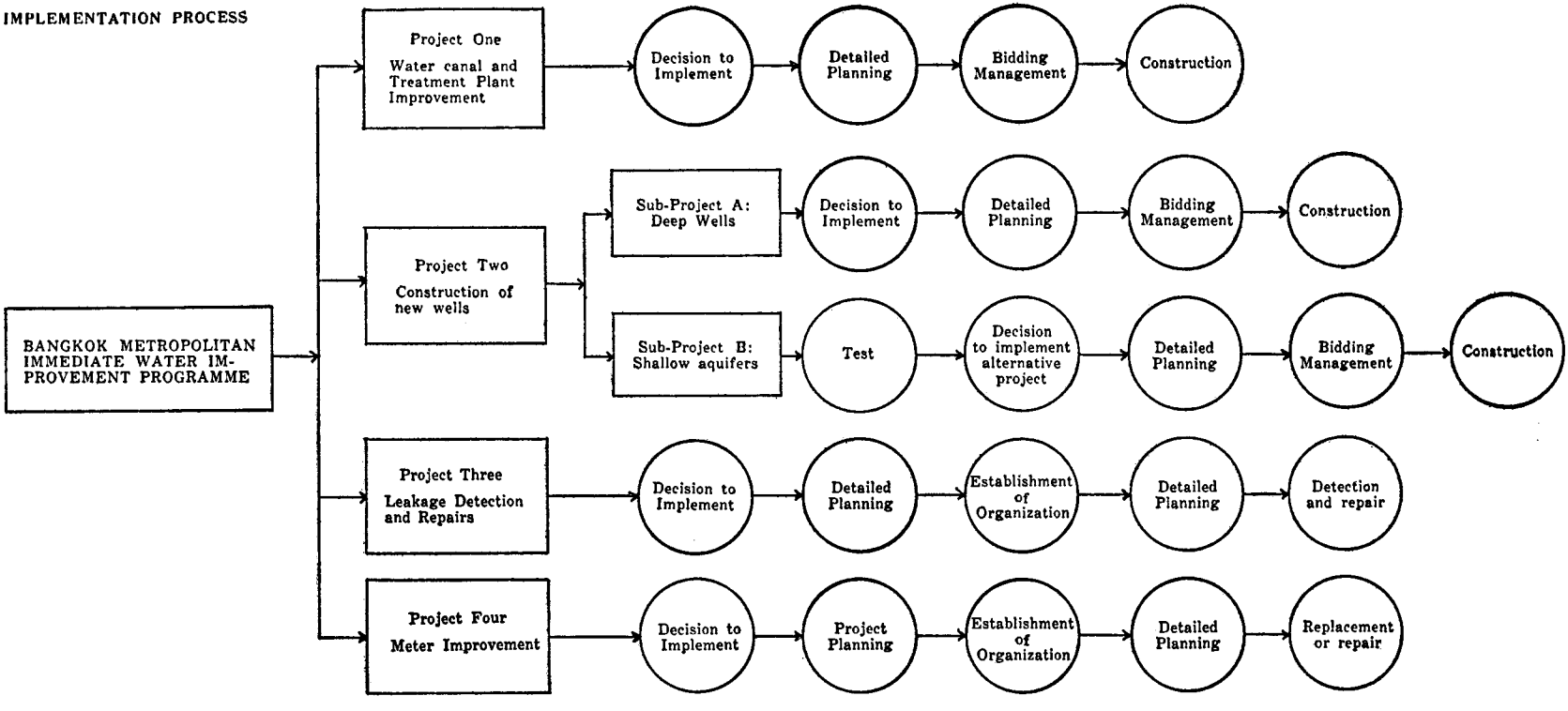
[10]Based on Camp, Dresser and McKee, **op cit.**, from an interview with MWWA Chief of the Research Division, and MWWA Letter No. 2873/2515 to the National Institute of Development Administration.

[11]MWWA Water Meter Division, "Meter Improvement Project B. E. 2512-2515," p. 2 (Mimeograph).

		Project One Surface Water and Treatment Plants	Project Two A Deep Well	Project Two B Shallow Aquifers	Project Three Leakage Survey and Repair	Project Four Meter Repair and Replacement
Numerical Target	Proposed	145,000 CMD	131,000 CMD	86,000 CMD	completion of the 99.70% of all main pipelines	120,000 pcs.
	Reset	168,000 CMD	131,000 CMD	86,000 CMD	99.70% of all main pipelines	150,000 pcs. then 210,000 pcs.
	Achieved	168,000 CMD	131,000 CMD	86,000 CMD	99.70% of all main pipelines	24,138 pcs. at July 1972
Timing	Proposed	30 Sept. 1970	30 Sept. 1970	30 Sept. 1970	30 Sept. 1970	30 Sept. 1970
	Reset	29 Sept. 1971 23 Oct. 1971 17 Dec. 1971	In the year 1969 Dec. 1971	10 Sept. 1971		30 Sept. 1972 30 Sept. 1976
	Achieved	June 1972	In the year 1970 Dec. 1971	25 Oct. 1971	30 Sept. 1970	Only 12% achieved in July 1972

Note: The 0.30% of Detection and Repairs work had been carried out by Pitometer Associates as the pilot test. After completion of the first round of detection and repairs, the work continues on a regular basis. One round of operations takes about 5 months.

IMPLEMENTATION PROCESS



The water meter improvement project also suffered from the formalities and red-tape involved in transmitting the project for approval, in organizing the work teams, and in devising the method of operation. Hence, the proposed first four-year plan (1969-1972)[12] could only be implemented during the second year of the plan. It should be noted that at the initial period the MWWA could not make up for the work which has been foregone during the first planned year. Soon, the meter improvement authority found it necessary to revise this project into a new five-year plan[13] to synchronize it with the Third National Economic and Social Development Plan (1972-1976). The magnitude of the project and the funds required was again revised and calculated. It was only in late 1972 that the implementation of all projects, except the water metering improvement project, was completed and brought the total capacity of water production to a new high of 1,200,000 cubic meters per day.

E. THE FINANCIAL INPUT

The implementation of this immediate improvement program according to CDM estimate would cost 92,600,000 baht. In recommending the improvement the consulting engineers tried to minimize the cost of investment by recommending a low-cost shallow aquifer project instead of constructing a 13-kilometer long raw water pipeline from Bangkok canal to feed the Thonburi Treatment Plant. They were aware that the financial status of the MWWA had been in a critcal condition throughout its existence. The MWWA had never recovered from continuous financial losses in their past operations and had to rely heavily on government subsidy. The following figures show how its financial statement stands after its inception in the year 1967.[14]

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[12]Ibid.

[13]MWWA Water Meter Division, "Meter Improvement Project B. E. 2516-2519." (Mimeograph).

[14]MWWA Research Division, "Receipts and Expenditures of the MWWA During 1963-1971." (Mimeograph).

Fiscal Year	Revenue	Expenditures	Annual Subsidy
1967	41,918,820.65	350,835,949.16	308,917,128.51
1968	59,880,484.57	152,490,144.61	92,609,660.04
1969	72,537,252.14	259,073,481.50	186,536,229.36
1970	79,188,578.67	220,384,102.12	141,195,523.45
1971	82,512,746.44	251,044,755.54	168,532,009.10

Many factors contributed to the MWWA's financial troubles for several years — poor financial and accounting system, unpaid bills, broken water meters, poor personnel recruitment, low morale, high cost of operations, and differentiated water rate structures, the major portion of which was below the cost of water production.

Despite the poor financial status of the MWWA, the Thai Government, with the strong support of the Chairman of the Improvement Committee, found it extremely important to finance the program since water shortage in the metropolitan area could lead to a new chaos which will further affect the image and status of the government. While the feasibility studies were being planned and conducted, the national committee and the MWWA were informed that they should request funds to be used in the emergency program. The Budget Bureau agreed to the request and allotted the initial amount of 40,000,000 baht of development fund to the MWWA in the financial year of 1969. The developmental budgets for the following years were also granted by the government.

However, due to some complicated procedures involved in preparing the detailed plan of action for each project, a partial amount in the 1969 budget was spent only for the establishment of two working units in charge of detection and repair of leakage and for the construction of a number of deep wells. The following years saw the funds being used to improve surface water, the Bangkok Treatment Plant, the construction of a pipeline from Bangkok to Thonburi and the construction of

additional deep wells. The meter improvement project could not proceed without the approval of outside bodies (e.g., the NEDB and the Cabinet) and this approval was finally given in 1971. The first allotment of funds, amounting to 32,400,000 baht, was immediately used to finance the implementation of the first phase, i.e., the purchasing of a number of new water meters and the setting up of the operating unit to install and repair the meters.[15]

The time spent by the MWWA in reviewing the meter improvement project resulted in its lagging behind in implementation compared to other projects in the same program. At that time the funds proposed for the meter improvement project was around 74,800,000 baht, an amount which already exceeded the estimate contained in the preliminary report of the consulting firm. When the meter improvement project was again revised in 1972, the total cost of the project was 107,111,790 baht.

The decision to change from the original shallow aquifer to the pipeline also added more cost to the original plan. Fortunately, the bid was about 30 million baht, a figure based on Degremont's previous real construction cost estimate. The lower price was attributed to the abundant supply of pipelines in the Bangkok market at the time of bidding.[16] It was estimated that by the end of the program, the total cost of improvement under the emergency program would be around 180,000,000 baht, or twice the original investment amount estimated by Camp, Dresser and McKee. There seemed to be trouble with the meter improvement project, for the fund required went well beyond the original program estimate. For a comparison of costs between what was originally estimated in the expert's proposal and the actual expenditure or new estimates,[17] see below.

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[15]Interview with Chief, Water Meter Division, August 1, 1972.

[16]Interview with Chief, Research Division, March 26, 1973.

[17]Camp, Dresser and McKee, **op. cit.**, and MWWA Letter No. 2873/2515 to National Institute of Development Administration.

Project	One	Two A + Two B	Three	Four
Original estimates	31,000,000	19,000,000	13,200,000	33,200,000
Actual spending or new estimates	27,242,670	19,647,000 50,497,664	13,200,000 —	105,111,790
Discrepancies in cost	− 3,757,330	+ 51,144,664	—	+ 73,911,790

In sum, the increasing amount of money needed to implement this program was the result of change and timing in the course of program implementation. Change was caused by the erroneous assumption on the possibility of using the shallow aquifer method. Furthermore, the deteriorating situation in the meter system went beyond the control of the MWWA. At the same time, delays and postponement of the project often led to changes in the volume of work and the price index of materials and further prolonged the time required for completion. While the Thai Government realized the difficulty of undertaking this program under emergency conditions, it was determined to support the MWWA administration into working towards achieving the program's objective even if the cost would be much higher than what was originally planned and approved. This was partly because the meter improvement project, which remained to be completed, was a necessary component in establishing an efficient organization in the future.

F. THE IMPLEMENTING ORGANIZATION

The objective of consolidating in 1967 the four waterworks into a single Metropolitan Water Works Authority was not only to stop the worsening situation in the water supply system but also to provide an efficient service to the increasing number of residents and to the expanding economy of the capital city. Thus, the MWWA was elevated to the status of a full-fledged department and was designed to operate on a more business-

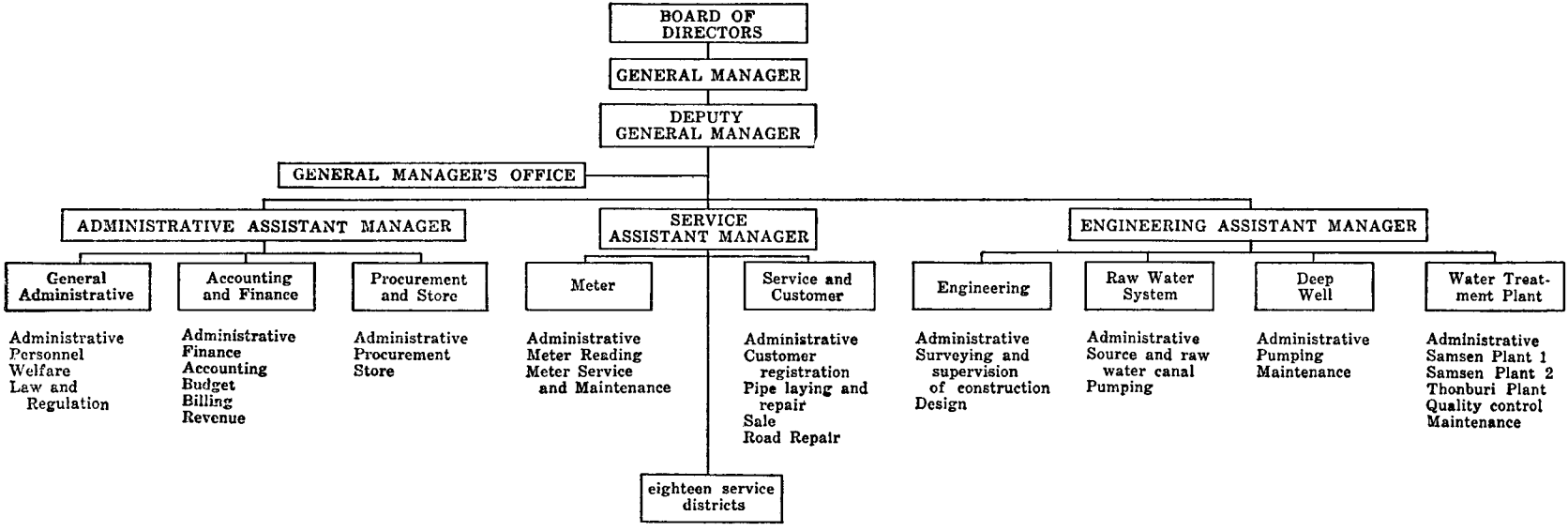
like manner. During the interim period, the MWWA was entrusted with the responsibility of implementing the immediate water improvement program as recommended by the consulting firm. In the long run, it had to shoulder the responsibility of carrying out the various phases of the master plan and to improve water services to the best of its ability.

From the foregoing discussion, it is apparent that the MWWA would need some time to rearrange its organizational structure. This was not an easy task considering that four sets of structures and functions would have to be systematically combined. As mentioned earlier, the newly-created MWWA inherited a number of unqualified and inefficient personnel because the more efficient ones were retained by the PMWD and the municipalities when the four waterworks system were merged. But the most important point is that the MWWA was designed to become a modern development organization and to have the necessary components to improve its performance. It should be noted that the consulting firm, burdened with its engineering service and planning responsibility, also hired Booz, Allen, and Hamilton International, an expert management consultant firm, to assist in transforming the MWWA into an efficient organization. However, the reorganized MWWA could not fully cope with the difficulties met in implementing the various projects and the new tasks assigned to it. As a result, the MWWA was reorganized to be a semi-autonomous and state-owned public enterprise attached to the Ministry of the Interior. It is governed by an Executive Board and is divided into ten operating units.[18] (See Organizational Chart.)

Under the new organizational arrangement, the engineering bureau is resposible for the development designs, survey and supervision of new construction works, with the exception only of the meter improvement project which was done in collaboration with the consulting firm. However, the consulting firm recommended that the development and the maintenance function of the MWWA should be separated so that the engineering

[18]Camp, Dresser and McKee, **Organization and Administration of the Metropolitan Water Works Authority**, February 1969.

ORGANIZATIONAL CHART



bureau could devote more time to development planning and supervision of project implementation. This was done by strengthening the engineering bureau with new divisions, among them a Planning Division, a Research Division and a Water Analysis Division.[19]

These divisions were created together with two units dealing with the project on leakage and repair of main pipes. The new leakage survey unit reported directly to the Research Division while the decentralized leakage repair service was responsible to the Service Bureau. This was the first time that this organization introduced double-check operations. Once the repair was accomplished by the repair unit, the survey unit would have the chance to evaluate its performance and prevent any fabrication of reports. The creation of the leakage survey unit was completed after a period of preparation. Under the contract agreement, the MWWA sent seven graduate engineers, four technicians and many others of foreman and skilled labor classification for training with Pitometer. Training was necessary for all phases of waste control — mapping and valve operation, leak location, detection of non-registration, use of equipment, interpretation of results and reporting on work accomplishment.

Meter improvement was assigned to the existing meter division whose functions covered meter reading, service and maintenance. With few personnel available in the division and with some of them of doubtful competence, the pace of such operations became so slow that it added to the MWWA's difficulties in coping with its mounting responsibilities. It was estimated that with the available manpower only 300 meters could be checked or installed monthly. Thus, in proposing the development project to the NEDB, the Budget Bureau and the Cabinet for approval, the Meter Division asked for a large number of new personnel. It was later agreed that a specialized **ad hoc** project organization was to be formed separately from the Meter Division which performed routine tasks. This project organization was responsible for the accel-

[19]Interview, Chief of the Water Meter Division.

eration of the inspection and replacement of defective water meters throughout Bangkok. It should be noted that some higher officials, including the chief of the Meter Division himself, had concurrent appointments with the MWWA's Water Meter Division.

New technicians and draftsmen were recruited as permanent officials to map out the location of new meters as well as to locate the old meters since a comprehensive layout plan for meter locations in the metropolitan area was never available. All the lower level personnel were hired on a temporary basis. This was to facilitate the abolition of the project organization after the target was met. The project also created its own meter repairing plant. At the beginning of 1970 the Meter Improvement Division could set up only eight four-man working teams because they could only train a limited number of new workers. The number of working teams were subsequently increased to sixteen and twenty-three, respectively, and yet more personnel was still needed to do this job.

The improvement of meter replacement had to be done in conjunction with the billing system. Officials of the meter improvement organization installed a rotation system for their personnel so that one team could check the performance of the others. More supervisors were assigned to oversee the operations. Below is the structure of the newly-created project organization.[20]

PROJECT DIRECTOR

DEPUTY PROJECT DIRECTOR

ADMINISTRATIVE DIVISION	CONTROL & REPORT DIVISION	SURVEY DIVISION	STORE DIVISION	METER REPLACEMENT DIVISION

Lack of incentives and sanctions present another difficulty in transforming the MWWA into an efficient organization which could accomplish the targets of this program. Salary was low and the unclear rewards system demoralized many

[20]Water Meter Division, "Organization Chart."

efficient employees. The increased volume of work and the lack of equipment, compounded by meager remuneration, led some employees not to take their work seriously. Under the circumstances, the MWWA was hardly in the position to upgrade the quality of its personnel. Although part of the wage scale was revised, it was still difficult for the meter improvement project to recruit personnel who were willing to stay long for the MWWA because of the temporary nature of their work. The Authority found it necessary to sue and sometimes punish the workers for dishonesty and inefficiency since these could further damage the already tarnished image of the MWWA.

In implementing the immediate water improvement program as a whole, however, the MWWA could delegate much of their management responsibilities to others. The consulting engineers of Camp, Dresser and McKee as well as their affiliates, Pitometer Associates, and Booz, Allen and Hamilton International, worked alongside the MWWA in solving program development problems and in superivising the construction. By giving contracting awards to the private firms, the MWWA was relieved of much of its responsibility for detailed management. This also spared the MWWA the burden of paying for increasing costs in case of changes in prices.

G. THE LEADERSHIP FUNCTION

Despite its efforts, the Metropolitan Water Works Authority had acquired a notorious reputation. The public often questioned the integrity and the honesty of the Authority as well as the management capacity of the administration. Below are some of the complaints published in the newspapers in 1972:

1. The water supply in the metropolitan city appears to be one of the major problems which cannot be easily solved. Even though several hundred million bahts were invested during different administrations — both in peaceful or in a revolutionary period, during constitutional or non-constitutional period — the water situation never gets better. It

hardly flows or never flows at all. Now the situation is worse and more serious. Water is dirty. In some locations people cannot take the risk of even washing their hands.

2. The water is available in my lane around one o'clock in the morning. We have to wake up by then. I saw some old men carrying buckets passing my house. I was afraid they would be over-exhausted and die. The public pipe was too far away from their homes.

3. Whether the MWWA wants to increase its revenue or curb the extravagant use of water, it has been shown that the MWWA cannot provide adequate service for the metropolitan residents. If it claims that the revenue is not enough to cover the expenditure, the MWWA should look carefully at itself and ask whether its past and present system of revenue collection is efficient. I doubt whether the higher ranking officials know that in estimating the service charge the meter readers have cooperated with some consumers in stopping or breaking meters with or without incentive.

4. The water situation is now unbearable for me. I cannot turn to anybody else but you (the newspaper), as the final place where I can request assistance. Please inform the authority requesting them to look at the hardships of the residents in my lane.[21]

In summary, the public apparently considered the prevailing water service to be still inadequate and insufficient to meet the needs of city residents. Revenue collection never went beyond 30 per cent. The public believed that the huge sum of public money which was channelled into private hands in the last large-scale development of the Bangkok water supply during 1961-1964 had also "contaminated" the officials of the present administration. The development of good waterworks for the metropolis was also by nature complicated and, coupled with a bad reputation, the risks of becoming the next target of criticism was great.

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[21]**The Nation**, January 29, 1972; **Thai Rath**, March 10, 1972; and **Chao Baan (Economic Monthly Journal)**, Vol. I, No. 2 (March 1972).

The recommendation of the National Economic Development Board to have long-range systematic planning for the Metropolitan water supply after a time lapse was an attempt to approach the problem more systematically. The creation of a joint committee of bureaucrats representing the various organizations concerned — such as the National Economic Development Board, the Bureau of the Budget, the Bangkok Municipality, the City Planning Bureau and the Public and Municipal Works Department — was designed to provide a wider consideration of the problem by the Cabinet as well as ensure collective responsibility. The hiring of selected foreign experts to make a systematic study and design was considered the best strategy under the circumstances. It provided reassurance to the public that this new attempt to improve the water system would produce a new era of operational efficiency and effectiveness in this public utility.

Under this circumstance, at least two leaders who had facilitated these improvements should be mentioned. They are Professor Chamras Chayapong, the Chairman of the National Committee for Metropolitan Water Improvement and the Chairman of the Board of the MWWA and Interior Minister, General Praphas Charusathien. Professor Chamras was then the Deputy Secretary-General of the NEDB and a person who was not only well-versed in water supply for some time but also highly respected as a very honest official. When he was subsequently posted as Deputy Director General of the Bureau of the Budget, his position offered the opportunity for him to assure the timely supply and releases of funds to finance the development projects of the Metropolitan Water Works Authority.

It was his committee which recommended the establishment of an independent Metropolitan Water Works Authority. Professor Chamras worked in collaboration with the first General Manager of the MWWA, who had relinquished his position as Director-General of the Public and Municipal Works Department. This department had been responsible for the Bangkok water supply from the beginning. Chamras saw to it that funds would be available for the program at the proper time. When

the first General Manager died in 1970, Professor Chamras was appointed as the new General Manager of the MWWA, a concurrent position to that of Deputy Director of the Budget Bureau. The assumption of two important positions by one man helped to further correlate the funding and operations of the MWWA and assured continuous implementation of a program which he himself had conceived and initiated.

In transforming the division of the Bangkok Water Works in the Public and Municipal Works Department into an Authority, the committee not only upgraded the status of the water supply organization but also brought the work of the Metropolitan Water Works to the attention and scrutiny of higher officials in the government. For example, the MWWA's Board of Directors was composed of the Minister of the Interior as chairman and the Deputy Minister of the Interior, the Under-Secretary of State of the Ministry of the Interior, Director of Bureau of the Budget, Director-General of the Public and Municipal Works Department, Director-General of the Police Department, Director-General of the Department of Local Administration, Director-General of the Comptroller Department, Professor Chamras Chayapong (then the Deputy Secretary General of the National Economic Development Board, now Deputy Director of the Bureau of the Budget and the newly appointed General Manager of the MWWA) and Professor Arun Sorathes (then Dean of the Engineering Department, Chulalongkorn University, now Rector of Chulalongkorn University) as members.

The membership appears to give the Board wider powers in that several cooperating organizations were recruited as members. However, the Board's role has been confined in the area of public relations. The chairman of the board was General Praphas Charusathien who, as the Deputy Prime Minister, could lend further support to MWWA programs in the Cabinet. The improvement of the emergency program was partly expedited because of his support. These two top officials were the key men who made possible important changes in organization and procedures of the new MWWA. Their support made possible the expansion and changes in organization; the promotion of key

MWWA officials to higher positions; and, the raising of the salary scale above existing levels in the public bureaucracy. The reforms were aimed at inculcating a new sense of devotion among the MWWA officials. New procedures were designed or altered so as to facilitate and integrate efforts of the work to be done.

The General Manager at this time shouldered heavy responsibilities in trying to establish the goodwill of the MWWA with its clientele. In this connection, he had to work against the tide in making clear to the public that necessary actions or steps had to be taken by the MWWA in order to recover from the existing poor conditions. He was instrumental in soliciting public sympathy and support and in increasing water rates, a decision which obviously appeared unpopular among the public. He had to seek external loans for implementing the first phase of the long-range master plan though the public had before lost confidence in the integrity of the Authority. He had to remove bottlenecks, fight the **status quo** personnel, and demand strict order and discipline regarding the behavior of the personnel. Though some of these obstacles are still to be solved, the General Manager was able to overcome many hurdles and keep the MWWA moving in the direction he had envisioned as the Chairman of the National Committee.

It should be noted that the General Manager and the Board Chairman have different perceptions of their role and responsibility to the public. The Board Chairman, being an outsider, would press the management of the MWWA to carry out its function effectively but at the same time he does not consider it part of his role to defend the organization's policy in the face of public pressure since he does not consider himself part of the organization. Thus, the General Manager has to defend his organization alone both to the Board and to the public.

H. CONCLUSION

This is a study of program administration in an organization under change. It focuses on the organization which attempts to pursue a number of measures to achieve a pre-

determined target; that is, providing a sufficient amount of additional water supply for the capital city of Thailand. In the process of planning and implementing the program, there were important features which merit special attention for development administrators. The first feature is the study of the organization which during the last decade could not catch up satisfactorily with the changing demand of the society in the particular context of a growing metropolis. Thus, important imminent changes in its structure and approach to achieve maximum results were necessary.

Second, the public pressure constituted both a stimulus and a temporary restraint on change. It served as a stimulus because water supply is a necessity of life. When water supply is not satisfactory, it affects directly the day-to-day lives of the people in the metropolis. It restrained action because the organization, having seriously lost the public's confidence on the capability and integrity of its officials, had lost a sound organizational base from which support could be elicited in developing the organizational structure necessary in performing the complicated task of developing an adequate service for a large city. These were some of the factors which delayed the Authority in taking immediate action. These were also the factors which formed a compelling parameter when the developers later decided to take action.

Third, the case exemplified an interim period of change. It was a period when the organization tried to achieve a necessary goal by carefully laying down plans after an intensive investigation and by using systematic integration of efforts. It was the period where the organization attempted, perhaps without fully realizing it, to introduce a course of program implementation into action. It was the time, however, when the program was still loosely conceived that accomplishment of each part of the program was reached independently. This study also shows that certain aspects of failure could be drawn to show how implementation of future work in the form of a program could be worthwhile in achieving development objectives.

Fourth, program planning took time, information and imagination to forecast accurate alternative courses of action to reach futuristic goals. The more program planning has these components the more likely the implementation will achieve its results. The planning of this program stood midway between the old and the new ideas. The planners were experts and had utilized seven months to prepare their recommendations but they were obviously hard-pressed by time and were too optimistic in assigning too short a time period for requiring further planning of details and implementing them. In principle, the most desirable thing is to achieve the goal within a given time and within the cost estimates, but in this case the completion of the work was unduly prolonged and the cost went beyond expectations.

Fifth, successful implementation of a program needs spontaneous support from all resource variables — technology, organization, finance, personnel and leadership. As this case demonstrates, inadequate programming weakens coordination among the individual projects. The delay in installing the new system of billing and accounting and the failure to create a higher sense of responsibility and morale among personnel were drawbacks in the effective implementation of the metering project. Delays were caused by technical problems, i.e., selection of well locations, road traffic, encountering underground obstacles and the need to run the plants while they were under renovation.

In terms of organization, the MWWA was able to introduce an **ad hoc** project organization for the metering improvement work, and the system of organizational double-check; that is, the rotation system of personnel and the division of one work process between the two units. Though MWWA itself has been inefficient, the need for additional water for the residents of Bangkok Metropolitan area itself forced a strong financial support from the government, a factor which made possible the achievement of the current work. The MWWA also gained the advantage of having a strong and enthusiastic leadership in key

and strategic positions which resulted in providing political and financial support for its projects and programs.

Sixth, though under the circumstances the MWWA did not have a chance to evaluate the impact of the accomplishment of this program on the residents, the MWWA should now have learned from this experience during the interim period. It has already started to transform itself organizationally and procedurally into a more efficient organization. More efforts should be concentrated on strengthening administrative capacity. In the next phase, a thoroughly considered master plan will be completed and implemented. All these would challenge the MWWA administrators to use their skill to overhaul their organization within a reasonable period of time. Perhaps one of the most needed improvements is the introduction of program planning and management into the organization since in a rapidly changing society the development of services to meet the expected demand at a certain period of time in the future is in effect to forestall crisis and to encourage economic and social development.

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SINGAPORE

PUBLIC HOUSING IN SINGAPORE: AN ANALYSIS OF PROGRAM IMPLEMENTATION

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I. INTRODUCTION

The home, together with its immediate environment, is the ;ingle context in which the largest range of human needs are net and the greater part of human life is lived. Yet a substan-ial portion of the world's population is housed in unfit dwellings .nd unhealthy surroundings. The lack of adequate housing onstitutes one of the most serious deficiencies in the living tandard of the people in developing countries and directly con-ributes to or aggravates a number of social and economic prob-ems, especially in the urban area. Despite world-wide recogni-on of the magnitude of the problem of shelter on the part of ıe United Nations and individual countries, housing shortage or many nations in Asia as well as elsewhere has been worsen-ıg, with an even more discouraging outlook at least during this ecade. So far the only countries in East and Southeast Asia here the government has undertaken substantial remedial tion in housing production are Singapore and Hong Kong.

In view of Singapore's substantial achievement, the pur-ose of this paper is to outline those factors that are crucial the formulation and subsequent implementation of the and State's public housing and related programs. More ecifically, we address ourselves to three questions: (1) What cilitated the formulation and implementation of the housing ogram? (2) Besides meeting the quantitative targets, what s been achieved? (3) What can be learned from the Singapore perience in terms of undertaking development programs?

To arrive at a systematic overview of the Singapore expe-nce, this paper is essentially a component analysis within a olistic framework. Our discussion is divided into six sec-

tions, including the Introduction. Section II (The Push Factor) describes the critical need for the housing programs. Section III (The Pull Factor) outlines the housing programs and the targets that have been met. Section IV (The Inputs) delineates the crucial factors affecting the entire process of program formulation and implementation. Section V (The Outputs) provides an analysis of the meaning and dimensions of the results from a multidisciplinary perspective. Finally, Section VI is a generalized assessment of the Singapore case in terms of the implications for development administration.

II. THE PUSH FACTOR: HOUSING CONDITIONS PRIOR TO 1960

Historically, the evolution of Singapore's housing problem is not unlike that of many other urban centers in the region. The problem could be directly ascribed to the interaction of heavy inflow of working class migrants and rapid natural population increase on one hand, and the lack of sufficient attention from the government, on the other. Migration from China and India was the main reason for Singapore's population increase from the nineteenth century until World War II, after which the very high natural growth rate accounted for the bulk of the Island's population inflation. Singapore's population has more than doubled during the past twenty-five years from 0.94 million in 1947 to approximately 2.3 million today. Despite substantial reduction in fertility and in the natural growth rate in the last ten years, as well as rigid immigration control, the outlook cannot be overly optimistic. The postwar baby boom has resulted in a marriage explosion which, in turn, has generated greater volume in household formation and hence, demand for housing.

The growth of slums and the commercialization of Singapore occurred concurrently during the late nineteenth century. As the island gained prominence as the main commercial center of Southeast Asia, it attracted, mostly from China, thousands of migrants seeking employment in Singapore and its neighboring territories. These early immigrants were largely poor males

vho had little intention of staying permanently. As a result, hey overwhelmingly concentrated in the city proper where most ıusiness activities took place and where they could find sub-tandard but cheap housing, thus compounding the emerging ıousing problem.

When the sex ratio improved with the arrival of large ıumbers of Chinese women in the 1930's, more and more tem-orary migrants turned into permanent residents and all the haracteristics of slum living became increasingly pronounced. ıs the population continued to expand rapidly after the War, ingapore had not only one of the most overcrowded slums in he world but also large squatter settlements encircling the cen-ral city area. Before the start of the first public housing pro-ram by the present Government in 1960, there were an esti-ıated one quarter of a million persons living in badly degen-rated slums and at least another one third of a million people ving in squatter areas who urgently needed rehousing. These lum and squatter areas were — and some of the remaining nes still are — breeding grounds of disease and crime. Many f the buildings in these areas had been nearly a hundred years ld or were very crudely put together by the squatters. Since ıe buildings in the central slums were only two to three stories igh they constituted an uneconomic use of the valuable land ›day. Because of the age, type of materials used for construc-on, lack of modern sanitation and the absence of maintenance, ıany of these buildings are ripe for demolition and a hazard › life and limb. In fact, occurrences of fire in such areas ave been common, and access has been very difficult because ıe roads built on these areas were never expected to cope with ıe present type and volume of vehicular traffic.

Slum formation is inevitable for any country undergoing ıpid urbanization. However, the British colonial administra-on in Singapore did very little to ease the housing shortage hich multiplied with the population. Meanwhile, without suf-cient relief from public housing and being unable to afford velling units built by the private sector, most of the low-come population either squeezed into the already crowded

areas or joined the ranks of squatters. Extreme housing shortage led the colonial government to impose rent and eviction controls in 1947, which had the adverse effect of enabling the landlords to allow their buildings to deteriorate and to subdivide rooms and cubicles to make space for more tenants.

The first official attempt to tackle the housing shortage in Singapore dates back to 1924 with the formation of Singapore Improvement Trust (SIT). Although the performance of SIT was quite successful as compared with other colonial administrations in Southeast Asia, it was nevertheless ineffective in alleviating the problem of shelter both before and after the War having completed a total of 23,000 units (of which 20,000 were built between 1947 and 1959). Not only were the units too few in number but the planning had been based on principles used for post-war British 'New Towns.' These principles placed emphasis on small neighborhoods and maximum privacy which might be suitable for the average British suburban family but certainly not feasible under the financial constraints of SIT and the urban setting of Singapore.

Therefore, the need for official action to improve the housing situation had become exceedingly acute when the present Government took over in 1959. In other words, the first functional prerequisite for a successful development program had already existed by then; that is, the program must meet the demand of a crucial need.

III. THE PULL FACTOR: PUBLIC HOUSING AND RELATED PROGRAMS SINCE 1960

Almost immediately upon taking office, the present Singapore Government created the Housing and Development Board (HDB) to replace SIT, with considerably more funds and legal powers to deal with public housing, urban renewal and other related problems. In 1960, it was estimated that some 150,000 dwelling units would have to be constructed in ten years in order to correct the existing problem of overcrowding and at the same time to keep up with demand due to population increase. It was further estimated that private enterprise could

ıild some 40,000 housing units during the decade to meet ainly the needs of the upper and middle income groups. This eans that the remaining 110,000 units needed by the lower come groups would have to be provided by the Government.

ıantitative Output

To this end, HDB has completed two massive five-year blic housing programs and is now in the process of imple- ›nting a third one. The First Five-Year Building Program 961-65) saw the construction of 54,000 units, and the Second ve-Year Building Program (1966-70) added another 56,000 blic flats. The current Five-Year Building Program (1971-75) ls for the building of another 110,000 units, at the end of ich more than half of the entire population of Singapore will living in HDB flats or apartments. Together with some ts built by SIT, there are now some 145,000 units under nagement of HDB, housing over 40 per cent of Singapore's ıl population. Meanwhile, complementary urban renewal resettlement programs have proceeded apace to revitalize gapore's central area and to clear squatter colonies in the ying areas for redevelopment.

of Flat (Apartment)

Since the inception of the first Building Program, HDB undertaken three major policy revisions that are worthy ote. The first has to do with physical design. When the bone of the housing problem was broken around 1966, ds in both construction of public flats and the layout of immediate environment have shown an improvement. ı 1966 onwards HDB has stopped building one-room emer- y type of units, some of which had only communal toilet cooking facilities and all of which shared a common corridor flats facing each other. Because of the changing pattern mand for public flats as a result of improved income and er level of aspirations, even the two-room type of units are nger under construction. Instead, emphasis in recent years een given to the building of three-, four-, and five-room with larger floor space and better internal arrangements

for the kitchen, bathroom, and balcony as well as more generous provisions of common space and staircases.[1]

The Third and current Five-Year Building Program not only has a target equivalent to the combined total of the first two, the average size of flats to be built has been increased from 400 to 700 square feet per unit. The actual floor area of the housing planned for the current Building Program is more than three times that of the second Five-Year Plan.

The trend of having a higher proportion of population living in larger and better HDB flats is, indeed, an indication not only of rising aspirations in physical living conditions but also the Government's ability to meet changes in the demand pattern for housing of the middle and lower income groups whose financial position has improved along with the rapid economic growth of the nation. It should be emphasized that over 80 per cent of the population in public housing moved in on their own accord, the rest having been allocated HDB flats as a result of urban renewal and resettlement.

Home Ownership

The second major housing policy introduced during the last decade is the **Home Ownership for the People Scheme.** While the Scheme was first put into operation in 1964, the overwhelming demand to own a public flat did not gather momentum until 1968, when the purchasers were permitted to use their Central Provident Fund (social security contributions) balance as down payment and monthly payment if they wished. The upper household income ceiling for purchase of each flat was raised from $1,000 to $1,200 a month in 1970, and for those wishing to buy a five-room unit the income ceiling is now $1,500 a month.[2] Certain privileges in flat purchase are granted to "sitting" tenants who could have the option of buying their present unit without down payment or income restriction. To enable those in the civil service to participate, legislation was

[1]See Table 1 for floor area of various types of flats introduced and discontinued since 1960.

[2]The dollar figures are in Singapore dollars. One U. S. dollar is equal to approximately 2.5 Singapore dollars.

passed in 1970 so that civil servants who do not contribute to the Provident Fund but who would otherwise qualify are permitted to register for flat purchase without the normal down payment.

All these conditions which are favorable to ownership of public flats are further augmented by a low interest rate of 6.25 per cent coupled with a maximum of twenty years for loan repayment, reduced property tax and the option for resale at a profit under certain conditions. The sale prices of the public flats are indeed reasonable by any standard: a three-room unit costs $7,800 and that for a four-room flat is $12,500. The combined effect of all these policies had been to produce an unexpected flood of demand; even with higher building rate, the average waiting period for the purchase of a HDB unit is three years. At the end of 1972, more than one-third of the public flats have been sold and this proportion is expected to increase in the immediate future.

Eligibility

Relaxation of qualifications for rental and sale of flats constitutes the third area of policy revision. From the colonial days of SIT until 1967, the minimum household size requirement was five persons, with the exception that in 1962 this number was reduced to three for those applying for one-room units. When the housing situation improved drastically in the mid-1960's, HDB reduced the minimum requirement to two persons for any type of public housing unit. The effect of this new policy is essentially two-fold — it encourages the splitting of households and generally increases the volume of demand for public housing, on the one hand, and the reduction in household size in the HDB flats decreased density both in the housing unit and in the estate, thereby easing the pressure on the use of public amenities, on the other. There may also be a latent contribution to family planning: at least it could be argued that people no longer need to have more children in order to qualify for public housing.

Urban Renewal

The success of Singapore's public housing programs is dependent on urban renewal and resettlement, and vice versa. There are three ways by which a government can undertake a revitalization and renewal program in the central city area. One is to emphasize on social objectives with minimum stress on economic projects. This would mean little or no private business participation since social projects such as public housing, schools, recreational facilities are non-revenue generating. This approach is beyond the financial capacity of the Singapore Government. The second approach is to give almost exclusive attention to economic projects which will in turn improve the tax base for the government. However, purely economic projects such as office buildings, hotels, and shopping centers could be undertaken by private enterprise but could hardly benefit the whole community since lower income groups are going to be left out. The Singapore approach to urban renewal, beginning in 1963, is one towards a more balanced development incorporating essential elements of the first two principles whereby both the Government and a cross-section of the population would benefit. The private sector could concentrate on economically viable projects which also generate employment. To date, a total of fifty urban renewal sites were sold by tender and negotiation. This generated a record investment of approximately $500 million and created direct employment for 50,000 people. The Government would undertake projects such as public housing and the provision of infrastructure as well as master planning and coordination.

Resettlement

Singapore's massive public housing programs and, to a lesser extent, the accelerating urban renewal projects all require land for development. In addition, the priority given by the Government to rapid industrialization and the expansion of educational, commercial and other facilities have also generated heavy and often competing demands for available land. Most of the land areas required for development have been heavily encumbered with squatters, small-scale farmers, and tenants of

dilapidated buildings. Before development could take place, the existing occupants of the land required by Government have to be resettled in acceptable accommodation of one form or another. Thus, HDB's Resettlement Program serves as an indivisible link with public housing and urban renewal, all of which function under one roof.

The policy of resettlement takes into account the needs of existing occupants of the land for acceptable alternative accommodation, so that not only alternative shelter is provided but also their means of livelihood is not totally disrupted. Therefore, farmers are given agricultural land, industries are relocated into factories or sites, shopkeepers are allocated shops and residential dwellers are offered HDB units. Consequently, in the relocation process the public housing program provides the alternative accommodations, the resettlement program undertakes clearance, and the urban renewal program redevelops the central area. Of course, compensation is paid to those affected by resettlement. In 1971, rates of compensation were substantially improved from 50 to 100 per cent to allow for less economic hardship. Between 1960 and 1972, over 51,000 households have been affected by the resettlement policy, of which 33,000 or 65 per cent voluntarily moved into HDB flats and another 2,600 were relocated into resettlement areas. Compensation paid for clearance by the Government totalled nearly 49 million dollars at the end of 1972.

The importance of a politically sound and socially viable resettlement policy cannot be over-emphasized. By offering a comprehensive scale of compensation and suitable alternative accommodations to the affected household, HDB has substantially minimized the adverse repercussions of relocation quite commonly encountered in many other countries. The success of the resettlement program allows Singapore to speak of public housing as an honorable endeavor and not a dirty business.

The foregoing discussion on public housing and related policies serves to illustrate what has been done to attract voluntary relocation into public housing (the pull factor) in response to extreme housing shortage and substandard housing

conditions (the push factor). Indeed, all of these policies are crucial components of the successful implementation of the building programs and some have long-term implications.

IV. THE INPUTS: CRUCIAL COMPONENTS OF IMPLEMENTATION

Needless to say, any attempt to understand the implementation of a development project from the wholistic perspective requires an overview of the entire process, from initial conceptualization at the highest policy level down to feedback and evaluation during and after implementation. In this section of the paper, we shall identify those factors which have been crucial to the largely successful undertaking of Singapore's public housing programs and discuss some of their linkage effects.

Political Will

The basic assumption behind the Singapore Government's allocation of high priority to public housing and other social projects is the philosophy that the development process is at once social, economic, and political and that the interactional relationships between all three spheres are indeed profound and inseparable. Given this recognition that development planning is not merely for the economy but for the society and hence the necessity to view many proposed measures in social, economic, and political policies as a single whole, the provision of low-cost housing to the low-income masses becomes a measure which satisfies the demand from all three spheres of development.

The essential purpose of the public housing programs is, of course, that they satisfy an acute social need. Since housing is an integral component in the standard of living, its improvement is expected to have multiplying effects on the people's quantitative and qualitative style of life. The external economies generated by massive public housing construction could be substantial, especially in terms of its labor absorption capacity at a time when unemployment was very high. Reduction in unemployment in turn results in more favorable income dis-

tribution which is also a central objective of social development. Consequently, both the social and economic impacts of the public housing programs benefit the Government in ensuring greater stability and support of the centralized policy. It is this kind of rationale and conviction which propelled the Government into rapid mobilization of its political, financial, and administrative resources to develop public housing shortly after assuming power.

Political Leadership

One demonstration of the political will to undertake public housing and related programs is seen in the exercise of leadership support at the highest level. Given Singapore's compact territory (225 square miles), small population (2.3 million), a highly centralized administration, and a unified Cabinet behind the Prime Minister, political support comes in two ways. First, major housing policies usually receive fast clearance by the Cabinet. This results not only in more efficient decision-making internal to HDB but also in better coordination with ministries and statutory bodies such as Public Works and Public Utilities. Because of Singapore's compactness and the highly centralized political and administrative systems, it has been said that no detail is too small for the attention of the Cabinet. This being the case, coordination on major issues between ministries, is efficiently achieved at the ministerial level and directed downwards.

Secondly, political leadership is seen in the appointment of the first HDB Chairman who enjoyed so much confidence that he also became a senior Cabinet Minister shortly afterwards. To ensure the initial creation of capable administrative leadership, careful selection was made in the appointment of the Chief Executive Officer (who later became Chairman) and Chief Architect (who later became Chief Executive) from the ranks of the civil service. With direct linkage to the Prime Minister and the Cabinet, these three men and their staff were able to push through several innovative policies and accomplished substantial construction of flats within a short time of the inception of HDB and thus generated a significant demonstration

effect to give the Government's public housing efforts their initial momentum.

Civil Service

Assessment of the role played by the administrative structure in public housing must be made at two levels: that of the Singapore civil service in general and that of HDB in particular. The point that we wish to emphasize here is that, in many respects, the quality of HDB's administrative structure is not atypical of the rest of the civil service which has made similar contributions to some of the Republic's equally outstanding achievements, such as industrialization, port development, family planning, and environment control. Therefore, an understanding of HDB's administrative efficiency first requires an appreciation of the quality of the civil service at large.

The civil service which the present Government inherited from the British Colonial Administration in 1959 was one of high academic caliber as well as high standard of integrity. Because of its strategic location in the colonial territory, Singapore had, historically, always absorbed a major portion of the more capable Straits-born civil servants. These people have been socialized into the British standard of integrity and also maintained a strong sense of self-respect, partly due to adequate salary levels which were high enough to function as an insurance against corruption. When the People's Action Party (PAP) assumed control of the Government, it did not have to deal with the problem of corruption but was faced with a much easier task of preventing corruption from getting a grip on the civil service.

The transformation of the Singapore civil service into its present state of efficiency and dedication has been accomplished on several grounds, including the continued maintenance of adequate levels of salary and fringe benefits, various anti-corruption legislations which are rigidly enforced, promotion based on merit and not exclusively on seniority, and early retirement in the public's interest for those whose performance is not satisfactory. However, the most important change which

the present PAP Government has brought about in the civil service lies in the successful inculcation of a sense of pride in nation-building participation.

With the departure of the British expatriates, there were more opportunities for the local civil servants to occupy positions of responsibility. What the Government did, in short, was provide opportunities for achievement in nation-building for those with ability, under favorable conditions of remuneration and promotion. This the civil service soon sensed, in recognition of the quality of political leadership and the policies for national development. Consequently, for a significant proportion in the civil service, job satisfaction became more important than ego satisfaction, and pride in contribution to national well-being as important as that to personal well-being. Participation in the successful implementation of projects literally in the service of the people generates its own demonstration effect and momentum on pride and self-confidence. Singapore has been built by ministers and civil servants, and this distinctive achievement is not confined to the top. This gives both pride in the past and confidence in a future far from fulfilled. And where the unity and uniformity of the national interest is as clear as it is in a compact city state, the psychological compulsions toward cooperation between the political leadership and the administrative service are the greater. Civil servants feel that they are creating wider horizons rather than coming up to a final horizon. There is a sense of expanding opportunities which maintains zest and constricts complacency. Among the senior civil servants, the attitude is not to seek an easy life of routine. In this sense they are not unlike successful businessmen where opportunities stimulate but do not satisfy the appetite for more opportunities and where past achievements provide the funds and opportunities for future prospects. In a broad perspective, then, what the administrative service has contributed in the management of public housing policies is but one of many examples demonstrating the capacity for achievement of the Singapore civil service.

Administrative Structure of HDB

The Housing and Development Board (HDB) was established in February, 1960 by the Housing and Development Ordinance which gave HDB wide powers for comprehensive land development, though mainly for public housing. The Ordinance gives HDB the following functions:

> (1) To prepare and execute proposals, plans and projects for (a) the erection, conversion, improvement, and extension of any building for sale, lease, rental or other purpose; (b) the clearance and redevelopment of areas designated by the Minister for National Development; and (c) the development of rural or agricultural areas for the resettlement of persons displaced by operations of the Board or other resettlement projects approved by the Minister.
>
> (2) To manage all lands, houses and buildings or other property vested in or belonging to the Board.
>
> (3) To carry out all investigations and surveys necessary for the performance of the functions and duties of the Board.
>
> (4) To provide loans with the approval of the Minister, to enable persons to purchase any developed land or part thereof at such interest as may be prescribed.
>
> (5) To do all such other matters as are necessary for the exercise and performance of all or any of the functions and duties of the Board.

In addition to the Housing and Development Ordinance, the Land Acquisition Ordinance (now Land Acquisition Act) also gives the Government power to acquire land for any public purpose. Given the scarcity of land, this legislation is indispensable to the Republic not only for public housing but also other major undertakings as well, particularly urban renewal and industrialization programs.

The Housing and Development Ordinance set up a Board consisting of a Chairman, a Deputy Chairman, and at least

three but no more than five additional members.[3] Past appointments have shown that the Chairman could work either full or half-time. Except for the present Chairman, Lee Hee Seng, who is from the private sector, all past Chairmen have been either at the ministerial or Permanent Secretary level. However, besides the Chairman, with usually one exception, all other members of the Board have been, and still are, from the private sector. Since HDB comes under the wing of the Ministry for National Development, it was no coincidence that the Board's first Chairman, Lim Kim San, was also Minister for National Development, and that his successor at HDB, Howe Yoon Chong, was concurrently Permanent Secretary for National Development. In any event, the practice has been that the Permanent Secretary for National Development is also a member of the Board to ensure coordination between the two bodies whose work is closely related.

The Chief Executive Officer of HDB is the full-time administrative head, serving as the main link between the Board and its administrative Departments. Originally, there were six Departments: Building, Estates, Secretariat, Finance, Resettlement, and Lands. Later on the Lands Department was absorbed into Estates, and two new Departments have been added: Urban Renewal in 1964, and Statistics and Research in 1969.

Certain aspects of HDB's organization and functions as provided by the Housing and Development as well as Land Acquisition Ordinances deserve special mention as administrative inputs to facilitate the public housing and related programs. First of all, the fact that HDB is a statutory board automatically gives it a large measure of autonomy in terms of policy, administration, and finance. On the other hand, coordination with the Ministry for National Development (which includes Public Works and Planning Departments), with which the activities of HDB are closely related, is enhanced by having

[3]The SIT Board was nearly twice as large as that of HDB partly because of the large number of SIT Board members sub-committees formed to undertake specific functions and this procedure was found to be inefficient in the decision-making process. The HDB Board has no sub-committees.

HDB under the control of the Minister and by having the Permanent Secretary for National Development as a member of the Board.

Secondly, efficiency is achieved by the integration of all administrative units undertaking public housing and related programs within HDB. By grouping building design and construction, land acquisition, resettlement, urban renewal, estates management, finance, and research all under one roof, there is the advantage of better coordination between the Departments and the centralization of decision-making process. In this light, HDB is a somewhat monolithic organizaton, though not unlike some other statutory bodies in Singapore: with substantial centralization of functions and close integration of administrative framework, it has become the planner and implementor of the Republic's public housing and related programs, responsible only to the Minister for National Development who, in turn, answers to the Cabinet.

Finance

In terms of fiscal policy, it is interesting to note that HDB has no fixed authorized or paid-up capital. Funds for capital development of public housing are financed from State Development Funds in the form of loans to HDB. These loans are granted at the interest rate of 7.75 per cent over 60 years for rented properties, and at 6 per cent repayable over 10 years for properties sold under the Home Ownership for the People Scheme. Government expenditure on housing as a proportion of Development Expenditure has been rising — from 16.7 per cent in 1961 to 18.9 per cent in 1970. The proportion of capital expenditure for public housing of total state Development Fund over the first two Program periods of 1961-65 and 1966-70 are 27 and 26 per cent, respectively. Gross fixed capital investment of HDB amounted to nearly 788 million dollars over the period of 1960-72, of which some 662 million was secured through Government loans.

Financially, HDB is also an autonomous authority accountable to the Minister for National Development. The income

of the Board is derived mainly from rentals, service and conservancy charges, interests, agency fees, and other miscellaneous items. Its expenditure essentially comprises the repayment of loans, interest and property tax to the Government, expenses on administration, service, conservancy and maintenance. Between the period 1960 and 1972, HDB's total annual expenditure increased from nearly 15 million dollars in 1960 to approximately 101 million in 1972, while annual income rose from 13 million to about 85 million during the same period. Correspondingly, the net deficits of HDB increased from about 2 million in 1960 to 16 million in 1972. The deficits are made up by Government subsidies: up to 1972 total subsidy grants given to HDB by the State Budget amounted to nearly 44 million dollars.

The mounting subsidy is another demonstration of the political will of the Government which accepts almost full responsibility in the provision of decent standard of housing for the lower income groups. The rentals and selling prices of public flats determined by the Government are definitely within reach of most people in the working class.[4] On the other hand, since rentals are heavily subsidized and the selling prices of the flats are fixed at or below cost, increasing deficits are inevitable especially as a result of rising costs and the fact that rental and sales price for any particular type of flat have never been increased. As more people will move into public housing estates and more extensive amenities are being provided, the annual deficit is expected to go even higher. Since the inception of HDB, there has never been a single instance where the request for funds for the public housing program has not been approved by the Government and there is every indication that subsidies will continue to be provided at whatever level required.

Physical Design

Two approaches applied by the HDB in the realm of physical planning have substantially contributed to the success of Singapore's public housing programs. The first is the standardization of floor plans, which permits the architects to con-

[4]See Table 2 for a range of rental and sales prices.

tinuously improve upon the same sets of plans over the years. Consequently, the floor plans in use today are very efficient in space utilization and suitable for local needs. By concentrating on existing plans in either layout or construction details, there is economy of scale which is critical in view of the volume of demand. Moreover, standardization helps to reduce administrative costs and technical overhead. Regardless of location, topography or construction costs, all HDB flats are rented or sold according to a simple fixed scale, which simplifies administration.

The second major contribution in physical planning is seen in the proper and adequate provision of essential services and facilities in line with the neighborhood principle. Over the years, increasing attention has been directed at making the concept of self-sufficiency in neighborhoods more operational in terms of communal facilities. Each neighborhood with 2,000 to 5,000 flats is sufficiently large to support a neighborhood center with comprehensive shopping facilities. Institutional facilities, such as clinics, churches and temples, schools and post offices are provided at close intervals in the housing estates. More open spaces are being provided between buildings which are becoming taller in order to maintain a maximum density of 100 units or 500 persons per acre. Therefore, from the very beginning there has been little serious complaint from the tenants about inconvenience or poor environment. Of equal importance in the past few years has been the provision of industries within or near the housing estates, which enhanced employment opportunities, particularly for women. Propinquity between place of residence and place of work not only reduces commuting time but also minimizes traffic congestion.

Notable Administrative Inputs

In addition to the innovative and adaptive policies discussed in Section III of this paper, we should mention five other areas of achievement by the HDB administration in facilitating the implementation of its five-year programs. First, there has been adequate advance planning, especially in land assembly. So far, HDB has managed to project housing programs ten

years or more ahead of time. This provides an overview of the housing development pattern and thereby enables the Board to assemble land at appropriate locations years before actual construction of projects. This permits adequate time to carry out relocation and engineering works as well as minimize land costs since most of the land acquired or alienated are in rural or unscheduled areas. In many other countries, shortage or absence of lands for development is often the main reason for the collapse of otherwise well-planned schemes.

Second, HDB plays an active role in the supply of building materials in several ways. The Board has established quarries, brickworks and piling plants to supplement local production because manufacturers were not able to expand their production fast enough to cope with the accelerated Building Programs. The manufacture of building materials by the Board not only stabilizes prices and supply but also generates a certain amount of profit for HDB. The operation of quarries alone gave an income of almost 2 million last year. HDB regularly places orders with local manufacturers to enable them to plan their future production. Stockpiles of certain building materials are also carried as a buffer to meet any shortage of supply due to unforeseen circumstances.

The third area of improvement is concerned with rationalization of rental structure. Rentals of SIT flats were based on construction cost, resulting in more than 100 categories of charge. Therefore, similar types of flats built in the same locality at the same time but under different contracts had different rentals. The HDB simplified this by pegging the rentals at $20 per month per room. In the urban center where the land cost is much higher, the rentals are higher by 50 per cent.

Fourth, HDB introduced the "first come/first served" policy in the allocation of flats. This system is administratively simple and easily understood by the public. Malpractice can also be avoided as the numbers given to the applicants are in sequence according to the time of registration. This is an improvement over SIT's points system which required a large

number of investigators to assign points to applicants according to types and degrees of "need," such as household size, income, present living conditions and levels of health. This approach was administratively expensive and inefficient, not readily understood and often produced complaints of bias from the public.

Fifth, satisfaction with public housing must also be attributed to the well-managed and maintained estates. One of the most severe problems in high rise and high density housing development is that in most countries these estates are not kept clean and in good repairs. The five-year repainting program offered by HDB, plus serious attention to landscaping, periodic checks for deterioration, and 24-hour emergency maintenance service, have kept the physical standard of living in public housing at the highest level.

Finally, there is the improvement in the contracting system. Like the SIT, HDB also uses outside contractors to do its building work. But unlike SIT, which strictly limited itself to a very small and virtually closed circle of contractors, HDB opened the doors to all contractors wishing to tender, thus substantially increasing the number of contractors available and also getting tenders down to more competitive levels.

At first, the new system created a few problems of its own. Some of the new contractors were relatively small and inexperienced enterprises whose work required careful supervision. In addition, many had limited financial resources and could not afford to be kept waiting too long for payment. To get over the problems, HDB completely reorganized its administrative machinery so that contractors could be paid promptly after job completion. For example, the tenders and contractors did away with the cumbersome bills of quantities, and contractors are let out on lump sum tenders. HDB also mobilized its architects and engineers in educating the new contractors and in exercising rigid supervision on sites, and this maintained not only the required standard of construction but also contributed to the further development of the construction industry in Singapore.

External Factors

There are several prevailing conditions which directly or indirectly facilitated the implementation of the public housing programs but are external to both the Government machinery in general and HDB's own effectiveness in particular. First of all, Singapore's smallness in land area and population has encouraged centralization of authority and the integration of national and local government functions into one. Control becomes much easier with a small population and without hinterland, and national planning is in a way not drastically different from planning for a medium size city. In terms of public housing, the compact population implies limited potential demand and allows for greater concentration of improvements. However, scarcity of available land constitutes an everpresent impeding element.

Secondly, Singapore is situated in a good geographical position where there are no earthquakes or typhoons and therefore the designs of multi-story structures are very economical since no allowance need to be made to resist the force of nature. Situated in the Tropic Zone, the walls of the buildings, for example, need not have insulation to meet the demand of changing weather.

Thirdly, even before the formation of HDB, there already existed in Singapore a pool of labor force and building contractors skilled in the building trades. This pool was sufficient to give construction of public housing in the early stages an initial impetus. What HDB has done is to further enlarge, rationalize, and mechanize the construction industry.

Fourthly, the high unemployment rate in the early and mid-1960's ensured the adequacy of labor force supply for public housing activities. With rapid economic growth in recent years, the situation has practically reversed itself, for currently there is a shortage of skills at various levels.

It is interesting to note that even natural disasters contributed to public housing development. For example, in 1961 Singapore witnessed a fire in one of its densely populated

squatter settlements which devastated an area of almost 100 acres and rendered nearly 10,000 persons homeless. This occurrence provided the Government an opportunity to pass immediate legislation to acquire the land for a public housing estate. Just as importantly, the fire gave HDB the chance to prove its effectiveness — public housing units were provided for most of the fire victims almost immediately and a new public housing estate was built on the fire site in record time, thereby giving the public an early demonstration of the Government's intent to provide homes for the people.

Dwelling units and their management, like many other commodities, require four basic inputs for production: enterprise (technology and organization), land, labor (human resources), and capital. Our discussion has shown how various political, economic, social, administrative, and technical factors have contributed, individually and in combination, to these four basic inputs the interaction of which in turn has made Singapore's public housing endeavors a success so far.

V. THE OUTPUTS: MEANING AND DIMENSIONS OF SUCCESS

The mere fact that HDB rented and sold some 145,000 units gives only a general idea of what has been accomplished. Although much of the impact of the public housing programs has yet to be studied, it is possible to take a more penetrating look at several dimensions of what has been implemented.

Standard of Living: The Outside-In View

Cost-benefit study of any housing program must be couched in social as well as economic terms, since public housing functions as social overhead capital in the overall development process and is primarily intended to serve consumption goals of the society. Because of its greater relevance to consumption than production, the impact of Singapore's public housing on living conditions must first be taken into account.

One gross indicator of the contribution of public housing to the improvement of living conditions is density reduction in the housing units.[5] For example, during the height of housing shortage in 1964 the average number of households per housing unit was 2.8, whereas the figure for 1970 is 1.2, thus approaching the ratio of one household to one housing unit maintained in the developed countries.[6] Correspondingly, the average number of rooms per household drastically increased from 0.8 in 1954 to 2.2 in 1970. As a result, the average number of persons per room has been cut nearly by half — from 4.8 in 1954 to 2.5 in 1970. From these figures it is not difficult to perceive the substantial social and psychological changes resulting from the relief in overcrowding conditions.

Since the very nature of demand for public housing is a continuous process, any measurement of success requires not only that such demand be met but also that it be met on increasingly higher standards because of rising aspirations. This could be seen in the decline of household size in the housing units. Continuing high rates of construction, especially that of the larger units, relaxation of minimum required household size, and the splitting of multi-family households due to availability of housing have all worked to bring down the population density in HDB flats. Consequently, the average household size in HDB flats decreased by a substantial 13 per cent from 6.4 persons in 1966 to 5.7 persons in 1970. This density reduction becomes more meaningful if we take into account the fact that density reduction in the housing units also means reduction in the public housing estates, thus lessening the pressure on the use of communal amenities and facilities.

There are other indicators denoting rising standards of housing. In a 10 per cent survey of HDB tenants, a host of questions were directed to find out some aspects of their housing condition before relocation into public flats.[7] Results

[5]See Stephen H. K. Yeh and Lee Yoke San, "Housing Conditions in Singapore," **Malayan Economic Review**, Vol. XIII, No. 1 (April 1968).

[6]The household-housing unit ratio in the public flats is 1.02:1.00.

[7]Detailed discussion can be seen in Stephen H. K. Yeh and Statistics and Research Department, Housing and Development Board, **Homes for People: A Study of Tenants' Views on Public Housing in Singapore** (Singapore: Government Publications Bureau, 1972).

of the study show that living space on the whole as measured by the number of rooms occupied has become larger by some 20 per cent. There has also been an improvement in amenities: while water, electricity, cooking, bathing, and toilet facilities are standard in all HDB flats, in their previous private housing units nearly 25 per cent of the tenant households surveyed did not have direct water and electricity supply, 45 per cent had only a space for cooking and fully half of them had to share bathing facilities with other households, and only 33 per cent had flush toilet available.

The fact that rent, sales price, and conservancy charge for the same type of public housing units have never been raised contribute to the stability in the cost of living for the lower income groups. This is all the more important since housing cost in the private sector has been rising very rapidly in Singapore. HDB tenants, who comprise a large proportion of lower income population, pay only an average of 15 per cent of their income on rent and utilities. Thus, the maintenance of a constant rent for some 40 per cent of the population is anti-inflationary and at the same time promotes greater savings among the people under the condition of rising income.[8]

Standard of Living: The Inside-Out View

So far our evaluation of the impact of public housing takes the perspective of "looking in from the outside," in terms of aggregative statistics on housing conditions. However, any comprehensive assessment must also include the perspective of "looking out from the inside," that is, the views of those living in HDB flats since these are the ultimate consumers of the public housing programs. In this direction, a major portion of the study mentioned above was devoted to seeking the tenants' views on the physical, social and economic aspects of their lives. More specifically, two categories of questions were asked: the first attempted to determine the degree of satisfaction regarding their present living conditions, and the second so-

[8]Singapore has experienced rapid economic growth in recent years. The GDP per capita income in 1971 was $3,066 (US$1,200), as compared with $1,243 in 1960 — an increase of nearly 150 per cent.

licited responses on the extent of change since relocation to public housing and how the tenants felt about it. Limitation of space prevents us from a fuller presentation and discussion of the results; however, the essence of the tenants' views have been summarized in Tables 3 and 4.

The overall picture, as seen from the figures in Table 3, indicates a fairly high degree of satisfaction with the estate, block, floor, and flat in which they live (62 to 72 per cent). However, closer inspection of the proportion expressing dissatisfaction in the more specific aspects of living reveals several disquieting trends. The first is length of travel time to work or school. The second is transportation which is related to travel time and may have improved since the study because of reorganization of the bus system. The third is the felt distance to police station, although the level of satisfaction with public security in the estate is high. The fourth has to do with the felt inadequacy of communal facilities: between 20 and 29 per cent of the respondents expressed unhappiness over playground, parking and cleanliness of the building. All of these problems are receiving attention from HDB, although some are beyond the Board's control, such as general increase in traffic and children preferring to go to schools of their choice rather than those nearer their residence. Parking will continue to be a problem even though more car parks are being provided. The fact remains that ownership of vehicles is increasing rapidly with rising income and that maximum parking space is limited in any public housing estate. Priority in the allocation of parking space must compete with the demand for other communal facilities such as children's playground which is also overtaxed. By far the most serious complaint has been the inadequacy of lifts (elevators) and this has led to the decision to provide one more lift in all the new buildings being planned.

How the tenants felt about changes that had taken place since moving into public housing (Table 4) is generally consistent with our other findings indicating satisfaction and improvement. In the case of travel time to work and school,

nearly an equal proportion reported changes for the better as that for the worse. The same could be said with respect to the amount of noise. While the majority of the respondents did not think that there has been a significant change in the type of people in the neighborhood or the friendliness of the neighbors, among those who did the trend seems to be for the better. These conclusions taken together are not surprising; after all, life in an urban setting will always have some common features and these could not be readily improved upon by mere relocation to public housing.

On the other hand, life in the densely populated high rise housing blocks do tend to aggravate certain problems, such as the difficulty of moving up and down and the amount of noise. With respect to the latter, the study discovered that the bulk of complaint was noise generated by children playing in the corridors. Here we have a good illustration of the interdependence of the problems: all children must play and some will always play in the flats or in the corridors so that the parents can keep an eye on them. Improvement in playground facilities must compete with the demand for parking and other open spaces so that blocks are made facing each other to ensure greater privacy and reduce noise level. All of these and many other technical and financial constraints continue to challenge the planners and administrators of HDB.

In any event, there is a strong sentiment that life has changed for the better as a whole. When asked to take everything into account, 26 per cent of the sample said that life had become much better, 44 per cent reported somewhat better, 18 per cent mentioned that conditions had remained the same as before, 11 per cent thought that life had become somewhat worse and only 1 per cent indicated that things had changed very much for the worse.

Impact on the Economy

Although not the primary objective, Singapore's public housing programs have generated a certain amount of external economies as a result of the massive scale of constructions.

While much of the systematic analysis of the economic impact is still underway and little can be said about the cost structure and returns of investment, we could provide an overview of some of the economic benefits of the program.

The ratio of construction to GDP in Singapore has been increasing both absolutely and in proportion during the last decade. In fact, next only to manufacturing and quarrying industrial sectors, construction has been a leading sector in its contribution to GDP — averaging an annual rate of growth of 22.4 per cent compared to the GDP at factor cost of only 11.1 per cent between 1960 to 1971. In addition, more than 40 per cent of gross domestic fixed capital formation or total investment was contributed by the building and construction sector for each year of the last decade, of which a large proportion is by the construction of dwelling units. While we do not know the exact ramifications of HDB's role in the rapid growth of the construction industry as a whole, the significance of public housing cannot be understated in terms of hundreds of millions of dollars that the Government has allocated for the three five-year Programs and with more to come in the years ahead.

HDB has generated a very substantial amount of employment during its first decade of operations. The building and construction industry is highly labor-intensive with a labor absorption capacity for both skilled and unskilled members of the labor force. The position of the building industry was particularly crucial in the early 1960's when unemployment was high. In fact, part of the intention of the First Building Program was to create employment. It was estimated at that time that the construction of one unit of public housing would generate employment for a person for nine months directly at the constructon site and that a building program of 10,000 units per annum would create 15,000 jobs. The construction industry as a whole employed an average of 10 per cent of the total non-professional labor force for the period 1960-65, and, due to the faster expansion of some other sectors, about 7 per cent for the period 1966-70. Not only did direct employment of

on-site labor by HDB in 1970 average over 6,000 persons per day but it also created a multiplier effect on employment in the primary and secondary building material, transport, and other related industries.

To implement the Building Programs, HDB had to recruit and train a large number of school leavers to become technical personnel, such as draughtsmen, clerks-of-works, and housing and maintenance inspectors. The majority of these technicians, after being trained by the Board, joined the service of other Government Departments or the private sector. Without the training program generated as a result of public housing construction, Singapore would have had difficulties in obtaining so many skilled personnel for the building trade to undertake the construction and management of properties erected in the last few years of the building boom.

Massive public housing construction has also contributed significantly to the development of Singapore's construction industry through the rapid expansion in the manufacture of building materials locally. Over the last decade a large number of factories producing building materials were established to meet the vast demand. Between 1960 and 1970, major types of construction materials used for internal floor area of HDB residential units have been estimated to include over 13 million bags of cement, 1.7 million cubic yards of sand/concrete, 2.7 million cubic yards of aggregate, 150,000 tons of steel, 76 million pieces of hollow blocks, 56 million pieces of bricks, 11.6 million yards of cable, 11.5 million feet of battens and 4.5 million yards of earthwires.

In addition, new technologies such as prefabrication have been introduced. Economy in building materials has been achieved in several ways, including the use of concrete hollow blocks for interior walls instead of ceramic bricks on exterior walls to cut down paint work. In order to provide employment opportunities within the public housing estates, provisions are made to include labor-intensive industries to provide jobs for tenants, especially women, within the vicinity of some estates. There are now more than 300 industrial shops of factory units

distributed among the public housing areas. Preliminary results of an on-going study of employment in public housing estates show that HDB estates absorbed some 60,500 workers, of which more than half are engaged in the industrial sector and 56 per cent are women. Moreover, the same study shows that 78 per cent of those workers are living within the HDB estates or close to their place of employment.

Impact of Political Stability

There is no doubt that the relatively successful public housing programs affecting a large segment of the middle and lower income population have further enhanced national pride, political stability and support for the Government. Public housing is probably the most visible demonstration project of the government's democratic socialist philosophy. Its success assures support for many other Government policies because of the confidence generated. It is perhaps not a pure coincidence that results of the study on level of satisfaction with public housing are similar to the results of the 1971 election in which the PAP received 70 per cent of the popular vote and won all the seats in Parliament.

Impact on Environment

Public housing, urban renewal, resettlement, and other Government programs have worked together in literally creating a new environment for Singapore. Much of the slums in the central city area and a large number of squatter settlements have disappeared over the years and have been replaced by well-planned and well-maintained high rise public housing estates, modern office buildings, shopping complexes and recreational facilities. While the long-term ecological implications of these improvements and many of the newly-evolved social and psychological aspects of high density living have yet to be studied, it is important to point out that, for the first time in Singapore, the Government is exercising control over long-term physical development of which public housing is but a part. With the assistance of the United Nations Development Programme (UNDP), a 20-year physical development plan has

been made and that HDB operates within the broad framework provided by the Planning Department in the Ministry for National Development. From this perspective, public housing does not contribute to haphazard growth but is rather one action agency implementing a national urbanization and development strategy.

Our discussion of the various dimensions of what has been implemented, directly or indirectly, by the public housing programs should include one other important consideration. At least in the case of a social project like public housing, success measured by whatever criteria is not a permanent condition that once achieved will always retain its original character. On the contrary, there is also a time dimension to the meaning of success; just as development is a continuous process, so is the challenge of public housing programs — in both cases there is no end to the demand. The Singapore experience has illustrated that from the fulfillment of one set of goals springs higher levels of aspirations which, if not met, will have negative effects on what has already been accomplished. The Government, while aiming for even higher standards, has deliberately created a very heavy demand for ownership of public flats and is now straining all its resources to meet the challenge. The outcome of this may be another success story to be told at another time.

VI. DISCUSSION: ADMINISTRATIVE CAPACITY FOR INSTITUTION BUILDING

If development is defined as a process of improving the capacity of national institutions and value systems to meet changing and increasing demands — whether they are social, economic, or political — then the Singapore experience in public housing can be seen as an exercise in institution-building to meet a particular type of demand. The process of institution-building entails the structuring of new or reconstituted organizations which embody changes in values, functions, and technologies. These organizations establish and foster certain normative relationships and action patterns, and attain support as well as complementarity in the political, administrative, and

public-clientele environment.[9] In the discussion that follows, we shall illustrate how the creation of HDB and its subsequent performance meet the criteria of institution building for development. In so doing, we aim to explain again the success of Singapore by focusing attention on the way that various categories of inputs function to enhance the administrative capacity for program formulation and implementation.

Leadership

The first, and the most crucial, step in the institutional building process is the role of leadership. The function of leadership should be assessed at two levels. Initially, political leadership is most important because it was this group of persons who recognized the need and accepted the demand for policy, decided on the overall approach to the problem, formulated the doctrine of the institution to be established, designed its internal structure and the organizational linkages with the environment and selected the administrative leadership to operate the institution. Our earlier discussions have shown how our Singapore elite leadership (the Prime Minister and his Cabinet), in accepting full responsibility in the provision of housing for the lower income groups, has provided the necessary prerequisites for policy implementation. These include the establishment of HDB as an essentially autonomous statutory body with centralized functions, sufficient financial resources and efficient linkages with other government departments, and the selection of top administrative leadership. Because of the stability of the Singapore Government, support from the political leadership for the public housing program has been continuous and adaptive, thus giving rise to several major policy revisions to achieve higher standards.

Once the new institution is established, the administrative leadership becomes more important in policy implementation. It is of critical importance that the administrative leadership

[9]For further elaboration on the concept of institution-building, see Hans C. Blaise, "The Institution-Building Process" (paper presented at the Technology and Development Institute Seminar on Innovative Leadership and Institution Building, East-West Center, Honolulu, April, 1972).

be able to identify essentially with the policy objectives as those sought by the political elite. In this respect, the initial appointment of a senior cabinet minister (and subsequently other senior civil servants) to head the newly established HDB ensured both the continuity of policy objectives and continued political support for the institution.

One of the more important variables often not taken into account in the evaluation of project implementation is administrative leadership at the middle level. In the transformation to development administration, the Government has provided, to HDB as well as other Departments, a continuous flow of young and efficient administrative personnel with technical competence and dedication. Therefore, high caliber of leadership at HDB exists not just at the top but throughout the middle level as well. Innovative measures may be conceived at the top, but the actual implementation depends on the middle level personnel.

Doctrine

The fundamental policy of the Government is to make itself solely responsible in providing shelter for the masses. The assumption is that the private sector, under any circumstance, will be unable to furnish sufficient low-cost housing units to meet the demand, and unless the deteriorating situation is kept in check, the problem would soon become unmanageable. Experience in some other developing countries has shown that this assumption may indeed be a correct one. In fact, Singapore's policy is not merely to catch up with the demand but, in the interest of higher levels of living, to deliberately generate additional demand (home ownership) and then mobilize further resources to meet the self-imposed challenge.

Administrative Structure

In summary, the following organizational features of HDB contribute to its administrative capacity. First, by being a statutory body, HDB enjoys a large measure of autonomy in terms of policy, administration and finance. Second, the Board

is sufficiently small in size, thus allowing for more efficient decision-making. And third, all essential functions with respect to public housing and related programs are centralized under one roof, making for better coordination.

Resources

Political support for public housing is also demonstrated by the Government's commitment in the allocation of financial resources in both the loans and subsidies to HDB. To be sure, the Government subsidy for public housing has been increasing but the subsidy is not excessive in the light of Singapore's buoyant economy in the last several years. For example, the housing subsidy is equivalent to less than 1 per cent of the total revenue of the State in 1972.

Program

Acceptance of and satisfaction with the Government's public housing policy depends on the Program. The word "program" includes not just setting and meeting the building targets, but also the successive improvements made in physical design, the quality of estates management, and policy with respect to rental and sale of flats.

Linkages

Three types of linkages that HDB has with its political, administrative and public-clientele environment deserve mention. The first is the direct relationship between the Board and the Minister for National Development and, through him, the Cabinet (the enabling linkage). The second is the close and simplified administrative relationship with the Ministry for National Development (the functional linkage). Finally, there is a rather effective system of feedback from the tenants through Members of Parliament, HDB Area Offices and Tenants Consultative Committees (the diffused linkage).

Exogenous Factors

There are several conditions which are external to the functions of the present Singapore Government but are never-

theless important elements in the success of Singapore's public housing efforts. First in this category is the extreme housing shortage and overcrowding conditions existing prior to 1960 which constitutes the demand for public housing and subsequently propelled the present Government into action. Also considered as exogenous is Singapore's small size and population, which promotes centralization of administration, ease of control, and limited potential demand for public housing since there is no worry of rural-urban migration once immigration is carefully controlled. Another source of favorable external condition is the existence of a small but fairly well-developed construction industry, which, together with high unemployment in the early 1960's, enabled the initial construction of public housing easier. To a much lesser degree, even natural disaster such as fire of squatter settlements contributed to the popular support of public housing since it gave the Government a chance to demonstrate its intent and capacity to provide homes for the poor within a short period of time.

In the final analysis, the Singapore experience in public housing (and other fields of achievement) demonstrates the importance of political leadership in the meeting of institutional requirements for the implementation of development projects. These include (1) a stable government, (2) the capacity to analyze problems and formulate a government's role for solution, (3) retaining central power over incentives and controls, and (4) maintaining an efficient civil service. The model here is one of planning from the top downwards: a small political leadership in the form of the Prime Minister and his Cabinet in direct collaboration with an equally small group of senior civil servants devise a comprehensive housing and urban development strategy to spell out goals, formulate policies, fashion administrative mechanisms and provide means for implementation. In so doing, the Government through HDB exercises **direct control of,** and **direct action on,** the public housing programs. Public participation in plan formulation and implementation is seen in the representation at the Board by members from a cross section of the private sector. Also, the public does have **indirect control** through Members of Par-

iament, Tenants Consultative Committees, and HDB Area Offices. In essence, however, it is the Government which sets the goals, the means, and the criteria for evaluation of Singapore's public housing programs.

TABLE 1

AVERAGE SIZE (SQUARE FEET) OF HDB FLATS

Type of Flat	1-Room	2-Room	3-Room	4-Room	5-Room
Emergency	217 (1960-1967)	414 (1960-1965)	441 (1961-1963)	-	-
Standard	269 (1960-1966)	424 (1960-)	559 (1960-)	795 (1961-1968)	-
Improved	326 (1965-)	522 (1965-1969)	658 (1965-)	886 (1968-)	-
Point-Block	-	-	-	900-950 (1970-)	1261-1300 (1972-)

Figures in brackets indicate period of construction.

TABLE 2

RENTAL AND SALE PRICES OF HDB FLATS*

Type of Flat	1-Room	2-Room	3-Room	4-Room	5-Room
Emergency	20.00(R) -	40.00(R) -	60.00(R) -	-	-
Standard	20.00(R) -	46.50(R) 4,900(S)	66.50(R) 6,200(S)	126.00(R) 12,500(S)	-
Improved	30.00(R) 3,300(S)	60.00(R) 4,900(S)	90.00(R) 9,500(S)	- 15,500(S)	-
Point-Block	-	-	-	- 20,000(S)	- 27,500(S)

Inclusive of conservancy charges. Currency in Singapore dollars. These rates have been increased in 1974.
(R) — Rental Charge
(S) — Sale Price

TABLE 3
SATISFACTION WITH PUBLIC HOUSING

ITEM	Satisfactory	Acceptable	Unsatisfactory
Nearness to Market	57%	21%	22%
Availability of Goods	63%	29%	8%
Prices of Goods	49%	41%	10%
Bus Service	40%	39%	21%
Taxi Service	61%	24%	15%
Nearness to City	44%	35%	21%
Nearness to Place of Work	81%	17%	2%
Nearness to Primary School	65%	28%	7%
Nearness to Secondary School	16%	65%	19%
Nearness to Police Station	37%	27%	36%
Nearness to Clinic	69%	24%	7%
Public Security	65%	27%	8%
Playground for Children	33%	40%	27%
Parking Facilities	43%	28%	29%
Facilities for Rubbish Disposal	59%	28%	13%
Cleanliness of Building	41%	39%	61%
Efficiency of Lifts	14%	25%	20%
Opinion of Estate	72%	26%	2%
Opinion of Block	68%	27%	5%
Opinion of Floor	62%	25%	13%
Opinion of Flat	68%	24%	8%

Source: Stephen H. K. Yeh and Statistics and Research Department, Housing and Development Board, **Homes for the People: A Study of Tenants' Views on Public Housing in Singapore** (Singapore: Government Publications Bureau, 1972), Chapter IV, "Present Living Conditions," pp. 35-83.

TABLE 4
SATISFACTION WITH CHANGE SINCE RELOCATION

ITEM	No Significant Change	Changed for the Better	Changed for the Worse
Employment	87%	8%	5%
Travelling Time to Work	47%	28%	25%
Household Income	42%	45%	13%
Public Security	38%	56%	6%
Health of Household Members	29%	67%	4%
Marketing Facilities	38%	51%	11%
Primary School	65%	28%	7%
Secondary School	71%	18%	11%
Travelling Time to Primary School	38%	38%	24%
Friendliness of Neighbors	63%	28%	9%
Type of People	65%	27%	8%
Amount of Noise	28%	41%	31%
Cleanliness of Neighborhood	15%	75%	10%

Source: Stephen H. K. Yeh and Statistics and Research Department, **op. cit.**, Chapter VI, "Comparison of Present and Past Living Conditions," pp. 96-126.

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HONG KONG

THE IMPLEMENTATION OF THE RESETTLEMENT PROGRAM

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THE IMPLEMENTATION OF THE RESETTLEMENT PROGRAM

A. W. F. Wong*

I. HISTORICAL BACKGROUND

Origins of the Squatter Problem

The origins of the squatter problem in Hong Kong date back to the Second World War and earlier. The War in China in the late 1930's brought into Hong Kong large numbers of refugees. By 1941, immediately before the outbreak of the Pacific War and the fall of Hong Kong, the population nearly doubled that of a decade ago and was estimated at around 1.6 million. Since existing housing was unable to cope with the sudden increase in demand, the refugees helped themselves to whatever open space was available in and near the city and there put up makeshift shacks, wittingly or unwittingly violating land and building laws. These persons were the squatters and the huts they built were squatter structures. The problem was, however, short-lived and the subsequent years witnessed a reverse pattern of migration so much so that when the War ended in 1945, the population had dropped by one million. The problem, furthermore, existed only on a small scale and was to be completely overshadowed by events of the post-War years.

The revival of economic stability in Hong Kong, coupled with political developments in China at the end of the War, resulted in the return of former Hong Kong residents and the influx of more refugees.[1] The 1946 population returned to its

*I am thankful to Dr. S. S. Hsueh, Professor of Government and Public Administration at United College, The Chinese University of Hong Kong, now on secondment to Nanyang University, Singapore, as Vice-Chancellor, for his inspiration and encouragement. Whatever is at fault in this case study is, of course, my own.

[1]Unless otherwise specified, facts and figures in this account of the implementation of the Hong Kong resettlement program are from the **Annual Reports** of the Resettlement Department, the Public Works Department and the Housing Board.

Pre-War high of 1.6 million. The already inadequate housing stock in Hong Kong had been further badly damaged during the War and squatters were estimated to exceed 30,000 and were daily on the increase.[2] Shanty-towns mushroomed and, in addition to being objectionable on legal grounds, they posed a threat as potential fire and health hazards.

First Attempts at a Solution

The first efforts to tackle the squatter problem in Hong Kong were launched in early 1948 soon after Sir Alexander Grantham assumed the Governorship.[3] Aside from the negative aspect of controlling and clearing squatters, the government was to demarcate certain resettlement areas in which the homeless were to be allowed to build huts in an orderly arrangement. Such efforts were, however, totally overwhelmed by developments in China in 1949. This final year of the Civil War in China increased the Hong Kong population to over two million and the number of squatters rose tenfold in two years from 30,000 to 300,000. The problem they presented grew to unprecedented magnitudes. Indications at that time, however, suggested that with the settling down of conditions in China, the refugees would leave and that the existing squatter policy, strengthened by strict immigration controls, would suffice.

However, the refugees did not leave Hong Kong and by 1951 it was becoming evident that the squatters would continue to be a problem. Under a new policy, the government introduced a number of "approved" resettlement areas in which persons who claim to be residents and the means to conform with the structural standards required were allowed to erect semi-permanent cottages. The rest of the squatters were to

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[2]Keith Hopkins wrote two very good footnotes (5 and 6) in his article "Public and Private Housing in Hong Kong" (see References) in which, he argued that the 1946 housing stock in Hong Kong was only adequate for 730,000 people and the 1950 housing stock, 837,000 people. His calculations were based on a minimum floor space of 35 square feet per person. Obviously, overcrowding was, and still is, a way of life in Hong Kong.

[3]Hong Kong is a British Crown Colony whose governance is entrusted by Her Majesty's Government to a Governor of Hong Kong, assisted by an Executive Council and a Legislative Council, both non-elective.

be relocated into a few "tolerated" resettlement areas in the city's outskirts where they were permitted to build huts with little or no structural control imposed. Both categories of areas were provided with access roads and public conveniences, such as latrines and bath-houses.

A decision was also taken by the Governor to assign the responsibility of administering the areas to a new Resettlement Division of the Urban Services Department which worked under the surveillance of the Urban Council.[4] However, other related functions, such as screening squatters to determine eligibility for resettlement, squatter prevention patrols and clearance operations remained with other Government Departments.

Lessons from Early Efforts

Progress of resettlement was unsatisfactory in those early years. By 1953, only 45,000 had been moved into the resettlement areas. The causes identified were mainly that the majority of squatters were too poor to afford the building costs of the type of cottages required in "approved" areas and that they were unwilling to move into the outlying "tolerated" areas which were far away from their places of work.

In response to the first problem, the Urban Council introduced in 1951 a system whereby building contractors were allowed to build standard cottages for sale to persons eligible for resettlement. Some economy of scale was expected from this scheme. The measure, however, failed as squatters were still unable to meet the price set down by the profit-making contractors. A better solution was found by the Hong Kong Settlers Housing Corporation and others in 1952. The Corporation, a non-profit making organization financed partly by the government and from public donations, eventually built a total

[4]The Urban Council began in the early days of Hong Kong as an advisory Sanitary Board. In the early 1900's this was reconstituted as the Urban Council. With an element of popular election (a limited electorate for only part of the seats in the Urban Council) and with certain executive powers (e.g., resettlement estates management, latrines, parks, etc.), the Urban Council can be regarded as Hong Kong Government's political development test-tube.

of 1,500 cottages. Here was, perhaps, the birth of the idea of resettling squatters into public housing.[5]

The slow progress during this period may be attributed to various other factors. For example, unified organizational command was missing and inter-organizational coordination was difficult at the operational level because various aspects of squatter control and resettlement were administered by different Government Departments. Perhaps, the whole scheme of resettling squatters into single-story cottages in "approved" and "tolerated" areas was found defective since land was scarce in Hong Kong and site acquisition and improvement were disproportionately expensive. These, and many other questions, were raised a little later. In the meantime, the stage was set for a major crisis.

The First Ten Years: 1953-1963

Crises and Response

Although efforts up to 1953 succeeded in reducing the number of squatters to approximately 250,000, the problem remained largely unsolved. Most of the squatter colonies had populations varying from 30,000 to 60,000. The squatters did not simply live in these shanty towns. Many ran small shops and those with some skill, capital and previous entrepreneurial experience operated small workshops and factories using and storing highly inflammable materials like cotton. All these business survived and thrived in the tightly-packed wooden huts, making the squatter areas a more serious fire hazard.

The first major squatter fire broke out during the early 1950's in Kowloon City and rendered 20,000 homeless. In 1951, another squatter fire razed to the ground the homes of some

[5]It is not my intention to play down the achievements of the Housing Society, a voluntary agency, which opened shop in 1951 with Government assistance and constructed housing for the lower income group. They were, strictly, not involved in resettlement in 1951 or later. However, it took the Government some ten years to realize that what the Housing Society was doing, providing more and more cheap housing, was on the right track and should be followed. The decision to start Government Low-Cost Housing was made in 1961 and the decision to favor low-cost housing over resettlement housing was made as late as 1966.

15,000 persons. Although no major fire occurred in 1952, a total of 15,000 squatters were rendered homeless by smaller fires during the year, and another 7,000 were similarly displaced in early 1953. On the night of December 25, 1953, the worst fire in the history of Hong Kong flared up, changing Christmas from a time of rejoicing to a time of mourning. Within a few hours, 53,000 persons in the densely populated Shek Kip Mei squatter area were homeless and the result was a crisis of the first order.

The Government immediately took steps to meet the crisis. Not only was the usual emergency relief in the form of food and blankets provided but the government decided to erect temporary two-story buildings on the fire site to rehouse the fire victims. To accelerate production, the Architectural Office of the Public Works Department at once worked out a design specifying the use of pre-cast concrete. Work on the site started a month after the disaster and by February, 1954, the first of the blocks was completed. The remaining blocks were handed over for occupation at the rate of two every three days. These temporary blocks came to be known as the Bowring Bungalows.[6] The undertaking of direct responsibility for the provision of resettlement housing, albeit temporary, was a major Government decision and was to have far-reaching consequences.

Temporary Policy Commitment

At the same time that the Government was vigorously responding to the crisis, the Urban Council which had been assigned policy control over the administration of resettlement areas, appointed an Emergency Subcommittee on Resettlement. In addition to deliberating on the needed emergency measures for the rehousing of the Shek Kip Mei victims, the Subcommittee was further invited to examine the overall squatter problem and to come forth with proposals. A number of recommendations seeking a long-term solution to the problem were soon put forward. The Subcommittee argued that the government should

[6]Bowring Bungalows were named after the then Director of Public Works, T. L. Bowring, who was instrumental in the decision, design and construction of the buildings.

assume the responsibility of resettling squatters into public housing. It went on to say that two-story blocks were uneconomical and proposed, instead, buildings of six or seven stories. It further recommended an administrative reorganization bringing under one unified command all functions relating to the squatter problem.

These recommendations were sensible and logical but not entirely acceptable to some government quarters since essentially they would have meant a continuous commitment of the Government to use huge amounts of taxpayers' money to finance expensive capital constructions for the legally undeserving squatters.[7] However, the magnitude of the problem, the destitution of the squatters and the gradual awakening of the welfare obligations of the State made the recommendations the only possible remedy to solve the problem. Some praised the Urban Council and its Subcommittee for their bold and frank views. The Government accepted most of their recommendations though it was still reluctant at that time to make a firm commitment.

By April 1954 and soon after the start of the new financial year, Governor Grantham appointed Cadet Officer D. R. Holmes to the newly created temporary post of Commissioner for Resettlement.[8] By June 1954, the new temporary Resettlement Department officially came into existence through the grouping of the Resettlement Division of the Urban Services Department, members of the screening teams of the Social Welfare Office of the Secretariat of Chinese Affairs and the squatter control and clearance staff of the Public Works Department. Other Cadet Officers and Executive Officers, all generalist administrators, were appointed chiefs of the various divisions and units

[7]A cursory reading of the 1954/55 issue of the Resettlement Department Annual Report will suffice in so far as the evils, or rather dangers, of using huge amounts of taxpayers' money to build houses for squatters. Although the decision was to rehouse the fire victims, nowhere was it forgotten that they are legally undeserving squatters who had violated land and building laws. As a matter of interest, I wish to point out that "squatting," a most natural posture for any ordinary East, South, or South-East Asian, is a posture most offensive to the Western eye.

[8]Cadet Officers are now known as Administrative Officers. D.R. Holmes is now Chairman of the Hong Kong Public Services Commission and is now Sir Ronald Holmes.

of the Department.[9] Under a set Emergency Regulations promulgated by Governor-in-Council, the Resettlement Department immediately assumed the duties and functions previously entrusted to the original Departments of its constituent units.[10] The building functions — site formation, construction and maintenance — continued to be responsibilities of the Public Works Department. It was also decided that eight six-story buildings were to be constructed on the Shek Kip Mei fire site as an experiment.

Incremental Policy Development in Implementation

Although the Government made no firm commitment to resettle squatters into public housing, the Departments of Public Works and Resettlement tried to cope with the immediate problems of Shek Kip Mei. By June 1954 (i.e., six months after the disaster) the Bowring Bungalows were all completed by the Public Works Department. The Resettlement Department rehoused a total of 36,000 fire victims in these bungalows while work started concurrently on the experimental six-story blocks. However, when the crisis was nearly over, another major fire broke out in July 1954 in the Tai Hang Tung squatter area rendering 18,000 persons homeless. The government immediately decided to build as many multi-story blocks as possible on this new fire site. Ironically, the Tai Hang Tung fire created unexpected benefits for others because it released a level valley on which some 35 per cent more persons than had previously lived there could be rehoused; thus giving the mar-

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[9]Cadet Officers, now Administrative Officers, and Executive Officers, who are entrusted with policy and routine administration, respectively, are generalists both in that they are liable to be posted to different Government Departments at regular intervals and in that they have, in general, received scholarly and not professional training prior to appointment.

[10]Governor-in-Council means a decision made by the Governor after consulting the Executive Council. In 1973, the Executive Council consisted of 6 Official Members of which 5 are **ex officio**, and 8 Unofficial Members all of whom are appointed by the Crown upon the recommendation of the Governor.

ginal accommodation so necessary for an effective long-term program.[11]

At this time, the experimental six-story design which the Architectural Office erected in the Shek Kip Mei proved to be a success. The decision was then to modify the drawing to seven stories and this was made the standard for future resettlement buildings. These early buildings of six and seven stories came to be known as Mark I blocks. With these developments, the Government finally made up its mind and announced in January 1955 its intentions of launching a large-scale program of clearing and resettling as many as 150,000 squatters based on an annual target of 50,000.

No overall policy was formulated in financial year 1954-55 despite the Government's intentions of resettling practically all squatters. Such a policy was to evolve gradually on an incremental pattern of trial-and-error.[12] In 1955-56, work started to redevelop Shek Kip Mei. All the temporary two-story structures and their three-story variations were to be replaced by seven-story Mark I blocks. This was a logical sequel to the 150,000 squatter resettlement program. However, it took some eight years for the Bowring Bungalows to completely vanish from Hong Kong's landscape. Attention was first drawn, in 1956-57, to the problem of squatter huts on the rooftops of private tenement buildings. A survey was then conducted to determine the extent of the problem and a new unit was set up in the Resettlement Department to specifically control rooftop squatting. Squatter workshops and factories, which were believed to have caused most of the squatter fires, were first attended to in 1957-58 when the first resettlement factory building was completed.

It was not until August 1958, not long after Sir Robert Black succeeded Sir Alexander Grantham as Governor, that

[11]If not for this Tai Hang Tung fire, the whole situation might have been very different. There might not have been a resettlement program as we understand it today, or the whole program might have been very much delayed.

[12]Perhaps, trial and error is too harsh a criticism. The pattern was certainly incremental in that more and more elements were added into the policy.

another significant stride was taken. The Emergency Regulations, under which the temporary Resettlement Department had been operating since 1954, were repealed and replaced by a Resettlement Ordinance.[13] Although the new Ordinance followed closely the old Regulations in substance, the spirit was different in that Ordinances were of a lasting nature. Moreover, the enactment of the Ordinance conferred on the Resettlement Department a permanent status.

Sir Robert Black's term of office is significant not only for the permanent status given to the Resettlement Department but also for a renewal of vigor in the resettlement program. At the time he took office, the annual additional number of persons accommodated in multi-story estates had dropped from an increase of 58,000 in 1954-56 to an increase of merely 19,000 in 1957-58. A survey conducted in 1959 by the newly-mandated Resettlement Department further revealed the alarming fact that there were more squatters than ever — 500,000 compared to 250,000 in early 1954. It was at once decided that the yearly rate of resettlement into multi-story blocks should be raised from 50,000 to 100,000. Although this new annual target was never achieved, the yearly increases of persons resettled rose steadily to some 82,000 in 1963-64.[14]

Achievements and Efforts

Although the resettlement program never reached its annual targets during the first ten years, the overall performance was nonetheless formidable. By the end of financial year 1962-63, nearly half a million (463,000) persons were accommodated in 12 multi-story resettlement estates. (See Table 1 and Graph 2). Such estates had populations ranging roughly from 10,000 to 80,000 each. In view of this scale, "towns" would be a more appropriate name than estates.

As noted earlier, the 1953 Bowring Bungalows gave way to multi-story Mark I blocks in 1955. In 1961, Mark II blocks were designed by the Architectural Office which were struc-

[13]Resettlement Ordinance, **Laws of Hong Kong**, Chap. 304.

[14]Please see Table 2 for decrease figures before Sir Robert Black took up office and for increase figures after he did.

turally similar to the Mark I prototypes except that they reach up to eight stories whenever site and foundations allowed. They further featured both exterior and interior improvements. Towards the end of the ten-year period, plans and drawings of Mark III blocks were under preparation. The new design was not only structurally superior to its Marks I and II predecessors but also provided private facilities and conveniences, in sharp contrast to previous communal ones.

The population of cottage areas, formerly "approved" areas, increased from about 46,000 in early 1954 to some 83,000 towards the close of 1963-64. These increases, unlike those for resettlement estates, were not so dramatic because the sharp rises occurred only during the first two years. This was because single-story cottages were a luxury in terms of land-use which Hong Kong could ill afford and the policy was to accord priority to multi-story estates and to clear those cottage areas nearest to the city for housing and other developments.

On the input side, the government's efforts could perhaps be best stated in terms of personnel and finances. The number of staff of the Resettlement Department rose from around 500 in 1954-55 to about 3,500 in 1963-64, a seven-fold increase. A similar analysis could not be made on the Public Works Department because it was responsible for all public constructions and no breakdown on the number of staff involved in the resettlement program was possible. As for finances, the annual expenditure on resettlement incurred in both the Public Works and Resettlement Departments increased from about HK $24 million in 1954-55 to HK $103 million in 1963-64, aggregating a total of HK $414 million. These included capital spendings incurred in the Public Works Department on cottages and multi-story buildings constructed by private contractors as well as expenditures on recurrent cottage areas and estates management and staff emoluments in the Resettlement Department. The construction of multi-story estates naturally took up the bulk (around 80 per cent of the total with HK $20 million in 1954-55, HK $49 million in 1962-63 and cumulatively, HK $244 million for the ten-year period.

Squatter Increases: The Continuing Problem

By the end of 1962-63, the government was a benefactor and landlord to some 536,000 previous squatters — 463,000 in estates and 73,000 in cottage areas. Despite these formidable resettlement results, the squatter population reached new peaks year after year. The 1959 survey showed that it had grown to 500,000. A resurvey in 1961 revealed that there were 530,000 squatters. In March 1963, this number rose to 585,000. Squatters had actually been increasing at an annual rate of 87,000, if the number of persons resettled are included.[15] The Resettlement Department was, perhaps, to blame for ineffective squatter control and the Public Works Department for inefficient building production. It must, however, be remembered that the situation had changed materially since 1953. For instance, the 1963 population of Hong Kong was 3.5 million, which was 1½ times the 2.3 million population of 1953. The squatters, being less educated and more prolific, obviously registered the highest natural increase in population. Despite strict immigration controls, refugees continued to enter Hong Kong usually in trickles but at times in greater numbers.[16] Unable to find proper housing, they had no choice but to become squatters.

An added dimension to the problem was the redevelopment of old property. The Second World War not only damaged a good deal of housing, it also caused the rapid dilapidation and deterioration of many Pre-War buildings. When Hong Kong's economic development began to accelerate in the late 1950's and the early 1960's, redevelopment of private premises followed and huge numbers of tenants were evicted. During the eight of

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[15]The calculation is simple. Five hundred thirty-six thousand were resettled. Squatters increased from 250,000 to 585,000 — an increase of 335,000. Therefore, total number of additional squatters including those resettled is 536,000 plus 335,000 equals 871,000 in ten years. Annually, squatters increase by 87,000.

[16]For example, in 1962, over 100,000 persons came from China, the exodus coming in the wake of a disastrous harvest in China.

the ten years under consideration — 1956 to 1963 — nearly half a million persons were made homeless.[17]

A further complication to the problem was the increasing incentive to squat caused quite unintentionally by the resettlement program itself. In the years before 1954, while some 300,000 took to squatting, the remaining surplus population were law-abiding and crammed themselves into existing privately-owned houses. The fortunate few stayed with relatives and friends but the majority rented, at exorbitant prices, cubicles and bunker-bed spaces in tenement houses. On seeing that squatters were given resettlement housing well below the prevailing market price, it was only human that these renters also took to squatting.

All the above pointed towards the need of a new policy and served to highlight the magnitude of the task yet to be completed in the years to come.

II. PLANNING AND IMPLEMENTING THE 1964 PROGRAM: THE SECOND TEN YEARS (1963-73)

Squatter Problem Escalates

Notwithstanding the best of efforts on the part of the Government, it became clear in early 1963 that the seams of the existing squatter policy which had evolved since 1953 were beginning to burst open and that the time had come for a thorough evaluation of the housing program.

In addition to the problem of squatter increases already discussed above, squatters were beginning to consider squatter control and clearance alone to be repressive and to regard resettlement as a right. At a time when squatters were growing at a rate which made it impossible for estate construction to cope with the increased need for shelter, such measures, though

[17]L. F. Goodstadt in his "Urban Housing in Hong Kong 1945-63," in I. C. Jarvie (ed.), **Hong Kong: A Society in Transition** (London: Routledge & Kegan Paul, 1969) compiled figures from the unpublished Quarterly Reports of the Tenancy Inquiry Bureaux 1956-63 to this effect. (See Table VIII of his article)

imperative if the problem was to be tackled, certainly gave rise to considerable public misunderstanding. More than once, officers of the Resettlement Department were assaulted physically. The political climate was also gradually changing from one of passivity to that of activism.[18]

Squatter fires, though controlled to a great extent by the clearing of fire lanes in squatter colonies, were still a regular phenomenon and made thousands homeless every year. These persons, together with victims of other natural disasters such as typhoons, rainstorms, landslides, etc., were offered temporary sites in or near their original domiciles; and, in most cases, assisted in re-building their huts. However, persons living in these temporary sites, known as resite areas, were given no legal status and no priority in resettlement except when such sites were required for development. In other words, resite areas were nothing more than squatter colonies given a less unpleasant name and their control and administration extremely difficult.

Squatting was also developing at an alarming rate on private buildings. The March 1963 survey revealed that there were as many as 10,000 rooftop illegal structures or nearly 18 per cent of all squatter huts in Hong Kong. Unlike conventional squatting, it was nearly impossible to contain rooftop squatting as it was out of sight and took place in privately-owned premises. Squatting, mostly of commercial nature, further developed inside resettlement estates themselves. While all ground-squatting households in their previous shanty-towns had the locational advantage of operating small shops to earn their daily living, their settlement into seven-story blocks reduced the possibilities to one-seventh. As a result, open spaces inside the estates, so necessary for a higher quality of living, were taken up by stationary hawkers most of whom were residents of the estates.

[18]Although D. W. Drakakis-Smith in his monograph **Housing Provision in Metropolitan Hong Kong** (Hong Kong: Hong Kong University-Centre for Asian Studies, 1973), p. 34, contends that squatters are basically conservative and are satisfied with little gains, my own observation is that those who had not yet had any gain were getting restless.

The 1963 Working Party and the 1964 Program

It was in the light of previous successes and failures that Governor Sir Robert Black appointed a Working Party in June 1963 "to advise [him] on what changes in policy... [were] required with regard to the provision of and eligibility for resettlement or low-cost housing and with regard to the clearance of squatters and the provision of temporary resites...."[19] The Working Party, headed by the Secretary for Chinese Affairs, included the Director of Public Works, the Commissioner for Resettlement, two other senior officials and four Unofficial Members of the Urban Council.[20] A total of 22 meetings were held in the ensuing months and the Working Party's Report was completed in November 1963 and furnished to the Resettlement Policy Select Committee of the Urban Council for comments prior to submission to the Governor. Then followed a period of consideration.

As soon as Sir David Trench, who succeeded Sir Robert Black, assumed duty as Governor in April 1964, the government prepared a policy White Paper accepting in principle the Working Party's Report and indicating its agreements to and departures from the recommendations of the Working Party. After consultations between the Governor and the Executive Council, a decision was reached to present to the Legislative Council the 1964 White Paper instead of the 1963 Report. The Legislative Council accepted the White Paper in September 1964 and thus marked both the beginning of a new policy and of a new program.[21]

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[19]**Report of the 1963 Working Party on Government Policies and Practices with regard to Squatters, Resettlement and Government Low-Cost Housing**, mimeo., quoted in **Review of Policies for Squatter Control, Resettlement and Government Low-Cost Housing, 1964.**

[20]Working Parties, Working Groups, Commissions, Commissions of Inquiry, Committees, etc. is a usual phenomenon in policy making in Hong Kong. Their deliberations culminating in a report form the basis of new policies.

[21]The White Paper is the **Review of Policies for Squatter Control, Resettlement and Government Low-Cost Housing.** A White Paper spells out Government policies together with their rationale. If legislation is required, a separate Bill leading, on passage through the Legislative Council, to an Ordinance is prepared. The Legislative Council is the law-making body in Hong Kong as the name implies.

The spirit behind the 1964 resettlement program could best be described in the words of the 1963 Report on which the new policy was based:

> The difficulties and dangers created by Hong Kong's squatters and even more by the uneasing streams of new squatters are not ones which can be dealt with in isolation. They not only arise out of but are a part of a major housing problem, which we believe now to be so acute as to rank second in economic importance only to people's overriding need for employment, and to be of greater social importance even than education or medical care.[22]

The implications of the statement were two-fold. Firstly, resettlement housing should be regarded as part and parcel of public housing alongside other programs, such as low-cost housing provided by the Housing Authority and other voluntary agencies like the Housing Society. All of these, by making available cheap accommodation, contributed to the solution of the squatter problem. Secondly, public housing should be viewed in the context of the quantity and quality of private housing in that the housing stock as a whole, if inadequate, caused new squatting. In this regard, private housing, on becoming slums, could lead to squatter increases.

Although the implications were comprehensive and far-reaching, the program itself was less than perfect. It was never meant to be an overall housing policy nor was it devised as a part of a major national development plan. It merely went a little beyond patching existing policy loopholes. The spirit in its entirety was to materialize much later.

Long-Term Building Plan[23]

The first element of the 1964 resettlement program was that of construction targets. For the first time a long-term building plan was formulated. It consisted of a six-year "building program" and a 10-year "technical planning targets." To state the program in terms of a figure over a period of years

[22]Please see note 19.

[23]See White Paper, **op. cit.**

was certainly a much more realistic and flexible planning approach than the previous practice of fixing annual rates. For the six-year period from 1964-65 to 1969-70, the plan was to construct multi-story resettlement accommodation for a total of 900,000 persons, or an average of 150,000 a year when expressed in terms of annual rates.

It had been discovered that financial support was never the cause of the Public Works Department's inability to meet the 1955 annual rate of 50,000 and the 1959 annual rate of 100,000 since adequate funds had always been voted by the Legislative Council and its Finance Committee. The trouble spots were site clearance and site formation. Clearance operations carried out by the Resettlement Department were smooth enough where squatters were immediately given resettlement housing. However, where squatters were only given resites with no legal status to stay there permanently and with no near hope of resettlement elsewhere, they became less amenable. And where squatters were operating small factories or cultivating small plots of land, considerable difficulties were experienced. Clearance of factories had to be tied in with the completion of factory resettlement blocks and clearance of farmers involved a long compensation process. Site formation, together with the essential paraphernalia of sewers, access roads, water supply, etc., was time consuming especially when sites were to be carved out of rugged hillsides. The setting of a 10-year "technical planning target" of accommodating 1.9 million, or an average of 190,000 a year, offered the extra benefit of allowing more sites to be cleared and/or formed well ahead of time. As noted earlier, the 1964 program also included a six-year "building program" and a 10-year "technical planning target" of accommodating 170,000 and 290,000 persons, respectively, in Government low-cost housing.[24] For the first time, resettlement housing and low-cost housing were viewed as complementary.

[24]These figures for Government Low-Cost Housing are much more modest than those for resettlement. As we shall see, their inclusion marks the beginning of the phasing out of the resettlement program.

Squatter Control Stepped-Up[25]

The second element of the new resettlement program was that of squatter control. The new policy differed in a subtle way from existing squatter control practices. In a sense, the new program was more repressive than ever. The squatter control organization of the Resettlement Department was to be strengthened. The standing policy of restricting existing "tolerated" squatter structures, toleration of which came with the various surveys conducted since 1954, was to continue on an augmented scale.[26] Needless to say, prohibition of new squatting was to be further pursued. In addition, the Government expressed the need to secure legislation which would hold landlords responsible for any squatting on private land and on rooftops of private buildings.

The Government's determination to exercise stricter controls could best be reflected by its refusal to accept the 1963 Working Party's recommendation of establishing "permitted areas" based on existing clusters of "tolerated" structures or squatter areas. The 1964 White Paper argued that such a "proposal suffered from the fundamental defect of legalizing squatting... [and] also established a right to squat by any who wished to do so, thereby intensifying rather than diminishing the difficulties of control and clearance, and delaying development."[27] Instead, the Government proposed to establish "licensed areas" in which the genuinely homeless were allowed to erect huts subject to restriction on building material and layout. As the licensed areas were new sites, or existing resites, demarcated by the Commissioner for Resettlement and Gazetted specifically for the purpose, the huts erected therein were technically and legally not squatter structures.

Despite the Government's insistence on legality and control, the new policy recognized that the negative control functions

[25]Please see White Paper.

[26]Tolerated structures are to be differentiated from tolerated areas which were introduced in 1951 as a first resettlement measure. Tolerated structures are squatter huts built before each and every survey and deemed tolerated so as to prevent new squatting.

[27]Please see White Paper. A comparison with note 7 will show that Government was still insisting on legality.

should be supported by positive upgrading of the amount of resettlement accommodation. The "licensed areas" scheme together with the inception of "transit centers" to be discussed later, also forestalled possible future new squatting due to real destitution.

Resettlement Priorities[28]

The third element of the 1964 program was that of resettlement priorities. Ever since 1954, resettlement housing had always been given only to those persons living on areas required for development. The fire victims of the early years could be considered to be in this category since the land they released provided sites so essential for the implementation of the first ten years of resettlement. With the passage of time, it became obvious that certain other categories of persons, such as pavement dwellers, tenants of demolished dangerous buildings, victims of natural disasters, etc., also needed resettlement and that, perhaps, they were even more deserving and their needs more urgent. The original policy, however, remained unchanged during the first ten years and few exceptions were granted.

Based closely on the recommendations of the 1963 Working Party, priorities for resettlement in the 1964 White Paper were first drawn up in a descending order of importance:

1st — Former tenants of building evacuated as dangerous or demolished for public development.
2nd — Special compassionate cases and certain victims of natural disasters.
3rd — Occupants of cottage resettlement of resites needed for development.
4th — People occupying squatter structures on public land required for development.
5th — Tenants of overcrowded resettlement rooms.
6th — Pavement dwellers.

The list clearly reversed the preferential treatment accorded to conventional squatters who were now only the fourth priority. Although the list received revisions in subsequent years, they were never restored to their former status.

[28]Please see White Paper.

For those persons who were high on the list when resettlement housing was not immediately available, "transit centers" were to be set up in which they were allowed to build huts. The "transit centers" were to be created out of the best parts of what were previously known as resite areas, which were originally established for much the same purpose but deteriorated in time. As persons in such centers had a recognized high resettlement priority, it was believed that turnover would be high and the number of centers required would be minimal, thus releasing valuable land for development.

Automatic Implementation and Program Evaluation

The implementation of the 1964 program, as in the first ten years, was automatic and efficient. In fact, the implementation process was so automatic and efficient that even during the period June 1963 to September 1964, obviously a period of immense uncertainty as the whole policy was being seriously reviewed and reconsidered, building and resettlement functions were dutifully carried out. In 1963-64, the number of additional persons accommodated in multi-story resettlement estates was in the region of 82,000, not very far below the annual target of 100,000. In 1964-65, this number rose to some 137,000, well in excess of the 1959 annual target of 100,000 and slightly under the average annual target of 150,000 adopted in late 1964 for the new program. It can, therefore, be argued that implementation not only followed new policy directives but anticipated new policy directions.

The machinery of implementation remained largely unchanged, with the Public Works Department in charge of the building functions and the Resettlement Department responsible for squatter control and clearance and for estate and area management. Policy surveillance continued to be exercised by the Urban Council and its Select Committees and ultimate policy coordination and control by the Colonial Secretariat.

The Resettlement Department promptly conducted a survey in late 1964. The survey revealed that the population of squatter structures was now 546,000 with another 78,000 living in

some 30 resite areas, or 624,000 in all.[29] Inclusion in the survey became the criterion for allowing the erection of squatter huts and for the eligibility of their occupants in future resettlement housing. Action was also taken to seek approval for a reorganization and strengthening of the operational units of the Resettlement Department. The Legal Department gave priority to the drafting of the necessary amendments to the Resettlement Ordinance. Close liaison with the Crown Lands and Survey Office of the Public Works Department produced a number of suitable sites for "licensed areas" and "transit centers" while procedures for their administration were being completed. Consultations also took place between the Resettlement Department and the Crown Lands and Survey Office to adjust clearance programs in the light of the new resettlement priorities.

In order to meet the goals of the new program, the Public Works Department's Architectural Office introduced Mark IV blocks which were structurally and otherwise similar to the earlier designed Mark III counterparts except that they were of sixteen stories. The break away from the maximum height of eight stories, aside from the advantage of accommodating more persons per given area, made the building program less dependent on the factor of site availability. The results of the first year of implementation were impressive. Up to the end of 1964-65, an additional 137,000 persons were accommodated in multistory estates. This was only slightly below the average annual target of 150,000 persons resettled.

Soon after the first year of the new program, Governor Sir David Trench appointed in June 1965 a standing Housing Board made up of prominent citizens and senior Government officials to review and to advise him on all aspects of housing in Hong Kong. The idea of forming a Housing Board was first mooted in the 1963 Working Party's Report which also recommended the amalgamation of all public housing functions under a single Government Department. The latter recommendation was stalled by the government while the former gained grounds as there was a real need to put resettlement and other government and

[29]This was the peak and a most alarming fact.

public housing in their proper context. Through the greater use of statistical data, also recommended by the 1963 Working Party, the Board was able to annually review the housing situation in Hong Kong and to propose adjustments to the resettlement and low-cost housing programs.

These annual reviews, specifically spelled out in the 1964 White Paper and ably performed by the Housing Board, formed the basis for continual evaluation. Approval of such reviews by Government, through the Colonial Secretariat,[30] adjusted the long-term and short-term building targets year after year. It would, therefore, be most misleading to compare the actual building progress to the targets originally planned in the 1964 program. For instance, the six-year "building program" of resettlement accommodation and low-cost housing were adjusted in 1966-67 from 900,000 and 170,000, respectively, to 650,000 and 350,000, respectively, in favor of low-cost housing. The pattern continued until 1969-70 when they were adjusted to 300,000 and 290,000, respectively. From then, targets of the two programs were expressed in a single figure in subsequent Reports of the Housing Board.[31]

The Fruits of the 1964 Program

Despite the foregoing, building results still fell short of expectations. For example, in the six-year period from 1964-65 to 1969-70, the total number of additional persons accommodated in resettlement estates was 533,000, which was 367,000 less than the targeted building program of 900,000. In another six-year period from 1966-67 to 1971-72, the adjusted target of 650,000 resulted in the resettlement of only an additional 384,000 persons — a 266,000 deficit. Government low-cost housing experienced similar setbacks. The shortage for 1964-65 to 1969-70 was 20,700 and 198,900 for 1966-67 to 1971-72. It must, nonetheless, be pointed out that progress in building

[30]In administration, the Governor is assisted by the Colonial Secretary who also deputizes for him during his absence. The office of the Colonial Secretary is the Colonial Secretariat made up of a number of policy branches.

[31]Please also see note 24. From 1970-71, there was to be no difference between low-cost and resettlement housing.

was also affected by the social, economic and political situation in Hong Kong. The Bank Crisis in 1965, the Disturbances of 1966 and the Riots of 1967 all indicated a regression. They tightened credit facilities, restricted economic activities and posed the major question as to whether the Government should and could continue the rate of public works and services planned at the time when the economic and political future looked prosperous and certain in a boom period.[32] And as the economy regained its buoyancy in the late 1960's, the Government found itself competing with the private sector in securing the services of construction contractors at a time of full employment. The role of the Director of Public Works was, indeed, an unenviable one.

The scaling down of the resettlement building program in favor of low-cost housing and the not too satisfactory progress in construction apparently made the annual additional number of persons accommodated in estates drop consistently from an all-time high of 137,000 in 1970-71 until a new Governor, Sir Murray MacLehose, brought the number up to 55,000 in 1971-72. The pattern was similar to that experienced during the time before Sir Robert Black became Governor in early 1958 and it could be inferred that the resettlement program was losing momentum. Curiously enough, however, the squatter population was controlled. In 1965 the first decline of the number of squatters from over 600,000 to about 538,000 was noted and the trend continued. In 1972, squatters and persons living in "licensed areas" and "transit centers" dropped to 323,000. The Government's new policy of integrating squatter control with resettlement, of clearly delineating resettlement priorities, of providing low-cost housing **in lieu** of resettlement housing and of assessing demands on public housing in the light of the whole housing situation in Hong Kong had borne fruits.

In 1971-72, there were a total of 1,205,000 persons under the charge of the Resettlement Department with 1,155,000 in resettlement estates and the remaining few in cottage areas. During the same period, the number of estates rose to 25 in

[32]Being a colony, I suspect political uncertainty, rather than economic future, has a greater effect on Government action or inaction.

total and the design of blocks was improved to Marks V and VI with more variations in room sizes and the standard space allocation per person raised from 24 to 35 sq. ft.[33] Work also started to convert old Marks I and II blocks to bring them in line with the latest designs.

Resource-Inputs

To complete the record, an account must be given of the resources spent in producing the results. During the period 1964-65 to 1971-72, out of the total expenditure (HK $887 million) on the resettlement program, HK $571 million, or 64 per cent, was spent on multi-story blocks. Recurrent expenditure during this period, mainly personal emoluments, became proportionally higher with an ever increasing number of officers involved in estates management. A total of HK $304 million were so spent.

No other resource was more important than human inputs. The total staff establishment of the Resettlement Department was about 5,700 in 1972-73 which ranked sixth in an array of 40 Government Departments. The Department has doubled its size (2,800 in 1962-63) in ten years and has expanded ten times (500 in 1954-55) in its twenty-year history. A word should be said of the thousands of middle and junior officers of the Public Works Department without whose conscious support and routine efforts the implementation of the resettlement program would have been less of a success. Also, the leadership since 1954 of four Governors, nine Commissioners for Resettlement, four Directors of Public Works, various Urban Councilors, prominent citizens, senior officers of the Colonial Secretariat, the Public Works and Resettlement and other related Government Departments contributed in making the resettlement program a near success. The style of leadership was at no time flam-

[33]The decision was taken in 1968. Ever since 1954, space allocation was on the basis of 24 square feet per person with half that space for children under the age of 10. Even this new 35 square feet rule was far below the standard set by the 1903 Public Health and Building Ordinance which prescribed a minimum standard of 50 square feet.

boyant but persistently effective and the process of implementation anonymous but pervasive.[34]

Later Developments: Resettlement Program Transformed

Sir Murray MacLehose's first achievements in raising the resettlement rate in 1971-72 from a nearly all-time low of 23,000 to 55,000 persons was to be totally dwarfed by his new plans. During his first year in office, he studied the Hong Kong housing situation in depth and came to the conclusion that, although over one million persons were now accommodated in resettlement estates and areas, public housing remained an increasingly acute problem and should receive top-priority attention.

In his first policy speech at the opening session of the Legislative Council in October 1972, he announced his plans of providing public housing to practically everyone in Hong Kong — a ten-year target of 1.8 million. As land was becoming more and more scarce in Hong Kong Island and in Southern and Northern Kowloon, he gave the first green signal for public housing for the urban population to expand into the suburban and rural New Territories. The new housing estates would cost, at current prices, a total of HK $3,000 million, excluding expenditures for providing facilities to ensure a pleasant and healthy environment for residents of the estates and for building roads and other public amenities.[35]

Some quarters expressed doubts as to whether the new program of housing 1.8 million was not to be ill-fated like the 1964 program of resettling 1.9 million in ten years which had resulted in merely 0.5 million for the eight-year period from 1964-72. The major policy breakthrough, however, was not the building program but the formation of a new Housing Department last April 1, 1973. After nearly ten years, the 1963 Working Party's recommendation of bringing all public housing functions under one Government Department was now to be realized. Up to

[34]In a stable institution, like that of Hong Kong, where the rule of law prevails, leadership in administration is inevitably bureaucratic, deriving its authority from legal-rational sources and not charisma.

[35]**Hong Kong Annual Report for 1972, p. 4.**

this time, there had been three types of public housing, excluding those provided with assistance from Government and those by private voluntary welfare organizations like the Housing Society. These were:

(a) **Resettlement Estates and Areas.** These were constructed by the Public Works Department through private contractors and managed by the Resettlement Department. At the end of 1971-72, a total of 1,205,000 persons were accommodated in these projects.

(b) **Government Low-Cost Housing Estates.** These were also constructed by the Public Works Department through private contractors but managed by the Housing Division of the Urban Services Department and not by the Resettlement Department. The program started in 1963, given an extra impetus in the 1964 program, and by 1971-72, had housed a total of 231,000 persons.

(c) **Housing Authority Estates.** The Housing Authority was a statutory public organization established in 1954, concurrently with the inception of the Resettlement Department, to cater to the housing needs of the middle-lower income group. The Authority functioned through the Housing Division of the Urban Services Department which was responsible for the design and construction (again through private contractors) of housing estates in addition to estate management. At the end of 1971-72, a total of 218,000 persons had lived in these estates.

The new Housing Department, created by the merger of the Resettlement Department and the Housing Division of the Urban Services Department, would immediately assume the management of all the three above-mentioned housing estates and areas. This Government Department would be advised and supervised by a reconstituted Housing Authority and would be responsible for the design, construction and the management of all new public housing estates. In other words, the Public Works Department would no longer be involved with public housing but could be approached and consulted only for approval of land-use and building plans. Likewise, the Resettlement

Department was abolished and there was to be no longer distinction between Resettlement Estates. All in all, the resettlement program had been transformed into a public housing program and had become a comprehensive and major Government function.

III. ANALYSIS AND CONCLUDING COMMENTS

Dimensions of "Success and Failure" in Implementation

1. Resettlement Numbers

In order to understand the achievements and transformation of the resettlement program, the variables or factors involved in its implementation should be identified and analyzed. To put these variables in proper perspective, however, the extent of the success or failure of the program should be indicated more precisely.

The most formidable success of nearly two decades of resettlement is in sheer numbers. By 1971-72, a staggering total of 1,205,000 persons lived in one kind of resettlement accommodation or another. As evidenced in Table 1 and Graph 1, the increases had been steady and persistent. Accommodation in multi-story resettlement estates which started from a small scale in 1954 had increased to an overwhelming total of 1,155,000 in 1972, representing over one-quarter of the total population. Accommodation in cottage resettlement areas remained fairly constant throughout and stood at 50,000 in 1972.

However, when compared to the original plans made at various points in the past, these figures do not seem to justify the claim to outright success. As highlighted in Table 2 and Graph 2, while the target for the three-year period 1955-58 was 150,000 persons or 50,000 per annum, the actual overall result was merely 92,000. This had consistently declined each year from 38,000 to 35,000 then to 19,000. For the six-year period from 1958-64, the yearly target was to resettle 100,000 persons. The goal was never reached although the annual output rose

steadily from 19,000 to some 82,000 in 1963-64. The six-year "building program" decided in 1964 was for a total of 900,000 but the actual number of additional persons accommodated in resettlement estates was only 533,000 for the 1964-1970 period.

It must be pointed out, however, that the last failure to meet the 1964-1970 target was the outcome of a conscious decision to scale down resettlement housing production in favor of other types of public housing. Moreover, for the same period 1964-1970, the additional number of persons taken into Government Low-Cost Housing Estates was 622,000, in sharp contrast to the original plan of 170,000. In terms of numbers, and viewed together with the low-cost housing program, the resettlement program had, indeed, been a success.

2. Squatter Numbers

Less of a success is the control of squatters. The pre-1954 squatter population was estimated to be around 300,000. Early efforts reduced the number to 250,000 in 1954. No estimates had been made until November 1959 when a survey revealed the alarming fact that, despite resettlement achievements, the squatter population had doubled, instead of decreased, and stood at 500,000. The upward trend continued up to 1964-65 when the squatter population reached an all-time high of 620,000. The increases were apparently signs of failure, yet ironically they were also consequences of the success of the resettlement program. Multi-story accommodation, though poor by reasonable standards, proved to be attractive to people living in crowded private tenements and they resorted to squatting with the hope of resettlement.

Squatter increases began to level off with the introduction in 1963-64 of the Government's Low-Cost Housing Estates catering to the needs of the lower income group. As in 1964-65, the upward trend had been reversed by 1971-72 with the number of squatters, and those living in resite/licensed areas, dropping consistently to 323,000. This is not a proud result as it seems to signify that after nearly two decades of resettlement, the balance of the squatter population, which the program

first set out to eliminate, grew from 250,000 to 323,000. However, as Table 3 shows, although the first ten years of resettlement failed in this respect, the 1964 program succeeded in bringing the squatter population under control and in curbing the number of squatters. The resettlement program had been successful to that degree.

3. Quality of Life

Notwithstanding successes in numbers, the living environment in resettlement areas and estates was and still is generally substandard. The choice was between quantity and quality and the Government seemed to have decided in favor of numbers. Life in the early resettlement areas and estates was hard by any decent standard. Facilities essential to human living — such as water, latrines and bathhouses — were all communal. No cooking space, not to say kitchen, was provided and meals were prepared either in the all-purpose 120-square-foot room or in the public corridor. The only advantage over squatter structures was that resettlement cottages and blocks were less susceptible to fire and other natural disasters. Space was allocated on the basis of 24 square feet per adult and, since there were far too many fire victims to be accommodated, the actual space occupied was much less. Further overcrowding occurred as a result of marriages and births. Such conditions, if not totally intolerable, leave much to be desired.

Later developments depict a general pattern of improvement although still far from adequate. One-story cottages gave way to two or three-story buildings in 1953. These Bowring Bungalows were soon completely demolished to make room for the construction of more and more multi-story Mark I blocks which were first introduced in 1954. Mark I blocks were followed by Mark II in 1961 and Mark III in 1964. These early models were of six, seven or eight stories high. Sixteen-story Mark IV blocks were introduced in 1965 followed by Mark V in 1966 and Mark VI in 1970, all sixteen-stories high. As in Mark III and later models, both the exterior and the interior designs of resettlement blocks were improved and some private

essential facilities provided. As from Mark VI onwards, room sizes were raised to 35 square feet per person. Despite this increase, it is still generally believed that the actual space occupied by an average resettlement estate resident is no more than 24 square feet. If one pauses to imagine living in a 4 by 6 feet, or even 5 by 7 feet, floor space, he will certainly find it difficult to see success in the resettlement program in terms of quality of life. The efforts on the part of Government in this direction are clearly inadequate.[36]

4. Spin-Offs

Perhaps, in addition to resettlement numbers, squatter numbers and quality of life, the Hong Kong squatter resettlement program's success or failure should be judged by its external economies, or spin-offs so to say.[37] Politically, who can say for sure that Hong Kong would have been as stable as it has been during the past twenty years if not for the resettlement program? Socially, what would have been the state of affairs if the resettlement estates and areas together with their 296 schools, 60 kindergartens, 78 welfare and low-cost clinics, 21 vocational training centers, 27 welfare centers, 68 children and youth centers, 25 libraries and reading rooms, 9 family planning offices and 28 nurseries never existed, assuming there were ample land in Hong Kong for the tightly-packed wooden-hutted squatter settlements to accommodate a population of over a million? These political and social benefits are, of course, intangibles difficult to ascertain and quantify. However, with little effort, one can easily see the economic benefits. During the past twenty years, the Resettlement Department cleared some 5 square miles of squatter land. Al-

[36]Keith Hopkins gave a good description of life in the resettlement estates in his article "Housing the Poor" (see References). He also made five case studies in the same article concluding that overcrowding was partly due to refusal on the part of tenants to move into new estates.

[37]In this section, I have concentrated on the economies external to the resettlement program. One can, in fact, also discuss diseconomies external to the program. Overcrowding, poor facilities, low quality of life, etc. portrayed in the previous section may well be social causes of crime and unrest. For example, the **Report of the Commission of Inquiry on the Kowloon Disturbances 1966** attributed the disturbances to the poor living conditions in resettlement estates as one of the causes.

though I do not have figures as to how much land resettlement estates and areas now occupy, it can readily be appreciated that for a city with a built-up area, including roads, railways and resettlement estates and areas, of about 40 square miles, this has been a feat. Minimal rents on resettlement accommodation have also produced external economies. They have, in a way, helped in keeping wage levels low so essential when Hong Kong was transforming from an entrepot to a manufacturing economy in the 1950's. Government has, in fact, been subsidizing industrial development.

Analysis of Key Factors and Variables

Policy and Planning

Resettlement policy in Hong Kong generally took on an incremental pattern of gradual evolution. The pre-1954 experiments in "resettlement areas," "approved areas" and "tolerated areas" are good examples. The Bowring Bungalows, which were built subsequent to the Shek Kip Mei fire in 1953 and were to be completely demolished before long to make room for the construction of multi-story resettlement blocks, are indeed a classic example of making short-term decisions but allowing future events to dictate the subsequent direction of policy development. This can be seen in the formation in 1954 of a temporary Resettlement Department which was made permanent four years later because of the gravity of the squatter problem. Other examples include the construction of factory resettlement blocks as late as 1958 when it had been earlier realized that squatter factories were the major causes of squatter fires and other hazards.

The 1953 policy commitment to resettle fire victims and squatters into public housing and the 1964 program could, in a way, be regarded as exceptions to the incremental rule. They, again, were the results of crisis and response except that the crisis in each case was on a much larger scale. In either case, Government only accepted the immediate solutions and rejected the longer range proposals of the 1953 Urban Council Emer-

gency Subcommittee on Resettlement and the 1963 Working Party. It is, therefore, appropriate to describe the Hong Kong resettlement policy in terms of Lindblom's "science of muddling through."[38] Incrementalism suited admirably the situation of "borrowed place — borrowed time."[39]

However, with the formation of the Housing Board in 1965, resettlement policy and planning began to adopt a less incremental and crisis-oriented approach. Being charged with the responsibility of reviewing the overall housing situation in Hong Kong and to make annual recommendations to the Governor for consideration in the Executive Council, the Board was able to make far-reaching proposals, such as the scaling down of resettlement and the stepping up of low-cost housing construction in the light of changing circumstances. Etzioni's "mixed scanning" of incorporating both the rational and the incremental approaches in decision-making[40] became the order of the day.

Coordination and Control

Although the responsibilities of resettlement were shared between the Resettlement Department and the Public Works Department, ultimate policy coordination and control rested with the Colonial Secretariat.[41] Two policy Branches of the Colonial Secretariat were especially related to the resettlement program:

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[38]Charles E. Lindblom, "The Science of Muddling Through," **Public Administration Review**, Vol. XIX, No. 2 (Spring 1959). Also see David Braybrooke and Charles E. Lindblom, **A Strategy of Decision** (New York: Free Press of Glencoe, 1963) for Lindblom's strategy of disjointed incrementalism, and Karl Popper, **The Open Society and Its Enemies I** (London: George Routledge, 1945) for the concept of piecemeal social engineering.

[39]Richard Hughes, **Hong Kong: Borrowed Place — Borrowed Time** (London: Andre Deutsch, 1968). The question here is: Will Hong Kong survive as a colony on Chinese soil?

[40]Amitai Etzioni, "Mixed Scanning: A 'Third' Approach to Decision-Making," **Public Administration Review**, Vol. XXVII, No. 5 (December 1967).

[41]Please see note 30. At the time this paper is finalized, the Colonial Secretariat has been completely reorganized following the **Report on the Machinery of Government** submitted by a consultancy firm McKinsey & Co. in May 1973. A new Housing Branch has been split from the Buildings and Lands Branch which has been renamed Environment Branch.

(a) **Buildings and Lands Branch.** This is the policy Branch which exercised coordination and control over the two functional Departments in so far as squatter control, squatter clearance, use of the land so released, construction of resettlement estates, etc. were concerned. The Branch was headed by the Principal Assistant Colonial Secretary (Lands) graded at the 6th point of the Superscale. It was, indeed, not easy for this official to coordinate, let alone control, the Commissioner for Resettlement and the Director of Public Works who were graded at the 8th and 9th points of the Superscale, respectively. Frequent recourse to the Deputy Colonial Secretary and the Colonial Secretary had to be sought resulting in considerable delay. The situation was greatly relieved by the inception of the Housing Board in which all three officers concerned sat as members.

(b) **Finance Branch.** This is the Branch which coordinates and controls financial and budgetary matters. Whenever the resettlement program required money and personnel increases, the Finance Branch would first scrutinize the request and forward the requisition to the Legislative Council or its Finance Committee. The arrangement of locating the budget agency and the policy agency in the same Department and under the same roof fostered a closer and more rational relationship between resettlement policy and resettlement spending. The Colonial Secretariat, in this sense, functioned in much the same way as a President's or Prime Minister's Office.

The Resettlement Department and Public Works Department were further advised by the Urban Council and its two Select Committees on Resettlement and by the Commissioner for Resettlement and the Director of Public Works who are **ex officio** members of the Urban Council.[42] The Urban Council, from the very beginning of the program, had taken a strong interest on the program and was instrumental in bringing it

[42]Please see note 4. The Urban Council has also been reorganized. Its newly attained status of independence is featured by financial autonomy and withdrawal of all Official Members from the Council. The Council now has a total of 24 Members, all Unofficial, half appointed by the Governor and the other half elected by an electorate of about 300,000.

into existence. Although the program had begun to expand into the rural areas, the Urban Council remained the competent authority under the Resettlement Ordinance for the renting and management of cottage and estate resettlement premises in urban areas.

Inter-Departmental committees and meetings are a regular feature of public administration in Hong Kong. Such committees, including the Resettlement Committee of the Public Works Department, were essential for enhancing coordination and ensuring control within the two Departments so necessary for the efficient and effective implementation of the resettlement program.[43]

Evaluation and Feedback

Aside from regular and routine evaluation on the part of the Housing Board, the Urban Council, the Colonial Secretariat and the two implementing Departments, the 1953 Urban Council Emergency Subcommittee on Resettlement and 1963 Working Party provided fine examples of major evaluation exercises — the former resulting in the government's launching of the resettlement program and the latter, in the introduction of the 1964 program. These two bodies were basically **ad hoc** in nature and were given the specific task of evaluation and recommendation. Constituted separately from the Departments related to the resettlement program, the Government officers and prominent citizens on such bodies were able to objectively evaluate the program.

The importance of statistical data in program evaluation cannot be over-emphasized. Although the surveys of squatters conducted in 1959, 1961 and 1963 did much to highlight the squatter problem and brought about the formation of the 1963 Working Party and the promulgation of the 1964 program, the 1963 Working Party was still far from satisfied with the data situation. They drew attention to the very serious lack

[43]Hong Kong, like Britain, can be regarded as having a government by committee. Please see K. C. Wheare, "Government by Committee," in Richard A. Chapman and A. Dunsire (eds.), **Style in Administration: Readings in British Public Administration** (London: Allen & Unwin, 1971).

of accurate up-to-date information on housing and on relevant social and economic activities. They also remarked that the usefulness of an advisory Housing Board (the formation of which being one of their main recommendations) depended to a large extent on the provision of such statistics. This advice has always been followed ever since 1965 when the Housing Board was first constituted.

Feedback also came from the clients of the resettlement program and other public-spirited citizens. The most obvious channel was through the Area Officers of the Resettlement Department itself. Other channels which were more important and more often resorted to were:

(a) **Office of the Unofficial Members of the Executive and Legislative Councils.** This is the Hong Kong version of an Ombudsman. The Office was first established in 1964. Unofficial members of the two Councils took turn to receive complaints from the public as well as collect public opinion.

(b) **Ward Offices of the Urban Council.** There were a total of ten ward offices each manned by two ordinary members of the Urban Council. They can be likened to constituencies except that ten of the twenty ordinary members were appointed by the Governor and the remaining ten elected by a very limited franchise not based on electoral districts. The system started in 1965.[44]

(c) **City District Offices.** There were also ten City District Offices introduced in 1968 under the Secretariat for Home Affairs. They were responsible for conveying and explaining Government policies to members of the public and collecting and forwarding public opinion to relevant Government Departments.

Resource Management

With close and constant liaison in the Colonial Secretariat between the Buildings and Lands Branch and the Finance Branch, funds for the resettlement program were never a problem to the implementors. During the 18-year period (1954-

[44]Please see note 42.

1972), total expenditure for resettlement was $1,302 million whereas collection from rents and fees totalled $528 million or over 40 per cent of the total expenditure. Rents in domestic units were calculated in such a way as to recover the original capital cost (with land at an assumed figure of $14 per square foot including site formation, piling and engineering cost) amortized over 40 years at compound interest rate plus all recurrent expenditure. The resettlement program, though heavily subsidized and assisted by public funds in terms of initial capital investment, cheap land and low interest rate, was at the same time a resource-generating program.

Personnel resources were also managed with equal success. The total number of staff of the Resettlement Department rose from 500 in 1954-55 to 5,500 in 1971-72. When the Department was first created, all responsible positions were occupied by generalist administrators in the Administrative and Executive Classes supported by Settlement Supervisors and Area Officers. To ensure a greater degree of continuity, a middle level rank of Assistant Resettlement Officer was introduced in 1959-1960 followed by higher ranks of Resettlement Officer and Senior Resettlement Officer, making it possible for every Division to have as its Second-in-Command a senior career officer of the Department not subject to being posted to other Government Departments at regular intervals as did Administrative Officers and Executive Officers. In 1966-67, Area Officers became Resettlement Assistants and a training grade of Student Resettlement Assistant was introduced. These Student Resettlement Assistants were to be given in-service training by the newly organized Departmental Training Unit in an effort to upgrade the quality of personnel of the Resettlement Department.

Land was the most basic resource of the resettlement program. Site clearance undertaken by the Resettlement Department and site formation carried out by the Public Works Department were not always smooth operations. Resistance from squatters and insistence on the part of officers of the Resettlement Department often resulted in violent outbreaks.

Site formation together with the laying of sewers, pipes and roads on a hilly and rocky terrain was time-consuming and difficult. These caused considerable delays in both building and resettlement. There was also the constant danger of making the whole resettlement program backfire into a vicious cycle as the three functions of land clearance, building construction and squatter resettlement were inter-related. Without land, no resettlement building could be erected and no squatter could be resettled, but one can say with equal justification that without extra resettlement accommodation, no squatter could be resettled and no land occupied by squatters could be cleared. Nonetheless, emphasis was placed on land and sites were formed well ahead of time not necessarily from squatter areas. For example, the Sau Mau Ping Estate was built on a site carved out of a previously uninhabited hillside.

Leadership

Leadership is the single most important variable not only in politics, administration and implementation but also in all spheres of organized human activity. In our analysis of the above four variables, leadership has all the time been implied. Can one possibly imagine a situation where there is no leadership when policies are decided, plans made, coordination done, control exercised, evaluations performed, feedbacks accepted and resources managed?

Leadership can broadly be described in Weberian terms as either "charismatic" or "bureaucratic." In administrative and management studies, following Weber, charismatic leaders are those who, by virtue of certain personal qualities, wield tremendous power and influence over their followers, while bureaucratic leaders are those who by virtue of position in an organization exercise structural or legal-rational authority over their subordinates.[45] The above ideas do not preclude the possibility of the emergence of a person possessing both kinds of

[45]See Max Weber, **The Theory of Social and Economic Organizations**, translated by A. Henderson and Talcott Parsons (New York: Free Press of Glencoe, 1964), especially Chap. III. For this analysis, I have not included the traditional type of authority of leadership.

leadership attributes. It will be readily appreciated, however, that charismatic leadership was never prominent throughout the implementation of the Hong Kong resettlement program.

The key persons involved in the program, including the Governor, were without exception civil servants of the Crown combining in their career the bureaucratic role of remaining anonymous and their political task of winning public support and approval. If any charismatic leadership existed, it was probably pushed by bureaucratic values so far into the background that it eluded detection and analysis. On the other hand, the effects of bureaucratic leadership was clearly discernible. Incremental policy development and crisis planning are evidently signs of the conservative thinking that bureaucracies generally tend to engender.[46] Even more obvious indicators of institutional leadership are to be found in the coordination, control and evaluation structures and procedures which were highly differentiated and elaborate. Implementation was automatic with every officer all the way down the hierarchy knowing precisely what was required of his post. The result was one of general efficiency.

It is also hard to establish the claim to charisma in the Housing Board and the two Select Committees on Resettlement of the Urban Council. Although there were Urban Council "politicians" on the Housing Board and the two Select Committees, the meetings were held behind closed doors and not much came to light as to whether any of the "politicians" were opinion leaders in the Board and Committees.

A claim could, perhaps, be made that the Governors of Hong Kong have had their presence and leadership felt and followed. A second look at Graph 2 suggests the interesting observation that each new Governor during the period 1954-1972 brought about an increase in the additional number of persons accommodated in resettlement estates or, in other words, an increase in building production. Sir Robert Black's tenure 1958-1964 was most impressive. The general trend was that of increase

[46]Please see Anthony Downs, **Inside Bureaucracy** (Boston: Little, Brown and Company, 1967).

with drops occurring in only two years — 1960-61 and 1963-64. The term of office of Sir David Trench (1964-1971) witnessed four drops and three climbs, or generally one of decrease. Nonetheless, he succeeded in overtaking the original 1964 plan and accommodated 1,155,000 with 533,000 in resettlement estates and 622,000 in low-cost housing estates instead of 900,000 and 170,000, respectively. Sir Murray MacLehose, currently in office, not only raised the additional number of persons accommodated in resettlement estates from a near all-time low of 23,000 in 1970-71 to 55,000 in 1971-72, he also made public housing a top priority Government function to be placed in the hands of a single Housing Department. Let 1973 start a new era of housing for all.

Table 1

POPULATION OF RESETTLEMENT ESTATES AND RESETTLEMENT AREAS

Year	Estates	Areas	Total
till 1954	9,000	46,000	55,000
1954/1955	67,000	58,000	125,000
1955/1956	105,000	71,000	176,000
1956/1957	140,000	74,000	214,000
1957/1958	159,000	78,000	237,000
1958/1959	197,000	82,000	329,000
1959/1960	247,000	82,000	329,000
1960/1961	292,000	88,000	380,000
1961/1962	373,000	80,000	453,000
1962/1963	463,000	73,000	536,000
1963/1964	544,000	83,000	627,000
1964/1965	681,000	75,000	756,000
1965/1966	771,000	75,000	846,000
1966/1967	862,000	72,000	934,000
1967/1968	967,000	73,000	1,040,000
1968/1969	1,030,000	68,000	1,098,000
1969/1970	1,077,000	58,000	1,135,000
1970/1971	1,100,000	56,000	1,156,000
1971/1972	1,155,000	50,000	1,205,000

Note: All figures drawn from tables appended to the Annual Reports of the Commissioner for Resettlement and rounded off to the nearest thousand.

Table 2

INCREASE OF POPULATION ACCOMMODATED IN RESETTLEMENT ESTATES

Year	Estate Population	Increase	
till 1954	9,000	—	
1954/1955	67,000	58,000	
1955/1956	105,000	38,000	(38,806)
1956/1957	140,000	35,000	(34,393)
1957/1958	159,000	19,000	
1958/1959	197,000	38,000	
1959/1960	247,000	50,000	
1960/1961	292,000	45,000	(45,550)
1961/1962	373,000	81,000	
1962/1963	463,000	90,000	(89,308)
1963/1964	544,000	81,000	(81,573)
1964/1965	681,000	137,000	
1965/1966	771,000	90,000	
1966/1967	862,000	91,000	(90,344)
1967/1968	967,000	105,000	(105,971)
1968/1969	1,030,000	63,000	
1969/1970	1,077,000	47,000	
1970/1971	1,100,000	23,000	
1971/1972	1,155,000	55,000	

Note: Figures of the estate population drawn from tables appended to the Annual Reports of the Commissioner for Resettlement and rounded off to the nearest thousand. The actual increases are shown in parentheses where a disparity occurs when rounding off estate population figures.

Table 3

POPULATION OF SQUATTER AND RESITE/ LICENSED AREAS

Year	Population	
1954/1955	250,000	
1955/1956	—	
1956/1957	—	
1957/1958	—	
1958/1959	—	
1959/1960	800,000	(November 1959 Survey)
1960/1961	—	
1961/1962	530,000	(October 1961 Survey)
1962/1963	585,000	(March 1963 Survey)
1963/1964	600,000	
1964/1965	624,000	(Autumn 1964 Survey)
1965/1966	557,000	
1966/1967	478,000	
1967/1968	443,000	
1968/1969	428,000	
1969/1970	410,000	
1970/1971	393,000	
1971/1972	323,000	

Note: Except where specified, all figures drawn from the descriptive parts (not tables) of the Annual Reports of the Commissioner for Resettlement.

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SOUTH KOREA

IMPLEMENTATION OF THE NATIONAL FAMILY PLANNING PROGRAM: 1962-1971

In-Joung Whang

THE AUTHOR

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CONTENTS

IMPLEMENTATION OF THE NATIONAL FAMILY PLANNING PROGRAM OF KOREA: 1962-1971

In-Joung Whang

I. INTRODUCTION

The rapid population growth in Korea has become a serious obstacle to economic development of the country. It tends to bring about a relative decrease in per capita material resources available and a higher ratio of dependent population in view of age composition.[1] When the First Five-Year Economic Development Plan (1962-1966) was promulgated in 1961, population growth was regarded as a crucial problem. In order to meet this problem, the Ten-Year Family Planning Program (1962-1971) was initiated as an integral part of the economic development plans.[2] The ultimate objective of the program was to decrease the annual growth rate of population from 2.9 per cent during the period of 1955-1960 to 2.0 per cent by 1971. The program target was revised in the extended Fifteen-Year Family Planning Program (1962-1976) to decrease the rate to 1.5 per cent by 1976.

Recent trends in population figures demonstrate significant demographic changes in Korea. According to the census, the annual growth rate has been reduced to 2.7 per cent during the period 1960-1966 and further to 1.9 per cent during the period 1966-1970. Also the ratio of population in ages 0-13 to the total population has decreased from 44 per cent in 1960 to 41 per cent and 39 per cent, respectively, in 1966 and 1970.

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[1]For the numerical dimensions of population growth in Korea, see In-Joung Whang and Jae Mo Yang, "Administrative Implications of Rapid Population Growth in Korea" (presented at the EROPA Conference on **Administrative Implications of Rapid Population Growth in Asia**, May 8-14, 1971), pp. 3-4.

[2]Republic of Korea, **Summary of the First Five-Year Economic Development Plan, 1962-1966** (1962), p. 31, and **The Second Five-Year Economic Development Plan, 1967-1971** (Seoul, 1968), p. 66.

To what extent then has the family planning program contributed to the reduction of population growth rate in Korea during the last decade? There is a view that the program itself has made a limited contribution to population control. For example, a demographic analysis of the family planning program for the last ten years revealed that it had contributed to a one-third reduction of the total fertility rate in Korea.[3] What we learned was that although the program was clearly important, it was also evident that it was insufficient by itself to check population growth. In terms of influence it may be considered of roughly equal importance with later marriage and with induced abortion in bringing the crude birth rate down from 42 to about 30 as of 1970.[4] Moreover, the improvement in educational level also contributed to the motivational change toward family planning behavior. It was found that the program made a negligible contribution to the attitudinal change of the population or to the fundamental solution of the problem for the future since it laid emphasis more on supply of materials and clinical services for immediate results rather than on change in motivation.[5]

Nevertheless, the contribution of the program cannot be ignored. The Korean case has been evaluated as one of the most successful among family planning programs in the developing countries. For the student of development administration, the interesting point is the actual achievement of targets as a result of program management. If reviewed in terms of targets by family planning methods achieved during the last ten years, the following results would be impressive: 119 per cent in loop insertions, 110 per cent in vasectomies, 110 per cent in condoms, and 65 per cent oral pills. Approximately 80 per cent of the target was achieved in terms of practice rate although the program contributed to bringing the rate up from 9 per cent in 1962 to 36

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[3]Kyung-Kyoon Chung, "Analytical Review of Ten Years of Family Planning Program in Korea," **Journal of Population Studies**, No. 13 (1971), p. 9.

[4]Taek Il Kim, John A. Ross and George Worth, **The Korean National Family Planning Program** (New York: Population Council, 1972), p. 3.

[5]Kyung-Kyoon Chung, **op. cit.**, p. 10.

per cent in 1971.[6] Only in this respect can it be stated that the family planning program has been successfully implemented regardless of its own contribution to fertility reduction.

It is understood that the implementation of the family planning program is a quite complex process in which medical, cultural, psychological, social, economic, administrative and even political factors and implications are involved and intermingled. Therefore, an analytical study of this process will be quite suggestive in understanding the problem of achieving results in development programs and projects. Why then was the Korean national family planning program successful? What actions and measures were taken and how did they work in the Korean context? What were the factors which influenced the program to move in the right way? What factors should be strengthened and added for the more successful achievement of the program targets in the future?

This study attempts to deal with these questions through an **analytical description** of the implementation process of the family planning program in Korea. The enhancement of efficiency in this kind of research requires an analytical framework which will be applied to this study. It begins with the conceptualization of the term "implementation" of development programs or projects.

Project implementation as a process of achieving targets can be analyzed in the perspective of action systems. An action system is a structured device in which resources are mobilized and transformed by use of certain skills and technology to produce pre-designed outputs, all taking place through influence of leadership within an environmental context. The middle-range variables to be taken into account are as follows:

(a) organizational structure
(b) goals and targets as design outputs

[6]Eung-Ik Kim, "Performance Evaluation of the Family Planning Program," in **Proceedings of National Family Planning Evaluation Seminar** (Korea: KIFP, 1971), pp. 57-58 (in Korean). With regard to the practice rate in 1971, a different view says that the rate is 2.5 per cent instead of 3.6 per cent. See KIFP, **Korean Institute for Family Planning and Its Activities** (Seoul, August 1971).

(c) resources
(d) management technology
(e) leadership, and
(f) environment

For a better understanding, one must also analyze the socio-political context in which the program was initiated and implemented and the extent to which the program planning itself was conducive to its implementation or became a premise to facilitate its implementation.

In conducting this research, various methods and techniques were utilized to obtain data which support or reject the implicit or explicit hypotheses on influential factors. A considerable amount of literature on family planning was analytically reviewed. Government documents were also used as reference materials. Additionally, an unstructured interview technique was applied on seven officials from the Ministry of Health and Social Affairs (MHSA) and the Planned Parenthood Federation of Korea (PPFK). The interview technique was extensively utilized to meet some personnel of five counties selected as sample areas from the Kyung-sangpuk-do province because the province has posted the most successful achievement of the program over the last ten years. A loosely structured schedule was designed for interview with officials from the provincial government, health center directors, family planning staff, local delegates from PPFK, while a structured schedule for interview was conducted on heads of mother's clubs and selected eligible women.

II. BACKGROUND AND PLANNING OF THE PROGRAM

Soon after the student revolution of April 1960 in the Republic of Korea some intellectuals were already advocating the idea of family planning. Because of the military **coup d'etat** of May 1961, the Supreme Council for National Reconstruction (SCNR) was organized to assume overall legislative and executive functions. Several individuals interested in family planning were on advisory committees under SCNR. While the planning committee was working on national population policy,

the Minister of Health was asked to consider this matter as well. In October 1961, the national policy on family planning was announced by SCNR. Thus, the family planning program in Korea was the outcome of the decision made by the most powerful executive body. It also was the result of the collaboration between government and university professors who participated actively in the decision.

During the initial period 1962-1963 there was very limited family planning program activity. However, because the economic implications of population growth were beginning to be fully understood, the program received strong support from the Economic Planning Board (EPB). The EPB is the government's economic planning and central budgeting agency. Although the government was then primarily concerned with economic growth and improvement of living standards, it nonetheless explicitly made a strong commitment to the program following the announcement of the "Prime Minister's Memorandum" in December 1963. The government was obviously convinced of its value as a precondition to the success of the economic plan and as a key to the "life enlightenment movement" in the rural areas. It is noteworthy that a considerable number of international institutions were also involved in the initiation of the program.

To what extent then was the program planning itself conducive to its implementation? The content of program was primarily concerned with the statement of goals; that is, that the population growth rate would be reduced from 2.9 per cent in 1961 to 2.5 per cent in 1966 and 2.0 per cent in 1971. This broad goal was developed into an operational objective of achieving a 45 per cent family planning practice rate among the total married couples of childbearing age of 20-44. To achieve this objective, three major activities were proposed: (a) recruitment and training of the family planning workers and clinical doctors, (b) public information and education through mass media and individual contacts to bring about a change in values and attitudes of people, and (c) supply of oral pills, condoms, and adequate delivery of family planning clinical services. In re-

gard to the third activity, the program again set specific targets in terms of family planning methods. However, the text of the program scarcely covered specific activities for the other two categories. It did not cover any systematic elaboration of tasks and activities, the structural relationships among them, definition of resources and instruments, strategies and priorities, and other relevant information for its implementation.[7]

It is evident in the program plan that there was no detailed statement to guide specific actions; rather, it was simply a statement of objectives and targets although the problem to be tackled was adequately identified. The development of the plan into action program was to be done in the process of implementation. Nevertheless, it should be noted that the program was initiated as an integral part of the National Reconstruction Movement and of the First Five-Year Plan. Therefore, the family planning program was started with the strong support of the highest political leadership, thus creating the pressure to insure its success.

III. ORGANIZATIONAL STRUCTURE

What were the major organizations and institutions organized for the implementation of the family planning program? To what extent was the organizational arrangement conducive to program implementation?

There were three major organizations involved in the program: the Ministry of Health and Social Affairs (MHSA) and the Ministry of Home Affairs (MHA) for planning and implementation in the government sector; and the PPFK, a voluntary organization, and Korean Institute for Family Planning (KIFP), an independent institute, in the private sector. In 1961, the Family Planning Section, originally called the Maternal and Child Health Section, was established as a new special unit within the MHSA. An advisory committee under the Health Minister was added in 1963 to play an important role

[7]Specific jobs to be performed in the planning stage are problem identification, preparation, and appraisal.

of recommending necessary changes to fit the management of the program to changing situations.

On the provincial level, the Family Planning Sub-section — a technical liaison office between planning at the center and implementation at the local government — was added to the Public Health Section of every provincial and special city government. There have been two or three staff members working in the sub-section for supervision of implementation of the centrally decided targets in the local governments.

By 1963 the government had already set up one health center in every city and county as a basic unit of the technical action system. But the family planning program was attached to a still incomplete and growing organizational structure during the initial period. There was no health administration as such below the county level although there were township offices. Thus, in 1964 when township level family planning workers were hired they were not placed under the health network but under the township chief in the regular government office. This arrangement had the unexpected administrative advantage of making the township chief responsible for the success of the program. For example, whenever necessary, he could utilize all the local civil service workers to help meet the family planning targets.

Presently three to six family planning workers are serving at each of the 192 health centers while one assistant worker serves each township. Thus, as of the end of 1971, there were 898 field workers at the county-city level and 1,473 assistant field workers at the township level.[8] To reduce overhead cost, the administrative pyramid for the program was kept to a minimum so that more funds could be made directly available at the local level to provide the necessary services and to convince people of the value of family planning. It may be added that the government utilized readily available resources in the local level, such as the use of local doctors on the contract basis for delivery of clinical services.

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[8]Kyuong Sik Cho and Eung-Ik Kim, **A Survey of Family Planning Workers, 1971** (Korea: KIFP, 1972), p. 6.

As a non-governmental institute, the PPFK, founded under the sponsorship of the International Planned Parenthood Federation (IPPF) in 1961, played an important role in the implementation process. It represented the entire voluntary side which served a diverse constituency. The central staff grew from three members in 1952 to more than 30 by 1969. PPFK staff members in every branch office in each of the provinces supervised field staffs (Pill Administrators) in the counties (one staff member is attached to each health center). In the initial stage, PPFK took a leading role in providing actual services by contracting hospitals and doctors to perform vasectomies. As the program developed within the public health structure of government, PPFK's role changed to that of one of the interlocking elements in the national program, and performing certain functions delegated to it. The major functions of the Institute include: 1) the training of family planning staffs; 2) administration of foreign aid; 3) information and education through published materials; and 4) research and evaluation.

With regard to voluntary participation in the program, the most outstanding instrument was the mother's club organized with about one club for every two to three villages. The mother's club, each having a membership of 10-20 influential women, was organized in approximately 17,000 villages in 1968. To date, mother's club with a membership of 20-40 women had been organized in each of the 19,000 villages. Since 1971 it has assumed a multi-purpose role in the nation-wide "new community movement." This is a significant development because it made possible the integration of the family planning program into a broader community movement at the village level. The mother's clubs have been used by program leaders not only as a leverage in obtaining support from political elites but also as an important organizational instrument for pill distribution and information exchange. In order to supply discussion topics and to guide the mother's club meetings, PPFK distributes the monthly **Happy Home,** a magazine which carries current family planning news and other articles and information for women.

In 1970 the National Family Planning Center was organized as a branch directly under MHSA to supplement the Family Planning Section and the PPFK. The following year, it was converted into the Korean Institute of Family Planning (KIFP), a semi-government agency but with independent legal status, to enable the recruitment of professionals and to give them security of tenure. The KIFP's main functions are training, research and evaluation.

In the above discussion, it may be seen that for effective implementation, it seems strategically important to reduce central administrative control and supervision to generate more resources and initiative at the local level. This case also shows that coordination between the government apparatus and voluntary organizations at every level became the real source of administrative capacity for implementation. The voluntary participation of the client group through mother's clubs seemed to be an effective instrument for program implementation.

IV. OBJECTIVES AND TARGETS

How were objectives and targets decided and allocated among local governments? In what terms were they defined as guide to specific actions? As mentioned earlier, the program goals and objectives were not systematically elaborated into specific sub-objectives or activity targets in terms of means-ends relationships. Nevertheless, one of the impressive things is that the program targets were stated in numerical and quantitative terms. In order to raise the practice rate to 45 per cent by 1971, it was decided that 35 per cent of eligible couples would be protected through government services, assuming that another 10 per cent would be protected through their own resources. The targets by family planning method were further elaborated in quantitative terms on the technical base. They are indicated in Table 1.

Table 1. Targets of Family Planning Practice by Method (1962-1971)[9]

Methods	Original	(%)	Revised	(%)
Oral Pills (users)	——		350,000	(8.4%)
Loop: insertions	1,800,000		2,338,000	(17.6%)
wearers	1,000,000	(24.5%)	730,000	
Vasectomies: operation	150,000	(3.5%)	198,000	
protected	——		161,000	(3.9%)
Condoms (Recipients per month)	150,000	(3.5%)	150,000	(3.6%)
Self-Support	550,000	(13.5%)	414,000	(10.0%)
Sub-Total	1,850,000	(44.0%)	1,805,000	(43.5%)
Total Eligible couples	4,200,000	(100 %)	4,139,000	(100 %)

The annual national targets were set up and allocated by province through the process of annual programming and budgeting. The allocations were based fundamentally on the number of women aged 20-44 by applying 79 per cent married evenly to all provinces. Minor changes were made in the target assignments in some years, e.g., level reductions were made to put less load on low-achievement provinces. Some provinces complained that they had less than 79 per cent married or had unusually bad travel conditions for field workers. It was genuinely difficult to set targets that appeared fair to all because there was a limited channel for provincial governments to participate in the target setting and this added to the difficulty of accounting for variations in local situations. In other words, the top-down approach was adopted in target setting, including the allocations of the provincial target to the counties.

The administration of the family planning program was characterized by target-achievement as its major emphasis. The specificity of targets provided a basis for faster communication on important matters between the planning and the im-

[9]Compiled from data appearing in Kim, Ross and Worth, op. cit., pp. 65 and 195.

plementation levels and between the central and the local governments. Thus, the idea of central direction but with decentralized implementation in Korea was introduced first in the family planning program.

V. MOBILIZATION AND ALLOCATION OF RESOURCES

Successful implementation of the program requires sufficient amount of material, financial and human resources and application of adequate program technology. The major sources of financial resources can be broken down into domestic and foreign contributions. In the early 1960's domestic financial resources were primarily from the government's budget because of inadequate resources of the private sector. For example, the family planning budget at the central government had increased from 77 million won in 1963 to 172 million won in 1964, and 561 million won in 1970.[10] For the period 1962-1968 foreign assistance, excluding advisor costs and overseas training costs, was calculated at $2.1 million, which is equivalent to 18 per cent of the total. It went primarily to support organization activities (29 per cent) and to research and demonstration projects (31 per cent). Besides, the program has been strengthened by useful advisory services from foreign groups. Equally important, overseas training of personnel — especially in research and evaluation — has been augmented by foreign aid.[11]

How critical were the financial resources to the family planning program of Korea? The achievement potential was tied strictly to budgetary resources. Without funds to cover the doctor's insertion and vasectomy fees, the small payments to field staff per acceptor, and the payment to each vasectomy acceptor, the program could hardly go on.

Beyond the ordinary channel for the annual programming and budgeting, the national leadership, acting through EPB,

[10]The total contribution made through the central government amounted to 3,413 million won from 1962 through 1971. Additionally, the provincial governments contributed 555 million won from 1962 through 1969. Kim, Ross and Worth, op. cit., pp. 72-75.

[11]Taek Il Kim and Jae Mo Yang, "Outline for Foreign Assistance to Korea" (prepared for OECD Expert Meeting, April 1969), pp. 56-59.

would support MHSA in undertaking the program. Economists in 1963 gave a significant push to the family planning program. To secure the necessary finances, the Vice Minister of EPB made the family planning program appear in the investment section under the item of "Economic Development Special Account."[12]

Fortunately, the EPB staff prepared a statement for an enlarged program of family planning, outlining the role of each ministry in the program. The statement was the basis of a "Prime Minister's Memorandum" mentioned earlier, through which the related ministries were mobilized to support the program.

On the other hand, the strategic allocation of financial resources was also an important aspect of program implementation. During the period of 1962-1968, the majority (46 per cent) of the available resources from all sources was used to support organizational activities, such as salaries of field workers, administrative expenses, charges for vehicle operation and so on. The second largest portion (35 per cent) was allocated to contraceptive supplies while the smallest (5 per cent) was used for public information and education.

Another category of resource is manpower resource which played an important role in program implementation. The implementation was heavily dependent on what and how field workers performed. In 1964 the enlarged program provided for a family planning worker to be recruited by local governments in each of the 1,473 townships. In the recruitment of city and county field workers, priority was given to those who had received professional training (i.e., nurses and midwives). However, no restriction of this kind was applied to the recruitment of assistant field workers at town and township level. Consequently, a majority of the township field workers was recruited from indigenous rural communities.

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[12]In government budgeting, a priority has been put on this account because it reflects primarily the government sector of the five-year plan. Kim Hak-Yul was the same vice-minister of EPB who advocated the family planning idea throughout the government.

Meanwhile, in order to strengthen the network of rural health services, one MCH worker was attached to each sub-center in addition to the FP worker and TB worker. The MHSA decided in 1967 that all three staff members should qualify as multi-purpose workers, namely "nurse aides" able to do FP, TB, and MCH work. The shift to the multi-purpose workers qualifying as nurse aides tended to bring about the replacement of indigenous, experienced and rural-oriented assistant field workers by younger, more educated but less-experienced and urban-oriented workers. What this did to the quality of relationships between the workers and village women was to decrease rapport. Younger workers with less experience might give inadequate information on contraceptives and their side effects. Again, it tended to cost more in terms of time and effort to train the newly-appointed nurse aides to become familiar with the fairly close-minded and traditional rural people and to be acquainted with a particular community setting.

To what extent did the training program contribute to the capability building of the workers? PPFK had been responsible for training of family planning staff until the newly established KIFP took over the function. The pre-service training was the primary concern.[13] Additionally, various types of training were provided, such as in-service instructors' seminar, leaders' seminar, county leaders' rallies, and seminars or lectures for all other types of services related to family planning programs.

Pre-service training for field workers was conducted by five regional training centers. The 32-hour course was mostly concerned with lectures on family planning methods and contraceptives. Workshops for smaller groups of 20 were also conducted. A programmed instruction system has been developed since 1969. From the standpoint of teaching methods and contents, the training was rather focused on technical knowledge on family planning rather than on motivating staff or teaching skills and tactics to reach, approach, and persuade

[13]There were 2,214 field workers trained during 1964; the largest number trained was 2,934 workers in 1969 mostly for general re-training after the shift to nurse aide. See Kim, Ross and Worth, **op. cit.**, Table 7.1, p. 101.

clients both in urban and rural communities. It was found in a survey[14] that assistant field workers felt a need for more training to develop skills and techniques to contact, communicate and persuade their clients in their own particular settings.

The high turnover rate of field workers[15] led to a constant need for more training. According to a survey, 22 per cent of the health center workers and 30 per cent of the township subcenter workers had not received any substantial training on family planning,[16] indicating that a number had missed training entirely or, more significantly, that there had been considerable turnover in the staff. With regard to the program technology, family planning methods such as vasectomies, condoms, loops, and pills manufactured in foreign countries were adopted for use in the program. At the initial stage, it seemed inevitable to rely on foreign-made contraceptives but there has been a policy to improve their applicability and effectiveness.

VI. MANAGEMENT TECHNIQUES

No matter how excellent is the original planning an implementation scheme should be designed to develop a certain amount of details for its effective performance. Management must work to ensure that all the component activities and tasks are accomplished according to the implementation schedule. Therefore, effective implementation involves designing an implementation scheme as well as monitoring work performance. Questions then arise: What management techniques were adopted for the implementation of the program in this case? To what extent were these utilized both for system design and monitoring of implementation?

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[14]**Summary Report: A Study on Administrative Status and Working Conditions of Personnel at Various Levels of the National Family Planning Program** (Korea: Ministry of Health and Social Affairs, 1969), p. 51.

[15]For instance, during 1970 the turnover rate was 39 per cent of the assistant field workers in townships and 49 per cent of health center family planning workers. See Kyung-Kyoon Chung, "Status and Problems of Staff Training," in **The Proceedings of National Family Planning Evaluation Seminar** (Korea: KIFP, 1971), p. 47.

[16]**Summary Report**, p. 133.

The administrative technology of the Korean bureaucracy during the last ten years tended to be typically oriented towards the achievement of tasks and performance. The budgetary reform of 1961 was adopted to shift from the line-item budget to "program and performance budgeting."[17] A five-year economic planning system was introduced in 1961 and eventually it constructed a dominant perspective of bureaucratic actions in the 1960's. Since 1961 the so-called "programming system"[18] was applied to all the government ministries and agencies for annual operation of their activities and projects. Simultaneously, a planning and coordination unit was established in each ministry having responsibility for the operation of the new system.[19]

The management techniques used in the annual programming system have had significant implications both for the programming of individual projects on an operational basis and for internal control of monitoring performance through review and analysis in the system. A modified form of Gantt chart adding some relevant information was introduced to apply to the programming, execution, and review of operating programs.

An implementation scheme must be communicated to those responsible for its execution. All factors working in an action system at the technical level should be taken into account for the design. The form used for the implementation of the family planning program covered the following items:

(1) list of component projects and activities,
(2) target of individual projects (in quantitative terms),
(3) budget amount required or authorized to perform the projects,
(4) amount of funding on quarterly basis (if necessary, on monthly, or weekly, or daily basis),
(5) quarterly or monthly targets to be matched with budgetary resources required or authorized (in a Gantt chart form),

[17]Hahn-Been Lee, "Three Serial Budget Reforms: A Korean Experience," in HB Lee and A. Samonte (eds.), **Administrative Reforms in Asia** (Manila: EROPA, 1970), pp. 85-87.

[18]Suk-Choon Cho, "Two Reforms Under the Military Regime in Korea: A Comparative Analysis," **ibid.**, pp. 143-148.

[19]In-Joung Whang, "Leadership and Organizational Development," **Asian Survey**, Vol. XI, No. 10 (October 1971), pp. 999-1000.

(6) related agencies for coordination and cooperation in performing the project or activities,
(7) whether it is a new or continuing project, and
(8) remarks on (i) priorities, (ii) relation to major policies or development plan, (iii) commitment to foreign institute or linkage with foreign donation, (iv) special emphasis of President, and (v) others.

This form has been indiscriminately applied, with little modification, to all agencies in the central as well as local governments. It eventually became a common basis to facilitate communication between planners and implementors on the one hand and better coordination between related agencies on the other. Furthermore, this form makes possible the examination in a comprehensive perspective not only of the technical feasibility of individual tasks and activities but also the practicality of the program as a whole. The items covered by the form are not enough to design a specific action format and scheme in detail as a guide to execution.[20] However, it is judged in the case of family planning programs, that the rough and somewhat manual method used by local administrators could produce better results than procedures which required highly sophisticated data-processing methods in handling so many variables. The form also served as an indicative guide for internal control on the side of the implementor and also for the monitoring of task performance on the side of supervisors. It has been a particularly helpful instrument for the management of target achievement because the programming system has been linked with the ordinary budget control.

As an efficient device of modern management technique, the applicability of PERT (Program Evaluation and Review Technique) was suggested for the implementation design and monitoring of family planning program.[21] The method was intended to be helpful in understanding the general flow of activities, forms, reports, as well as the preceding or subsequent events in the four family planning methods. Although this

[20]For further details, see **U. N. Programming and Control of Implementation of Industrial Projects in Developing Countries** (New York, 1970), pp. 7-8.

[21]Kim, Ross and Worth, **op. cit.**, pp. 204-210.

method has been theoretically considered as a more effective tool for program implementation it has limited application because it is not yet widely understood.

VII. LEADERSHIP FUNCTIONS

According to leadership theories, the major functions of leadership are coordination, motivating and inducing participation, supervision, and resource generation. Setting up external linkages to obtain environmental support to decisions, control over environmental constraints, and critical decision-making for creative and adaptive change are also functions of leadership. In the case of the family planning program of Korea, to what extent has the leadership contributed to those functions?

It is difficult to say who played what type of leadership to perform certain functions. Roughly, administrative leadership was exercised by the Minister of Health with technical support of the Family Planning Section. Important decisions, such as target setting, were made by formal or informal groups composed of MHSA staffs, PP Advisory Committee members, and PPFK leaders.

The implementation of the national family planning program demands closer cooperation and participation of many ministries concerned. In the government sector, the program had relied on MHSA from policy-making to evaluation. The Ministry of Education performed an important role in changing the reproductive mores of the people. The Ministry of Culture and Public Information also had to play a significant role in the diffusion and adoption of information. During the initial period, inter-ministerial coordination was adequately performed on the basis of the "Prime Minister's Memorandum" of 1963. The strong leadership commitment made at the top level had stimulated the coordinated use of resources and instruments available for the program among the Ministries of Education, Justice, Defense, Government Administration, Public Information, Economic Planning Board, and the Ministries of Health and Home Affairs.

Throughout the period MHSA also could enjoy significant cooperation and coordination with PPFK and the university sector especially with regard to training, research and evaluation. It is a remarkable achievement that close cooperation between machinery and PPFK in every level contributed to the program implementation, especially to staff training, public information and education, and even the research and evaluation. More recently, their cooperation was extended to the establishment of mobile teams to supply materials and clinical service for those who are living in 600 townships without doctors.[22] Since FP field workers were attached to local government authorities which were under the control of the Home Ministry, their training program was less concerned with the motivation aspect. MHSA could play a limited role in motivating the workers and in inducing their active and positive participation in decision-making. Therefore, the coodination between MHSA and local governments became critical.

There have been various channels of supervision. Technical guide and supervision over the whole process of program operation have been vigorously exercised by MHSA staff. Within the framework of the supervisory guide, administrative supervision and control had been exercised upon the lower level action units for family planning program. In order to achieve the centrally decided targets, it was quite necessary to establish an adequate and thorough field supervision over the activities of assistant field workers who came into the county health center monthly to make their reports and get their pay. At that time, they had a chance to discuss the program and their problems. And yet, as one study observed, "the structured supervision and guidance is lacking and inadequate" for the following reasons:

(a) The health center nurses are preoccupied by their professional responsibilities of patient in-take and services such as baby clinics.
(b) They have little time to visit the workers in the field and give them the individual on-the-job help that new workers need.

[22]Twenty per cent of eligible couples are living in this sector. See ibid., p. 142.

(c) Bad roads, poor bus service, and severe winter weather hinder their travel, and
(d) The chief nurses at the health centers have usually not been given any special training for their supervisory role.[23]

Thus, the training program had contributed little to the supervisory skill. With respect to resource generation for the program, administrative leadership and national leadership played complementary roles. In collaboration with PPFK, MHSA was able to generate considerable amount of foreign assistance and in various forms — from the Population Council, IPPF, USAID, Swedish International Development Authority, etc. Fortunately, the understanding and support of the national leadership made a strong institutional commitment to the mobilization of budgetary resources and others as well.

As the program developed over the period, change in leadership took place. In the program initiation stage (1961-62), the Health Minister played a critical role in exercising administrative leadership. On the other hand, the top political and national leadership, especially the EPB leaders, played a greater role than the administrative leaders during the program diffusion phase which made the family planning a nation-wide movement (1963-67). Finally, as the program became institutionalized to ensure successful implementation (1969 to the present), leadership of private voluntary organizations, in cooperation with the administrative leadership, tended to play a significant role.

VIII. ENVIRONMENTAL LINKAGES

One of the reasons in the successful implementation of the program may be ascribed to such factors as environmental support, control over environmental constraints, and cooperation with client groups. For instance, it was essential to cultivate and maintain a favorable climate among those client groups on which short-run achievement of targets might depend or which could facilitate its future progress. Since the program was

[23]Ibid., p. 108.

government-wide in scope, it was important to identify linkages beyond specific activity relationships which might influence the program. "Linkages are points of interactions with environment . . . . They can be classified into four categories: enabling, functional, normative, and diffused linkages."[24]

Functional linkage to the program output was established with the task environment, such as PPFK, university research institutes, hospitals, and doctors. More important, the linkage to support the critical input was established with EPB officials.

A fruitful linkage with power centers was established and maintained, especially with SCNR at the beginning, and continuously with the Prime Minister and EPB. The enabling linkage could ensure and protect not only the organizational authority to operate but also its access to resources and its power to achieve results. It also promoted inter-ministerial coordination and integrated effort. The health minister was able to build up a legitimate power base for the program in order to resolve conflicts among existing organizations concerned with the program.

The idea of family planning as incorporated initially into the "life enlightenment movement" of rural communities is a form of diffused linkage. For example, the program achieved closer identification with rural folks through popular slogans or themes on the family planning behavior.[25] These themes reflected the essence of family planning idea and at the same time evoked sympathetic responses since the program was identified with the idea of a forward-looking spirit and change-orientation of the development movement. The strong commitment of the national leadership spurred the cooperation of the mass media to the promotion of the family planning pro-

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[24]The concept of linkages is adopted from Milton J. Esman and Hans C. Blaise, **Institution-Building Research: The Guiding Concept** (Pittsburgh: Inter-University Research Program in Institution-Building, 1966). Blaise suggests an additional linkage, namely, "competitive linkage." See "The Institution Building Process," **Working Paper No. 21** (Hawaii: East-West Center, April 1972).

[25]For a more vigorous campaign for the 1970's, a new slogan like "Daughter, Son, without distinction — stop at two and bring them up well" was designed to identify the program with new ideas.

gram. Radio played an important role in advocating and disseminating the idea and methods to the general public through their 65 transmitting stations dispersed throughout the country. Additionally, newspapers, films, magazines, and television contributed to its diffusion. The MHSA-PPFK collaboration through mobile clinics and the distribution of **Happy Home** also contributed in its promotion. The clientele motivation and participation in the program were promoted, perhaps most effectively, through organizing mother's clubs in each village.

On the other hand, the program could hardly enjoy the support from the general social environment primarily because of cultural bias. For example, it is traditionally impolite if people talked about birth control behavior naturally related to sex. A family planning method like vasectomy was culturally resisted because of the belief that acceptors are "useless" human beings (i.e., because their successors were not allowed to be born) and so they are no longer considered "man-like." A predominant value in the Korean society is the demand for male offspring to carry the family line. These are some of the cultural constraints which impinged on the process of program implementation. Individual attitudes and motivations regarding family planning considerably depended on the societal value of the community in which they identified themselves as members. Therefore, a far-reaching change in the value system of the general population is as important to family planning as changes in the values of the eligible couples. The normative linkage with the Education Ministry was rather loosely structured and as a consequence, the promotion of new values related to family planning behavior through the educational process was not fully exploited.

Socio-economic background, especially of eligible women, tend to affect family planning and fertility control behavior of the client group. A recent study shows that better educated women tend to have a small number of children, used contraceptives and have induced abortion. Furthermore, socio-economic status as well as the urban-rural differences of client

group clearly influenced their family planning behavior.[26] Thus, differences in social backgrounds affect their perception of the environment in different ways. The educated, the urbanite, and the higher socio-economic status people tend to perceive their environment as creating more pressures for, or supportive of, birth control behavior, innovative behavior, and non-fatalistic behavior.[27] Also, the more development value-oriented women tend to behave more favorably toward family planning.[28] Hence, the implementation of the program depends to an important degree on socio-economic background of the client group.

IX. SUMMARY AND CONCLUSIONS

In the previous discussions, the implementation process of the Korean family planning program was analytically reviewed to find the most critical factors and variables impinging on the process.

A. Major Findings and Important Points

1) A collaborative effort between the government and university intellectuals in the program initiation seemed to have contributed to wider participation from various sectors in the program and to popular support as well.

2) Program initiation was supported by the top executives of the Korean bureaucracy as an integral part of major national development policies, such as the five-year plan and the National Reconstruction Movement.

3) Program planning was loosely structured and the idea was elaborated too little to be a guide for specific actions. However, the specific definition of targets in quantitative terms with a definite time demarcation provided a bridge for easy communication between the planning units and the field workers and eventually for successful achievement of the program.

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[26]Bum-Mo Chung, et al., **Psychological Perspectives: Family Planning in Korea** (Seoul: Korean Institute for Research in Behavioral Science, 1972), pp. 33-38.

[27]Ibid., p. 42.

[28]Ibid., pp. 24-25.

4) Maximum expansion of field organization with minimum emphasis on overhead administration at the central government allowed more resources to be released to the local level for enhancement of administrative competence to implement the program.

5) The health center/sub-center network dispersed in the country enhanced administrative capacity for penetration of the family planning idea and for systematic delivery of family planning services into the local communities. The use of available doctors on contract basis has made the program readily workable from the beginning.

6) Not only the complementary role between the MHSA-MHA channel and PPFK machinery but also their coordination considerably contributed to program implementation. The close cooperation between the government sector and voluntary organizations seems critical in the process of resource mobilization as well as functional allocation.

7) The voluntary participation of client group via mother's club provided a source of community support for successful implementation. The extensive role of mother's clubs in the nation-wide "new community movement" tends to attract continuous support from the political leadership.

8) The program was highly centralized in terms of target setting and budget allocation but it was remarkably decentralized in execution at the local level. The central-local arrangement was effective for the implementation of the program as a whole.

9) The target-matched allocation of budgetary resources worked as a control mechanism for imposing responsibilities on individual implementation units for target achievement.

10) The recruitment of assistant field workers, working for client groups through face-to-face contacts, from indigenous and community-oriented groups was effective in building the capacity for approaching and persuading the tradition-bounded and close-minded rural people.

11) The training program heavily emphasized technical knowledge of family planning methods for efficiency in achieving the immediate results. However, it con-

tributed little to the capability of workers to reach and persuade the community people in the long-run.

12) Program operation was characterized by the application of target-oriented management technique, namely the programming system. Being tied in with ordinary budgeting, this system tended to be instrumental for technical design of the implementation schema at every level as well as for monitoring of its actual performance.

13) The strong commitment of political leadership to the program contributed to a foundation on which program leadership could exercise effective influence to: (a) mobilize more resources and rationally allocate them, (b) obtain legitimate power to enforce the program, and (c) coordinate and integrate relevant efforts, resources, and instruments for achieving results.

14) Administrative leadership exercised by the Health Minister played a critical role in program initiation. For the diffusion of a nation-wide program, the maximum exercise of political leadership became more important. When the program became institutionalized, the private sector leadership in cooperation with administrative leadership tended to play a relatively increasing role in the process.

15) The close coordination and cooperation among the ministries contributed to the solution of conflicts with existing programs and to the efficient use of resources and instruments.

16) Administrative and technical supervision was performed through the channel of local administration. In cases where the field supervision was vigorously performed the rate of achievement was improved.

17) The program could enjoy the advantages of linkage through leadership support. Functional linkage with the task environment was well established over the last ten years. The frequent use of university professors and institutions for research projects and seminars or lectures, contributed to the linkage building.

18) Although normative linkage with the Education Ministry and support from the general social environment was limited partly because of cultural bias, the well-

structured mass media were readily available to establish diffused linkage.

19) For political support from the national leadership as well as for wider participation by the private sector at the community level, it seems strategic to incorporate the family planning program into the main stream of development policy, such as the economic development plan in the 1960's and **Saemawol-wundong** (New Community Movement) in the 1970's.

B. Recommendations for the Program Innovation

To promote further efficiency in the implementation of the program, specific recommendations may be suggested as follows:

1) The family planning program should be further developed into a specific implementation plan in which operational targets, definition of resources and instruments, action units, and time limits by component activities and tasks systematically derived from the ultimate goals and/or intermediate objectives.

2) The internal structure of the program should incorporate a system of material and psychic incentives and rewards sufficient to maintain staff commitment in face of frustration which was reflected in the recent high rate of turnover of field workers.

3) Another attempt at closer coordination with other related programs at the planning stage is required for the efficient mobilization of multi-purpose uses of mother's clubs in villages.

4) The training program for family planning field workers should be improved by emphasizing the motivational aspect of workers and the techniques and skills to approach and persuade the community members.

5) The public information and education program for family planning should be further improved and emphasized in terms of activities, resource allocation and training. In particular, the preferences of males should be the special target of attack in the social as well as formal education program. The client targets of the family planning program should be extended beyond eligible women to husbands and general public, especially elders and community leaders.

C. Lessons from the Case: Administrative Implications

The family planning program has been intended to introduce changes in values and attitudes of people with respect to family size and number of children, and eventually in their birth control behavior. All the activities of the program are mainly concerned with change-producing and change-protecting services. It has been a nation-wide, far-reaching program for guided change in the society. What then have we learned from the ten-year experience in the implementation of the Korean national family planning program?

With regard to approach, it seems fruitful to apply the "institution-building model"[29] to the implementation of development programs and projects. Also the systems approach could be incorporated into this model in order to integrate and coordinate all relevant factors into a package of actions.

With regard to specific lessons from the case, however, the factors and variables found in this study are not necessarily related directly to the achievement of results nor are the latter a linear function of the former. A vast amount of quantitative analysis is required to assess the extent of their contributions and interrelationships. Nonetheless, some administrative implications in hypothetical terms can be drawn from this case experience since they seem to be most significant in understanding the implementation process of development projects in building strategies for their successful execution, and in studying their administrative feasibility. These implications may be classified into two groups of hypotheses on (a) factors identified as critical inputs contributing to the implementation, and (b) their relative change over time and interacting relationships.

Factors Identified as Critical (Static Analysis)

1) Functional integration of the program into five-year economic plans on the national level and also into the nation-wide community development movement at the rural level con-

[29]Esman and Blaise, op. cit.

tributes to resources mobilization, leadership support, and establishment of linkages with relevant environmental elements.

2) Centralization of target setting and budget allocation as well as decentralization of program execution becomes a complementary-role arrangement between central and local government in the administration of development program.

3) From the initiation throughout the implementation and evaluation of the program, close coordination and collaboration between government and private organizations (for example, universities, PPFK, and mother's clubs) provides a base for carrying out the nation-wide program successfully.

4) The detailed description of specifc task elements in the annual programming-budgeting process serves as a design of the implementation schema of the project.

5) The establishment of adequate institutional linkages with the environmental elements contributed to resources mobilization, cliental support, diffusion of project effect, and continuous support of national leadership.

Flexibility and Relativity in the Operation of Factors (Dynamic Analysis)

6) When a project is loosely planned and inadequately specified, the annual operational targets should be stated in numerical terms and a detailed description should be made in the annual programming process.

7) When the program goal is characterized as being a behavioral change of the population, the environmental linkages should be established to obtain national leadership support and commitment.

8) When political leadership support is critical for success, the program should be functionally integrated into a major national development movement or plan.

9) When environmental forces tend to be resistant to changes implied in the program, well-trained human resources should be secured to induce voluntary participation from the population.

10) When popular participation and support are important in the successful implementation of the program, the program director should establish adequate linkages with voluntary organizations by identifying, fostering, and utilizing them.

11) When the critical aspect of program performance varies over time, the relevant source of leadership should be identified and exploited.

12) When the immediate result is critical for the continuation of the program, a program technology proven for efficiency should be imported. However, the technology should be developed to fit into the community context as diffusion of program ideas becomes emphasized for institutionalization.

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IRAN

IRAN'S ARMY OF KNOWLEDGE (THE EDUCATION CORPS)

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IRAN'S ARMY OF KNOWLEDGE (THE EDUCATION CORPS)

Iraj Ayman

I. INTRODUCTION AND BACKGROUND

When we talk about "Development Projects," we have to define exactly what we mean by "development." There are many dimensions of development. Development sometimes connotes the expansion and the increase or accumulation of concrete, measurable and easily recognizable results, such as an increase in the GNP or in the physical and material resources of the country. In other situations, development may refer to changes which are non-material and difficult to quantify: for example, intellectual and cultural development of the people. Very often, what may offer a greater degree of tranquility and happiness as well as social, environmental and individual health belong to the latter notion of development.

Today, most nations of the world are hypnotized by the glamor of material advances which gives them a greater sense of achievement and international recognition. Very few countries cling to the traditional fascination for self-fulfillment through intellectual, moral and aesthetic achievements. Therefore, we could perceive nations as though they are huge industrial complexes set up to produce an increasing number of unit products which are sold or exchanged in the international market. Thus, achieving results often means producing more of these measurable products through the planning and implementation of development programs and projects. Generally, we do not pay much attention to what these "achievements" may cost in physical and cultural pollution, in the squandering of material and non-material resources, in sacrificing higher values of human life and in turning people into machine-like producing units.

Despite these fundamental observations, it is noteworthy that there are certain other constraints in insuring "successful"

project implementation. First, there is the dwindling awareness and enthusiasm as the process moves away from the planning stage towards implementation — i.e., getting things done. The lesser the degree of awareness and enthusiasm, the more insurmountable would the difficulties appear. It is, therefore, necessary to find ways of infusing and sustaining the original enthusiasm into all stages of implementation.

Second, achievement of result in implementation may depend on the degree of willingness of cooperation of the rank and file or the affected publics. People find it hard, or are usually reluctant, to change their way of life in order to render support. They feel insecure in the new settings. There is need for a change of attitudes, behavior and social institutions.

Third, administrative agencies are usually set up to work in an independent manner while very often "implementation" means inter-departmental cooperation. This is hard to bring about. Administrators and bureaucrats want to know why they should sacrifice and contribute to a new project. What are the possible consequences?

Fourth, program implementation often requires changing organizational structures, creating additional units, training of existing personnel, and recruiting and training new staff. All these take time and cannot be done easily if they are to be acceptable.

Finally, how are we going to integrate operations after they are successfully launched in order to preserve the harmony and unity of the government administration?

These are some of the basic constraints we always face in program implementation. To overcome them, we may take special measures in creating a sense of mission and **esprit de corps** for officials at all various levels of implementation. We may provide them with professional and specialist knowledge. More important, we may give the whole movement an acceptable leadership.

On the part of the public, it is important that we provide them the right attitude, to seek ways to preserve the health of the environment and to anticipate both short-term and long-range outcomes and consequences of the plan.

Finally, we have to provide a built-in feedback system into the process of implementation in order to correct its course as it unfolds. We have to pace the process to give a sense of achievement and maintain — or even increase — the original enthusiasm. If we manage to do all of these, we may be fairly sure of achieving results.

There are many ways of coping with these constraints. The present case study reports on one experiment which happens to contain most of the foregoing observations. It is "an attempt to accelerate programme implementation by rechanneling and reorganizing resources."

A. COUNTRY PROFILE

Iran is a large and unusually heterogenous country from every point of view. Topographically and climatically, it includes high mountain ranges, vast deserts, tropical lowlands and hot dry plains. In general, water resources are a major limiting factor to growth, with only about 13 per cent of the country's 1.65 million square kilometers (637,000 sq. mi.) cultivable. At present, approximately one-third of this land is under cultivation. Much of Iran is mountain and plateau at an altitude in excess of 1,500 meters (4,900 ft.). It borders on Turkey and Iraq to the west, the Persian Gulf and the Sea of Oman to the south, Pakistan and Afghanistan to the east, and the USSR to the north.

Historically, Iran has been a basically agricultural and rural country, only intermittently tied together into a discrete national entity. The worldwide modernizing process of the last 100 years, accelerated and promoted in Iran by the former and present Monarchs, is bringing about rapid and far-reaching changes throughout society. Socially, the country is just as diverse as its geography. A substantial portion of the popula-

tion is of Turkish, Arabic, Caucasian or Central Asian origin. Although Farsi (Persian) is the official language, Iran's rich ethnic mosaic sustains the use of many other languages and dialects. According to the 1966 census, the population of Iran was 25,078,923 (12,981,665 males and 12,097,258 females) and by 1972 it has been estimated to reach 31 million.

Iran is a constitutional monarchy with executive, legislative, and judicial branches of government. The executive branch is divided into 19 ministries united at the top by the office of the Prime Minister and the Cabinet. The national government is a centralized and unitary system divided into 13 provinces and 9 governorates. The head of each of these governmental divisions is appointed by the **Shahanshah** (i.e., the Shah). Each province and governorate is further broken down into counties (**Sharestans**) and about 1,200 cities and townships. These latter entities are headed by mayors and city administrations that are separate from the national executive structure at the local level, a structure that resembles the central ministerial organization. There are an estimated 50,000 small villages in Iran.[1]

Population Distribution and Mobility

The 1966 census indicated that 61 per cent of the population of Iran lived in rural areas and 39 per cent in urban centers. However, there is a very high level of migration into the cities; for example, the 1966 census showed an increase of 10 per cent in urban population compared to the 1956 census figures. The urban-rural ratio in Iran approximates quite closely the prevailing ratio in the Middle Eastern countries.

It is interesting to note that the pattern of migration is completely centralized. There are only ten cities with populations above 100,000. The most populous among them is Isfahan which, according to the 1971 census, had a population of 440,000 as against 3,400,000 people living in the capital city of Tehran.

[1]The first four paragraphs are quoted with some changes and modification from Population Council, **Country Profiles: Iran** (New York, 1972).

While the population of the country increased by 36 per cent between 1956 and 1966, the population of Tehran increased by 80 per cent. It should be noted that certain major provincial centers also claimed an increase of over 50 per cent for the same period. The overall rate of urbanization is estimated at seven per cent a year. On the other hand, about 40,000 villages are estimated to have less than 1,000 residents. In spite of a rather high rate of growth in population (2.9 per cent), the overall density of population is less than 50 persons per square mile.[2]

Literacy

Literacy, as operationally defined, is the ability to read and write the type of matters an ordinary man in the working class need to know. To this, a minimum amount of familiarity with arithmetic and certain expressions as well as techniques used in writing semi-official matters, such as petitions or applications, are added. Therefore, basic literacy is limited to what is usually taught in the first few years of elementary education but geared to the requirements of adult life and institutions.

Illiteracy is considered to be a major national problem. In 1962, the most optimistic literacy rate was estimated at 20 per cent of the total population. The census statistics show that during 1956-1966, overall literacy (both sexes) increased from 15 to 30 per cent, with the highest rate among urban females. The 1966 census further shows that total literacy values for urban and rural areas were 51 and 15 per cent, respectively, with male literacy at 41 per cent while female literacy at 18 per cent.[3]

Educational Coverage

In 1911, the first constitutional law on education was ratified by the Parliament. Article 5 of this Law called for compulsory elementary education for every Iranian child starting at age seven. Thirty years later, due to lack of facilities, only

[2]Ibid., and Army of Knowledge Organization, **Roshangran-e-Rusta** (Tehran: Education Corps, 1968).

[3]T. J. Edwards, **Illiteracy in Iran** (Tehran: USAID, 1962).

less than 20 per cent of the seven-year-old children were attending school. In 1942, the Government introduced in Parliament a new Bill called "Compulsory Education Act." It was hoped that by this Act, all the school-age children could be admitted in urban and rural schools within a decade or two and given four years of basic elementary education.

In 1962, according to the official statistics released by the Ministry of Education, about 50 per cent of the children between ages of 7 and 13 were attending school. Furthermore, out of 1,719,353 pupils at the primary schools, only 277,579 were in rural areas. In other words, while rural population of Iran is estimated between 2.5 to 3 times that of the urban population, only one in every six village children were benefiting from the schools as against 80 per cent city children. Another report indicated that 60 per cent of the teachers were serving 30 per cent of the school-age children. The girls in rural areas were the most deprived members of this population. Forty per cent of urban students were female as against 12 per cent in the rural areas. In certain tribal areas, only 10 per cent of school-age girls were attending schools. Tehran, which claims 10 per cent of the total population, admits more than 20 per cent of the total number of students of the country. In 50,000 villages, there were only 6,000 village schools. The number of school units in rural areas was less than one-third of the total number for the country, which was the exact opposite of the population distribution between urban and rural areas.[4]

Therefore, schooling was not at all evenly distributed throughout the country, and educational facilities, especially at the village level, were far from adequate. It is against such a background that the subject matter of the present case study should be examined. This case study is focused on the measures taken during the years 1962 to 1972 in order to deal with this educational problem.

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[4]M. Mashayekhi, **Organization and Management of Education** (Tehran, 1965) and **Comparative Education** (Tehran, 1970). In Persian.

B. THE PROBLEM

Educational Limitations

In 1962, it was estimated that more than 70 per cent of the total population of Iran lived in rural areas. These people, however, were producing 30 per cent of the country's economy and their living standards were extremely poor. As a result, over 80 per cent of the school-age children of the urban population had the privilege of attending school whereas only 20 per cent of the rural children had access to schooling. Twenty-four per cent of the elementary school teachers served in rural areas while 76 per cent of them taught in the cities. Thus less than one-fourth of the supply of teachers served more than 70 per cent of the people, while more than three-fourths served the 29 per cent in the cities. In urban areas, 42 per cent of the children attending school were girls compared to less than 12 per cent of all those attending rural schools. The teachers who served in urban elementary schools were either high school graduates who had received a one-year post-secondary training or those with nine years of education who had attended a two-year normal college program. The rural teachers were usually young people with six years of elementary education and who had received a short orientation program. This pattern, however, could not be followed everywhere and an increasing number of rural teachers were recruited from among those who had less than six years of education while urban elementary teachers were also increasingly recruited among those having elementary education, and sometimes, with no teacher-training background.

Various efforts of the government to solve this problem, as well as others afflicting the deprived people of Iran, had failed due to the impact of adverse social conditions. Many of the village programs were not fully implemented not because of poor administration but because of the inability of the villagers, by reason of inadequate education, to understand them and profit from these programs. Added to this was the rapid increase in population. Thus, the efforts of the government, even if it had taken advantage of all foreign aid oppor-

tunities, would have been able to do no more than maintain the **status quo** with respect to literacy training and general education in the rural areas as well as in the large sector of illiterates living in urban centers.[5]

This problem was investigated by various international agencies — the United States Agency for International Development (USAID), the Ford Foundation, the World Bank, and the UNESCO. At the beginning of 1962, the last word came from a UNESCO team which had studied all the previous reports and made every effort to come up with a practical solution. The team suggested that it would take a minimum of twenty years and an enormous increase in the budget allocated for education in order to provide four years of education for each child.[6]

The UNESCO recommendation had a number of drawbacks. First, there was no provision for the multitude of adult illiterates. Second, it would have seriously undermined the expenditures for economic development and the provisions for national defense. Third, it was impossible to provide for the teachers and schools in reasonable time in order to provide education under the proposed plan. At the same time, economic development plans were particularly in need of educated manpower which was scarce and unavailable. The third five-year plan for economic and social development was formulated under such circumstances. As far as education was concerned, this plan made every effort to implement the UNESCO project to the maximum extent possible. However, when the plan started, it was immediately apparent that even the provisions of the plan could not be fully achieved.

Related Problems and Circumstances

The abolition of the old landowning system, considered to be one of the main reasons for the backward conditions in the

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[5]A. Birjandi, **The Education Corps Project in Iran: A Work Plan for Rural Development** (Tehran: Ministry of Education, 1964).

[6]A. J. Clarke, **Some Suggestions for Educational Planning in Iran** (Tehran: USAID, 1964). Mimeographed.

villages, required certain provisions in order to fill the vacuum created by the disappearance of the landlords. The new economy needed a different type of organization manned by the villagers. It also demanded better functioning of the agricultural extension service. To replace the landlord, democratically-elected leaders had to be developed. Thus, women, alongside their menfolk, had to understand their role and function in the new society. The women thus needed to be equally educated. On the other hand, the attitudes of the men had to be re-oriented with respect to participation in a democratic society and the new role of women.

Considered primarily important was the need to bring government services down to the rural areas, to promote better marketing of agricultural products, improved communication and building of more feeder roads. The diverse dialects and languages spoken in different parts of Iran had been a potent communication barrier in limiting the spread of education and as a hindrance to national unity. Therefore, a single language had to be taught to everyone.

Still a different category of the problems faced by Iran was the unemployment and unemployability of the young graduates of the high school system. Most of these young men are not qualified to enter the university nor could they financially afford to continue their education. They were not also trained for practical work because the nature of school training did not provide them with employable skills. Furthermore, although the Compulsory Military Service Act required every eighteen-year-old to undergo a two-year military service, the army could not absorb all of them because of lack of facilities and limited demand for such training. All these demanded an extensive and drastic plan utilizing all available resources to extend education to everyone, male and female, and to harness the energies of the growing number of young graduates left idle and unemployed.[7]

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[7]Adopted with some modification from Birjandi, op. cit.

II. PROGRAM PLANNING

A. PROGRAM PLAN: APPROACHES AND OBJECTIVES

An Overall Approach

In January 1962, the Government under the wise leadership of the **Shahanshah** Aryamehr,[8] started gradually adopting a series of revolutionary measures. These measures were aimed at an overall approach to social, economic and political problems of Iran. Within a few years, twelve of these programs were announced and nationally approved by a popular referendum. This movement, which started as an outcome of and as a follow-up to the Shahanshah's autobiography entitled "Mission for My Country," has gained the name of "White Revolution" or "The Revolution of the Shah and People of Iran."

The basic philosophy and main principles of this revolutionary and overall approach to the problems of Iran is best explained in another book authored by the chief architect of the revolution, i.e., the **Shahanshah** Aryamehr.[9] The movement calls for free and full participation of women in all activities, profit-sharing of workers, landownership by those who toil the land, nationalization of natural resources, educational and administrative reforms, and the formation of revolutionary corps for education, health, agriculture and other activities. The subject of this case study is the first 10 years of the Education Corps.

At the annual **Mehregan** Celebrations on October 13, 1963,[10] the **Shahanshah** issued an edict for the formation of an education corps called the Army of Knowledge.

> In general the plan consists of using the energy and the education of young high school graduates to teach rural people during the period when they would nor-

[8] M. R. Pahlavi (**Shahanshah Aryamehr** of Iran), **Mission for My Country** (Tehran, 1961).

[9] M. R. Pahlavi, **The White Revolution** (Tehran, 1968).

[10] An ancient Iranian Feast. According to practice in recent years, this day is celebrated as the beginning of the school year and the **Shahanshah** attends a special educational festivity.

mally be doing their military service. This plan is put into effect through the joint services and cooperation of the Imperial Iranian Army and the different Government Ministries. The young man who is recruited goes through an intensive four-month training program. Then he is appointed to a village which has requested his services and whose people have accepted the responsibility of providing school facilities. Here he works under supervision for fourteen months. Later, if he proves efficient and so desires, he may be employed by the Ministry of Education as a regular teacher.[11]

Later on, this program was officially legislated and enacted as the "Formation of Army of Knowledge Act," which was followed by the promulgation of its by-laws and by another legislation called "Women Social Service Act."[12] The education corpsman is initially a multi-purpose village-level worker, who acts as the general agent for an integrated approach in helping rural people and assisting in attacking educational, economic, social and political problems in the villages.

General Objectives

The education of farmers and rural people should be broad in its content and application. It should go farther than teaching them the 3 R's. It should aim at changing the attitudes, improving the conditions and creating a new environment. There is no doubt that the major premise of the total movement is the provision of minimum equitable educational opportunities for all. Therefore, the education corpsman will see to it that:

— If there is no school in the village, an adequate premise is prepared.

— All children who have not attended school be gathered in the school. (Therefore, in the first year, all children between the ages of 6 and 12 are enrolled in the first grade).

— Illiterate adults be taught in the evening classes in order to eliminate illiteracy.

[11]Birjandi, op. cit., p. 10.
[12]Refer to the various Acts as listed in the list of references.

— A small village library be established to make reading materials available to newly-literate adults.

— Recreational and sport activities be organized and children and youth groups be formed for such activities.

— Rural Boy Scout and Girl Guide groups be formed in the village.

Economic Objectives

The education corpsman has a two-fold economic objective aimed at the improvement of public health as well as agriculture.

a) **Health and Sanitation**

In the villages where life expectancy is low and child mortality high and where human resources are wasted because of ill health, the problem of health education and sanitation becomes one of prime significance. Drinking water should be purified, construction of shower baths, or changing of the old pools to showers, are necessary. Changing the open latrines to sanitary ones, construction of desirable mortuaries, separating livestock from living quarters, introduction of better housing and conducting special classes for village midwives for teaching sanitary methods, are all of national importance. First-aid kits and the knowledge and practice of first-aid will save lives in time of emergency.[13]

b) **Agriculture**

With the distribution of land and elimination of the old landlord systems, and with the introduction of farm machinery, agriculture is in a transitional period, moving out of a feudal economy into a marketing economy. Yesterday's tenants may be today's farmers. The farmer should be acquainted with the organization and functions of the Ministry of Agriculture. He needs to know the procedures for obtaining help from various sections of the Ministry and for gaining new information on insecticides, fertilizers, agricultural implements, soil studies, livestock breeding and the like. Proper marketing methods should be

[13]Birjandi, op. cit., p. 15.

taken to the farmer. New vegetables which make staple food should be introduced. The recipient farmers need to be prepared to assimilate all this information.

The old money-lending method needs to be changed through the formation of the new Agricultural Cooperatives. Training and educating the farmer to get the maximum benefit from, and to participate in these new organizations, need continuous application and careful supervision.[14]

ocial Objectives

The activities of education corpsmen from the social develpment point of view were aimed at the following major areas:

a) Building self-confidence in the farmers who should stand n their own feet and face their own problems instead of leaning on the landlord and being at his mercy. This is a process f individual development and gaining the ability of decisionaking. The farmer should start moving up the social strata nd changing the highly class-bound society into a very flexible ne. He has to be helped to find his place and to improve it.

b) The village which was externally administered by the andlord or his representative has now to be managed by the illagers or their elected representatives. Therefore, they eed two types of training: 1) How to conduct democratic lections and produce elected leaders; and 2) How to participate n group work and group consultations and decision-making.

c) The villagers need to have their social standards imroved, and womenfolk should take an active interest in the ffairs of the community. The village girls should be encouraged o attend classes at the village school.

d) Encouraging group activities and participation in group rojects for creating a better socio-economic environment.

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[14]**Ibid.** See also Army of Knowledge Organization, **Roshangran-e-usta** (Tehran: Education Corps, 1968).

Political Objectives

The education corpsman is not the representative of law and order. He is a friend of the people and as such he helps them to achieve their local and national goals. National integration is what he wants to achieve. Bringing people of various races, creeds, dialects and languages living in isolation of their own area for centuries into the fold of a large forward-looking nation, needs special efforts at the grassroot. The education corpsman seeks the confidence of the people by trying to help them and by remaining impartial to their disputes and differences.[15]

III. PROGRAM IMPLEMENTATION

A. ORGANIZATIONAL ASPECTS

The Army of Knowledge is a national program and it is being carried out by the combined efforts of government and people. The people of Iran supported and approved this program in the national referendum of January 1963. On the government side, the Ministry of Education cooperates with the Iranian Army, the Ministries of Interior, Health, Agriculture, Cooperatives and Justice, the Gendarmery and the Plan Organization.[16] Usually, these agencies all participate in planning the curriculum by sending active and competent participants to the planning committees and do their share in the training, by providing instructors to teach subjects related to their fields of interest in the curriculum. However, the supervision of the work is mainly done by the Ministry of Education and participation of other agencies is limited to certain technical supervision and advice.

Each Ministry or Department is responsible for providing its own instructors and furnishing the required materials for

[15]Ibid., and the Army of Knowledge Organization, op. cit.

[16]An organization established in 1950 to develop and implement national development plans. So far, this organization has completed one seven-year and three five-year plans. In 1973, it is going to start its Fifth Plan (A new Five-year Plan) with a new organizational set-up. It will be called Plan and Budget Organization of the Government of Iran, headed by a Minister of State.

he training of the Corpsmen. These efforts are coordinated nd the actual training takes place under the joint directorship f the two principal organizations: the Army and the Ministry f Education. The Army takes the responsibility for the nitial recruitment and military training of the Corpsmen hrough its own installations and facilities. The Ministry has et up an independent unit called "Army of Knowledge Organzation" headed by a Director General. This organization is esponsible for the general and educational training as well as ield services of the Corpsmen.

All the boys, after completion of their secondary education nd when they reach the age of 21, may volunteer for this ervice as replacement for their compulsory military service. All girls who are eligible for social services, at the same age nd the same level of education and in accordance with the Girls Social Services Act of 1968, may also join this service. There are a number of exemptions provided in the law, which ives the exempt individual the opportunity to buy off his bligation by paying a small sum to the Fund for this service.

Financial Support

The Plan Organization pays the personal expenses, salaries, nd transportation from the Village Primary Education Fund f the Development Budget.[17] The Army support is provided hrough the use of Army facilities and buildings and through he services of all Army personnel involved in teaching and mplementation of the program. Each village which requests for the services of a Corpsman also agrees to provide adequate odging for him as well as to provide classroom facilities and equipment. The Corpsman is told to use any suitable premises (mosques, open space, etc.) if the regular school building is not available in the village.

[17]Part of the National Budget which is devoted to development work and is financed by oil revenues or international loans and grants. It is usually called Development Budget and is directly administered by the Plan Organization.

Recruitment and Training

High school students in Iran may graduate at the end of the school year in June, or, if they have some incomplete work or deficiencies, they may pass the supplementary examinations in September and graduate in that month. Therefore, there are two groups of graduates each year. Twice every year in June and September, the graduates of high schools of Iran who have attained the age of 21 are recruited for Military Social Service if they are boys, and for Women Social Service if they are girls. They may opt for the education corps. It is interesting to note that the main body of the Education Corpsmen have volunteered for this service and usually there are more volunteers than can be accommodated in the program.

The new recruits are sent to one of the training centers scattered throughout the provinces. They receive four months of training which includes military as well as educational and other subjects related to various objectives of their service: e.g., classroom management, method of teaching the Persian language, arithmetic and science, educational psychology, health education and sanitation, first aid, agricultural extension, rural scouting, community development, rural sociology, laws and regulations related to village affairs and administration. These training centers are run by the Army in army compounds. The instructors are provided by the various Ministries for each subject area. The minimum qualification of instructors is a college degree in the area they are teaching. Those provided by the Ministry of Education for teaching educational subjects are holding either a B.A. or an M.A. in education, particularly in elementary education.

After the completion of this training, the Corpsmen are qualified for the army rank of sergeant and are sent to the villages to serve the remaining 14 months of their term of service. During their field service, the Corpsmen are the supermen of the Ministry of Education.

In so far as possible, the Corpsmen are sent to the villages of their own districts where they will be familiar with the special dialect of the people. Before

> the teacher is assigned, the education authorities in that locality see that the rooms are prepared....The class periods are not rigid, but are based upon the periods when most children are able to attend. The school is co-educational.[18]

The maximum number of pupils assigned to one Corpsman is 30. If there are more children available, more than one Corpsman is assigned to the village. Each Corpsman, in about 14 months, teaches two textbooks to the beginners, bringing them to the level of the first two years of the elementary education. These textbooks are written in Persian language and are taught regardless of local languages or dialects. They contain ordinary subjects of the elementary textbooks, such as history, geography, literature, social studies, arithmetic as well as certain amounts of materials related to rural life and community institutions. These texts are especially prepared by the Textbook Institute attached to the Ministry of Education. Similar materials are developed by the professional staff of the National Committee for World Literacy program. However, these materials are geared more to the adult life and institutions as well as certain common trades and professions like agriculture.

If there are possibilities for further classes to be set up at later stages, this process could continue up to the end of the fourth grade. It is expected that village children, after this first or second stages, would continue their education at ordinary rural schools if one is available. In addition to the textbooks, some teaching aids such as wall charts as well as special children's magazines and other reading materials are produced by the Ministry of Education and distributed at a nominal price among the newly literate children. A minimum amount of vocational training information is included in the textbooks as well as other materials.[19]

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[18]Birjandi, op. cit., p. 24.

[19]Ministry of Education, in order to follow-up the work, either assigns a new teacher or employs an education corpsman for that village.

Other Activities

The Corpsman motivates villagers to start group activities aimed at the improvement of their living conditions. He helps them to get the assistance of government agencies and to organize village councils, parent-teacher associations, House of Justice and rural cooperatives. These are all new agencies which are being established under the so-called "White Revolution" which is emphatically contrasted to the "Red Revolutions" where many may lose their lives and their means of living.

The Corpsmen take the leadership role in encouraging the people in getting things done through self-help, such as planting trees, building roads and bridges and repairing old buildings. Such side activities break the routine and make the life of the Corpsmen colorful and much more enjoyable. He faces new challenges every day and cannot remain indifferent to the environment and its demands. It is this all-round ability of the Corpsmen which appeals most to the villagers and make them heroes to the children and the youth. They are always ready to serve and to face every situation.

B. PROGRAM ADMINISTRATION

Every twenty village schools are supervised by an education superintendent who is a graduate of a Teachers' College with at least five years of experience in elementary school work. The Superintendents, the Agricultural Extension Worker, the Public Health Agent, the Cooperative Expert, all in turn visit the villages regularly and are in touch with Corpsmen for technical assistance.

Program Coordination

At the national level, the coordination of this program is the function of a National High Council of the Army of Knowledge under the chairmanship of the Prime Minister and composed of the Ministers of Education, Agriculture, Cooperatives, Health, Interior, Justice as well as the Head of the Plan Organization, the Chief of Staff of the Armed Forces and the

Commander-in-Chief of the Gendarmery. This High Council makes national level policies, rules and regulations, receives reports and prevents duplication of activities.

At the regional level, the provincial directors of the abovementioned agencies form the Provincial Council under the chairmanship of the Governor-General. At the county level, the local Governor is in charge of a similar committee. The same pattern is duplicated even at the district level. Therefore, from the top to the grassroot level, all the agencies concerned work in a coordinated manner to support, guide, and assist the Corpsmen.

Motivational Aspects

There are a number of measures implemented to give vitality to the program and to create work motivation in the Corpsmen. Among them are the following:

1. A monthly Bulletin is published which reports on the achievements, sacrifices and problems faced by the Corpsmen. This Bulletin is distributed to all of the Corpsmen as well as to the educational institutions and departments. The Bulletin contains articles, photographs, poems and other materials contributed by the Corpsmen.
2. There are cash prizes given to the most successful Corpsmen in each area of activity, such as rural development, adult literacy work, children's education and the like.
3. Several contests are held among Corpsmen. Each contest is judged by a committee composed of the representatives of various agencies concerned with that particular field. These contests are held at local, county, provincial and national levels. The winners at each level receive certain prizes. The National winners receive their prizes from the **Shahanshah** at the Annual **Mehregan** Celebrations. One of these contests, for example, is called "Service to the People Contest." In this contest, the Corpsmen's activities are judged on the basis of the following criteria:
   a) Largest number of pupils in the school in proportion to the village population;

b) Highest percentage of girls in the school (a sign of villagers' confidence);
c) Popularity;
d) Achievements in health and sanitation; and most important of all,
e) Creativity in discharging duties.

In addition to these incentives, the Corpsmen are given regular salary and a chance to be selected for attending a second and supplementary training course and later on to be recruited in the Civil Service as a regular teacher and be given a scholarship to continue his college education at the National Teachers College for the Army of Knowledge.

The National Teachers College has both undergraduate as well as graduate degree programs. It is located in a village near Tehran. Its graduates are recruited as instructors in the Education Corps Training Centers and as the staff and administrators of the whole program. It should also be noted that throughout his training a special revolutionary spirit is created and developed in these Corpsmen to realize and take pride in the fact that they are sacrificing their lives and efforts for a very important human and national goal.

Program Evaluation

Regarding evaluating the program for its effectiveness, Birjandi notes:

> The Ministry of Education has undertaken to evaluate the program to measure its effectiveness in attaining the primary objectives set for it. The evaluation of the program has taken two dimensions: the educational aspect and the social aspect. For each aspect of the programme, evaluative instruments have been scientifically developed.[20]

These instruments include tests of aptitudes and achievements related to teaching and social work. They also include measures such as ratings of educational and social effectiveness of the Corpsmen or their administrative and leadership capabilities. There are provisions for objective testing of the

[20]Birjandi, op. cit., p. 31.

pupils attending the classes to measure the actual educational achievement of each Corpsman. These tests and scales are administered at the end of the initial four months training of the Corpsmen as well as during their service.

The superintendents fill out the Rating Scale for the Evaluation of Educational and Social Effectiveness. The District Chief of Education fills out the Rating Scale for Evaluation of Administrative and Instructional Effectiveness and the villagers are interviewed by a specially developed questionnaire which deals with the social effectiveness of the Corpsmen as viewed by the village elders. The Office of Evaluation and Research at the Army of Knowledge Organization receives the results of all these evaluations and use them as a basis for the selection of qualified Corpsmen for scholarships, promotions and other privileges.

Achievements

During the first decade of the "White Revolution" (1962-72), a total of 91,667 male and female high school graduates joined this service, each serving a minimum of two years. This represents a contribution of about 18,000 man-years given each year to educational system. At the end of 1972, there were a total of 18,591 educational Corpsmen (3,931 girls and 14,660 boys) in active service. This is equivalent to one-fifth of the total manpower officially employed for elementary education in Iran and is almost equal to the total work force for the secondary education in the country.

This program has almost doubled the teaching staff serving rural schools. It has increased the number of rural children attending the schools from 650,000 to 1,300,000. It has also increased the number of rural schools from less than 10,000 to more than 22,000. Most of the 12,000 new schools were built by voluntary contributions of people in cash, materials and services. It is worthwhile to note that under this program, the number of girls attending schools has constantly increased at twice the rate of the boys. Therefore, it is hoped that very soon, not only will the gap between school attendance in the urban and rural areas be closed but the number of girls attend-

ing the rural schools will reach the level of the boys. As far as adult literacy work is concerned, this program has almost increased the annual number of newly-literate adults by about ten times. At the same time, it is providing primary education to about one million children each year — again an increase of ten times achieved in the span of ten years.

There has been a number of non-educational achievements in the areas of community development, public health and sanitation as well as agriculture for the Army of Knowledge. They have helped the villagers to plant millions of new trees, build bath houses, bridges, feeder roads, school equipment, desks and chairs, irrigation systems, mosques, school buildings and the like. They have helped the villages to have postal boxes and regular mail services. They have developed thousands of new farms. In the socio-political domain, the Education Corpsmen have created village councils, village boy scouts and girl guides, village Houses of Justice and, above all, they have infused a spirit of hope and optimism, cooperation and self-help and an attitude of looking forward to the millions of villagers throughout the country. (See Table I for the accomplishments of the program after 10 years of implementation).

TABLE I

Achievements of the Army of Knowledge (1962-72)

Schools (built)	15,208
Schools (repaired)	25,432
Mosques (built)	3,043
Mosques (repaired)	17,743
Mortuaries (built)	1,557
Mortuaries (repaired)	3,332
Feeder Roads Made (in kilometers)	143,806
Bridges	52,193
Water Systems	24,673
Demonstration Farms	40,760
Trees Planted	3,851,503
Pub Bath Houses	7,495
Sanitary Wells	78,098
School Desks and Chairs	34,116
Post Boxes Installed	7,322
Parent-Teacher Associations	24,505
Boy Scout and Girl Guides	173,384

Thus, thousands of young educated but socially idle, dissatisfied and potential political agitators and malcontents have been effectively employed, trained and developed into promising change agents. In short, the program has served as a refining process for new generations. Those who have abandoned their rural base and migrated to the cities go back aware of the problems and the opportunities in the rural areas, share what they have learned in the cities with their rural brethren, gain self-confidence as well as skills and the know-how for their future career, and take part in building a new country. When they go back to the cities or, as it often happens, they decide to stay in the villages, they are progressive, positive-thinking, capable and successful change agents.

IV. ANALYSIS AND CONCLUDING OBSERVATIONS

Goal Identification

Iran, for the past two decades, has continuously developed and implemented five-year development plans. From the very First Plan, education—particularly providing minimum education for everyone—has been identified as one of the objectives of national development plans. Throughout the years, particularly towards the end of the Second Plan, it was felt that unless illiteracy was eradicated and everyone was given a chance to receive some schooling, a fairly large number of objectives of the development plans could not be achieved. Therefore, literacy and basic education campaigns are focal points in the national development plans.

Leadership Support

The decision was made, announced, and fully supported by no less than the First Person in the country, **Shahanshah** of Iran. This, in itself, gave special weight and distinction to the program, made it a high priority one, and removed many obstacles in its implementation.

The program was planned and formulated on the basis of a number of studies and in accordance with the existing re-

sources, conditions and needs. However, it should be noted that all the basic studies were done in the framework of the established pattern. In order to change the approach and start the new program, very little research took place. Instead, the program was incorporated into a national movement which is semi-revolutionary in nature. Therefore, it received its basic support and reinforcement from the socio-political movement which was launched contemporaneously.

Problems of Transition

This program started as a revolutionary measure and as such, received popular support. However, no revolutionary measure could indefinitely remain revolutionary. It has to reconcile itself to the routine activity of the bureaucracy which administers the program. Therefore, after the first few years, it started to suffer from the many problems and difficulties of this natural transition.

Such drastic and unexpected or extraordinary attempts could either gain their objective in a short period of time and die off, or they have to become an ordinary operation in order to live for long periods. The Army of Knowledge in Iran is of the latter type. It is, therefore, in danger of losing its vitality, effectiveness and priority-measure privileges, unless the development of the educational system can catch up with it, absorb it and make it a part of the permanent system of operation.

Renovative Measure

It is interesting that this program gave birth to a subsidiary program which is becoming its complement. That is the formation of the Women's Social Service Program, which has made the Education Corps a mixed or co-educational process. This new development has had a renovating and rejuvenating effect on the program. If similar developments could be devised and implemented from time to time, the program could retain its vitality and forcefulness.

Future Needs of Corpsmen

How can the program be followed up in so far as the future utilization of Corpsmen is concerned? At the present time, this has not yet posed a serious problem due to the rapid expansion and development of economy. Under more ordinary conditions, however, it could have become a major concern. For example, if the majority of the Corpsmen opt or press for remaining in the service, how could they be accommodated?

Rising Expectations

As a result of the current needs of the rural population, an ever-demanding community is being created. Therefore, while the program is achieving its original objectives, it is also producing new needs and demands that should be met by extraordinary development plans or new revolutionary measures. This is the persistent problem in trying to awaken the "sleeping devil."

That is why the pressure on administration is building up to formulate and introduce more complex and more expensive plans to match the rising level of expectations. If this tide does not level off, could a nation continue to answer the increasing need? The only acceptable answer is to reorient the needs towards non-economical and non-material dimensions. Therefore, the question is how can we build this feature into the present Education Corps program in Iran?

Coordination

This program is a good example of how inter-departmental coordination of staff work could support a line activity located in one department and make it a success. The new feature in this approach is delegating responsibility to a large number of departments while keeping the authority in a single department, thus preserving the unitary nature of chain of command. Such an approach needs overall and integrated planning.

Cultural Barriers in Implementation

At the beginning, there seemed to be a number of insurmountable social and cultural barriers in the way of successful implementation of the program. These fell into two major categories. Those which were imagined and did not stand the test of actual operation and those which turned out to be very real and difficult to change.

As an example of the first category, we may refer to the fears and doubts with regard to sending single and young men from the cities into the midst of the privacy of the closed circle of village families to teach not only men and boys but also women and girls. There were possibilities of clashes of ethical standards, manners and behavior, immature contacts with values and standards of urban and industrialized society and corruption and immorality. Then came the unprecedented move to send girls all by themselves to the villages to live there and work with villagers. As a matter of fact, both boys and girls were well-received and they behaved well. Therefore, a big barrier proved to be of no practical importance. On the contrary, these young boys and girls have started to teach many useful and necessary lessons in modern living to the villagers.

An example of the second type of problem is the absence of perceived utility for literacy under the prevailing social and cultural conditions. For example, when all the people in the village are interrelated and have absolutely no one outside the village to write to or receive letters from, they do not see any reason to read anything and to get better informed than they are. They even believe it is harmful to learn more than what their fathers and ancestors knew. They believe written texts are like sacred books. They are good for respectful preservation and their contents are not to be used in the day-to-day life. Therefore, penetration by the program is uneven from area to area and from subject to subject. Such differences make the program difficult to manage centrally in a prototype manner. The more the administration gets diversified the less external culture could be exercised on what is going on.

Management of Scarcity

The outstanding administrative feature of the program is the masterful handling of scarcity. Under the circumstances where providing educational coverage seemed to have reached a dead-end, the rechannelling and reorganizing of resources not only accelerated the process of development but it also answered certain other pressing needs. More than that, it created a positive attitude and eagerness to get things done, even if the needed facilities seemed to be out of reach. This spirit is reflected in the Corpsmen and their achievements which are often beyond the capacity of available facilities and equipment.

The program plan proved to be rather theoretical in its assumptions. There was not enough feedback to provide necessary corrections and innovations. Thus, the program which was supposed to be revolutionary very soon became transformed into an administrative routine. A major reason was that the original planners who possessed much deeper insight and creative imagination were replaced by a purely bureaucratic management unaware of the significance of certain priorities and unable to make intelligent revisions. The checks and control of the operation in the field never fully materialized. The evaluation became a formality. Absenteeism, carelessness, and low standard of performance creeped into the field work. What was supposed to be seen as a national service became a routine obligation and lost its original vitality.

Although government support and finances remained strong and serious, the actual achievement declined in quality if not in quantity. The evaluation, as well as motivational measures, did not continue as rigorously as they had started. However, it is important to note that the whole effort still serves its major objectives and is worth following. What actually happened was that during the preceding decade, the necessary leadership for the program was developed and trained manpower made available. Because of new and important programs, resources were channelled into other areas. As a result, no one was practically trained to take over the expert management and technical super-

vision of the program and, within a few years, the management of the program shifted from professionals to bureaucrats.

For example, the Department of Elementary Education at the National Teachers College, which had produced about 500 graduates among carefully selected and well-equipped teachers, was suddenly dissolved and the flow of expertise was stopped altogether.[21] The in-service training program of educational administrators, followed by visits to the U.S. and other countries (mostly through the assistance of USAID), was terminated. So the new generation of program managers were not as well-prepared for handling the job. To recover the zeal and vitality of the program, a new and sustained attempt in training experts and administrators with high standards should be made. The present National Teachers College of the Army of Knowledge is catering to a much younger and far smaller clientele than is actually needed.

Another drawback is the reorganization which has redirected to other areas of concern the research and development staff who were primarily serving the requirements of the program. This program needs to maintain a strong research, evaluation and development group. If the original features are restored and coupled with strong government support, then this could revitalize the program.

This paper should not be regarded as a complete picture of what has been and is still going on in Iran. It only briefly sketches a part of a much wider and all-encompassing movement. On the whole, the Army of Knowledge has definitely proved to be an asset to national development and one of the brightest points in the "Revolution of the Shah and People of Iran."

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[21]The students of the Department of Elementary Education were primary school teachers and principals, with at least ten years of experience and below the age of 40, who came from all over the country. After their graduation, they were appointed as Supervisors of Elementary Education in various parts of the country. They were all recruited to form the founding group of Educational Superintendents for the Army of Knowledge in various provinces. They still form the core group of the experienced and skilled staff of this Program.

Furthermore, this experiment in Iran proved once more that in program implementation, one does not need to look always for fresh investments of resources. On the contrary, very often, there are enough potentials available in the community which could be mobilized. It is true that in order to utilize such possibilities, we may have to start our program at a lower level and aim at easier goals but eventually, we can organize the operation in such a way that the end-results are exactly what we have originally set to achieve. An added advantage of this approach to program implementation is that the work grows as a familiar, natural and easily-accepted program of activity. It is more deeply rooted and it matures much faster.

The validity of the methodological aspect of the Army of Knowledge program could be proved by trying it in other countries under various sets of conditions or for other projects. A more careful theoretical and methodological study of this approach would definitely be highly beneficial to the advancement of knowledge with regard to achieving results from program implementation.

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CONCLUSIONS AND RECOMMENDATIONS
EROPA TOKYO CONFERENCE REPORT

The concluding part of the research project concerned the presentation of the case studies before a region-wide Conference of policymakers, senior officials, and scholars in development administration. This Conference was held in Tokyo, Japan on 24-31 October 1973. The cases were discussed and analyzed in three Work Group and two Plenary sessions. The Work Group members were selected to represent as diverse perspectives and interests as possible. The conclusions and recommendations below represent the results of these discussions. Dr. Gabriel U. Iglesias served as the Tokyo Conference Rapporteur. For this volume, the original Conference Report has been edited to stress or elaborate on certain points expressed during the Tokyo Conference. (Ed.)

The implementation process is but an aspect of larger processes in a society and to gain better understanding of implementation, it is necessary to examine the milieu of which it is inextricably a part. Because of this intimate relationship with governmental and societal processes, the implementation of development programs and projects is often decisively affected by the particular environments and situations within which it operates.

One of the more important environment which impinges on the program — from its formulation to execution — is political and its impingement on both the program and the implementors occurs at all levels (national, regional, provincial, district) as well as at the program input levels (financial allocations, personnel, material resources). The impact of politics and the political process on the program is both positive and negative and this insight suggests the directions and options available to ensure greater success in program implementation. Since political constraints are neither permanent nor insuperable, there is urgency in adopting measures designed to optimize the positive contributions of political support as well as minimize and mitigate the harmful effects of partisan political interference.

For program implementors to operate successfully in this political environment, they must acquire not only the technical

and professional expertise required in running the program but also the "political" skills needed to protect and/or promote the program in that environment. It is important for program leaders to develop the ability to generate and sustain support from 1) key political and administrative allies both in the national and local levels, 2) opinion leaders, and 3) clientele groups.

Reasonably, frequent consultations with the program's different publics at various stages during program formulation and implementation should be adopted to increase support since this consensus process often serves to sustain interest. Participation tends to enhance cooperation by reducing resistance based on misinformation and unfounded apprehensions. Consultations also serve to provide feedback on the progress of the program and help sustain the flow of support through closer involvement of relevant institutions and officials in the process of implementation. While consultations at all levels and with various publics help ensure the formulation of sound and realistic plans and improve coordination during implementation, there is a need for implementors to develop skills in managing the consensus process — that is, determining who should participate and at what stage should consultation occur and terminate. Although this "public relations" role deviates from common notions and traditions of the administrative service in some countries of Asia, a degree of expertise in this area is essential in sustaining political support. For example, program implementors should develop skills in presenting technical data in layman's terms, in stressing political benefits that may be derived from the program and in resisting or mitigating harmful political interference without antagonizing influential national and local politicians.

It has been observed that governments often launch major development programs and projects involving the cooperation of numerous agencies without giving adequate attention to the most suitable organizational arrangements as well as to the capability of administrative organizations in program implementation. This neglect in including in the plan an organizational strategy for effective implementation could adversely affect the program, particularly in the allocation of critical resources,

the recruitment and assignment of personnel, and the speed with which decisions are made regarding obstacles and problems in implementation.

In formulating the program and in designing the implementation plan, more emphasis should be made in the efforts to involve and consult program personnel at all levels, i.e., national and local administrators and politicians as well as the program's relevant publics, particularly the clientele, and other beneficiaries of the program. This will improve not only the technical and substantive aspects of the program (i.e., make plans more realistic) but also elicit support and increase program commitment among implementors and interest groups.

Too often, complex programs need accurate data and timely information regarding the progress and/or problems encountered in implementation so that speedy decisions could be made by key implementors at various levels. It is important to determine, and to periodically review the reporting system, particularly data on performance and implementation problems, to achieve a higher level of accuracy and speed in responding to policy and decision needs of the program. This should, necessarily, include determining at which lower levels in the organizational hierarchy should the feedback data be used before they are sent up to headquarters, to reduce time lags between reporting and corrective action. Therefore, there is a need to ensure that progress appraisal and performance evaluation are made during critical phases during implementation. A system of evaluation and feedback should be integrated in the plan for implementation. Reporting from the field should be simplified and field personnel should feel that reports are processed and appropriate measures are taken at headquarters. Scheduled meetings of implementors from various levels and the putting up of Operations or Situation Rooms at central, regional, and district levels are suggested instruments for this purpose.

Development programs and projects generally implicate numerous national and sub-national agencies in an intricate web of interdependent action, thereby imposing extraordinary demands on interdepartmental bodies (ad-hoc or permanent) re-

sponsible for coordinating, integrating, and synchronizing the diverse activities to insure successful implementation. In general, there had been less conscious effort to deliberately design an administrative framework which could ensure optimum cooperative and corporate action without at the same time eroding the authority and integrity of cooperating agencies in their area of responsibility and specialization.

There is also a need to recruit and develop administrative leaders combining technical as well as political skills to cope with the inevitable uncertainties and problems that tend to envelop program and project implementation, e.g., the variability of support and resource inputs caused by changes in political fortunes and shifting developmental priorities. Thus, successful implementation often depends on the performance of key program leaders. Since competent, imaginative, and innovative administrative leaders are in short supply in developing countries, the early identification, cultivation, and retention of personnel with leadership qualities and potential should be aggressively pursued as a key element in the development plan.

Because leadership plays a dominant role in the success of implementation, especially in developing societies where the administrative system needs strengthening, there is a greater sense of urgency in increasing the cadre of administrative leaders. An investment in executive training for personnel at various levels of responsibility for program implementation is essential in institutionalizing leadership competence at all levels in the administrative machinery. Since attainment of institutionalized leadership is a slow process, phased training based on immediate and long-term program needs is essential in building a level of leadership competence needed in implementing development programs. Members of clientele groups could be co-opted through a program stressing minimum qualification requirement and short inexpensive training, e.g., farmer-leaders for agricultural extension and housewives as family planning motivators and para-medics for IUD insertions.

Training programs should be geared to meet the requisite knowledge and skills for effective implementation. Four cate-

gories of skills and knowledge would be needed by key program leaders to effectively function within the existing environmental constraints. First, there are certain specialized knowledge and skills which are program-relevant, such as substantive knowledge of engineering in infrastructure programs or technical skills for modern agriculture. Second, management skills for coordinating and scheduling work, planning and allocating resources, monitoring and evaluating performance, and so on. Third, the behavioral or human dimensions of management, such as motivating people to perform beyond normal requirements, to instill a strong sense of program commitment, and equipping program personnel with the requisite attitudes and values as agents of modernization and change.

Finally, possession of certain requisite "political" skills needed to sustain support and cooperation from the program's often volatile publics (legislators, ministers, mass media, clientele, local political notables, etc.).

STRATEGIES

In formulating development programs, there should be a self-conscious and deliberate effort to include in the plan a design for implementation which should specify as clearly as possible the following: 1) the key elements or sub-programs and their interrelationships; 2) a realistic appraisal of the financial, human and physical resource requirements; 3) a mechanism or procedure for consultations, performance evaluation, information and feedback systems; 4) specification of linkages with higher or lower level plans and programs, with cooperating and supporting departments and agencies and with relevant publics; 5) functional relationships between coordinating levels (i.e., central-regional-provincial district levels); and 6) the nature and extent of delegation of authority so that decisions could be made at the point where the most expert knowledge is available.

Frequent and constant consultations and involvement of relevant organizations, publics, officials, and clientele at all levels are a feasible strategy to ensure the formulation of more

realistic plans, facilitate plan implementation, and enhance support and cooperation for the program. A strategy of accommodation and interest conciliation could be adopted to secure and maintain support and/or reduce inter-agency conflicts and external interference. In this regard, a strategy of reformulating or "adjusting" program objectives to enhance political and administrative elite support may be adopted so long as these changes do not undermine the major interests of the program: for example, coinciding attainment of program goals with election periods and appointment of political protegés to innocuous positions; and anticipating — and planning for — all potential obstacles, problems, and uncertainties that may be encountered in the process of implementation.

Finally, in planning for the critical resources needed in implementation, there should be a careful analysis of the existing and/or additional resource-bases within the developing countries. The infusion of external resource-inputs (e.g., foreign loans) should be utilized only in cases where optimum payoffs could be realized.

A SELECTED BIBLIOGRAPHY ON ECONOMIC DEVELOPMENT, PLANNING AND IMPLEMENTATION, AND RELATED TOPICS*

*Compiled by Misses Perla C. Patacsil and Zenaida C. Lacson of the College of Public Administration Library, University of the Philippines, based on a preliminary list prepared by Mrs. Maricon P. Alfiler, a researcher in the same college.

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This bibliography constitutes a list of representative post-war studies on economic development, planning and implementation, and related topics on the 12 countries included in this casebook as well as other developing countries in Asia. The list does not aim to be comprehensive. The selections have been drawn largely from the library collections of the College of Public Administration and the Philippine Executive Academy of the University of the Philippines, and the Asian Development Bank.

The list consists of two parts: Part I comprises the general sources, while Part II includes case studies and development plans of Asian countries, grouped alphabetically by country. The development plans are arranged chronologically under each country.

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