

TECHNOLOGY TRANSFER THROUGH TECHNICAL COOPERATION: THE CASE OF TANZANIA*

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TABLE OF CONTENTS

Chapter 1: TECHNICAL COOPERATION AND DEVELOPMENT:THE FRAMEWORK

1.1 Introduction.....	2
1.2 Literature Review.....	4
1.3 Statement of the Problem.....	12
1.4 On Conceptual Framework.....	14
1.5 Study Coverage and Methodology.....	16

Chapter 2: TC VOLUME, POLICY AND PLANNING IN TANZANIA

2.1 Problems of Foreign Assistance in Africa.....	19
2.2 TC Volume, Policy and Planning in Tanzania.....	21
2.3 TC Management in Tanzania.....	31

Chapter 3: THE MBEGANI FISHERIES: ILL-CONCEIVED PROJECT

3.1 Introduction.....	39
3.2 Project Planning and Implementation.....	41
3.3 Norwegian Impact on the Fisheries Sector.....	44
3.4 Artisanal Fishermen Discovered.....	50

Chapter 4: THE UYOLE AGRICULTURAL CENTER:TARGETED BENEFICIARY

4.1 Introduction.....	59
4.2 Project Planning and Implementation.....	60

Chapter 5: INSTITUTION TWINNING: A CASE OF FORESTRY FACULTY

5.1 Introduction.....	72
5.2 Main Project Objectives.....	73
5.3 Project Planning, Implementation and Problems.....	73

Chapter 6: INSTITUTION TWINNING: A CASE OF VETERINARY FACULTY

6.1 Introduction.....	77
6.2 Project Planning, Implementation and Problems.....	78
6.3 Project Consolidation.....	82

CONCLUSION.....	84
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APPENDICES.....	87
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BIBLIOGRAPHY.....	87
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CHAPTER 1: TECHNICAL COOPERATION AND DEVELOPMENT:THE FRAMEWORK

1.1 Introduction.

Africa's economic crisis for the last three decades or so has variously been attributed to misguided economic policies and weak indigenous institutional capabilities.¹ It has been argued that once those two internal bottlenecks were prudently removed, stable institutions and modern economies would evolve as a matter of course. Intriguingly enough, the external dimension of the crisis was either assumed away or simply considered as extraneous to the whole problem. This perception, dominant among powerful multilateral organizations and major Northern donors, has been premised on the illusion that what Africa really needed was the creation of a sufficient stock of national capabilities to mould the development process on the basis of popularly accepted needs and values. In this vein, the critical role of technical cooperation (TC) in providing the crisis-ridden continent with the necessary expertise, training and equipment, both as part of capital assistance and as free-standing interventions has been zealously emphasized in most aid arrangements.

To be sure, decades of colonial domination and exploitation had failed to equip Africans with a critical mass of skills and managerial capabilities. The main purpose of the colonial school system was to train Africans to fill vacancies in local administration at the lowest ranks. Too much learning was considered both superfluous and dangerous for clerks and messengers. However, political independence turned that imperial logic upside down. Education was brought to the center stage. The main argument that informed that dramatic change of attitude was straight-forward: no country can develop without an educated human resource base, skilled people and strong institutions. Technical cooperation, therefore, was seen as a necessary complement to the transfer of financial and other material resources.

We have argued elsewhere, however, (Rugumamu, 1993a) that it is one thing to train a critical mass of experts and establish institutions, and that it is quite another to deploy them effectively and efficiently for a national development project. In the first place, TC projects are neither designed nor implemented in a vacuum. They are but a product of the broader context of which they form an integral part. These include, among others, the global political economy, donor foreign policy, national politics, macroeconomic policy and the local environment. In our view, the larger national and international environments within which TC projects and programs are situated, must be carefully specified and explained. It is those environments that are either conducive or obtrusive to both policy generation and implementation.

In retrospect, the irony of the World Bank argument about incorrect policies and weak institutions is that the terrible economic and political mess in which that Africa finds herself in the 1980s and 1990s is partly but largely a consequence of the last thirty years of massive amounts of foreign technical assistance in the form of inept pieces of advice, misguided planning, ill-conceived projects and institutional destruction. In Payer's (1974:22) words the damage is likely to be even much worse than that:

If too much stress is laid on foreign assistance or attempt is made to rely entirely on others, it will cause people to lose faith in their strength and neglect their endeavors to tap the inner resources of their country, blindly pinning hopes on others...then, it will be impossible to succeed in building a sovereign, independent state in the end.

In this regard, therefore, the inherent causes of this continent's crisis are much more complex and intractable than what the conventional bourgeois analyses would lead us to believe.

The report is divided into six substantive chapters. Chapter one sets the stage by reviewing the literature on foreign assistance, defining the problem, and specifying the conceptual framework, methodology and the study coverage. The volume of

foreign assistance and the guiding policies in Tanzania are discussed in the second chapter. Chapters three through to six closely examine three foreign-assisted projects in Tanzania.

1.2 Literature Review

In theory, TC involves the provision, on very concessionary terms, of resources aimed at the transfer, adaptation and utilization of foreign knowledge, skills and technology in order to enhance human and institutional capacities². Institutional development simply means a process aiming at creating and enhancing the capacity of a country's institutions to perform their various tasks mainly with the national human and financial resources. Promoting institutional development will normally have to lead to the building of strong and competent local institutions able to deal, each in its area, with the various and complex challenges facing the country over time (Kjellstrom and d'Almeida, 1987:25). The key indicators are, therefore, integration, sustainability and institutional capacity building. That lofty view has been fully endorsed by the Development Assistance Committee (DAC) of the Organization of Economic Cooperation and Development (OECD):

Although technical assistance programs may have a variety of purposes and objectives, generally their main purpose, and ultimately the test of their effectiveness, centers on the extent to which they successfully promote increased self-reliance in recipient countries, by strengthening and expanding the institutional capacities of these countries to mobilize and manage development resources on their own (OECD, 1986:127).

The underlying assumptions of that whole argument is that the application of rigorously tested and approved knowledge and improved techniques results in higher productivity per person, giving rise to higher incomes, higher savings and higher investment per capita. This, in turn, makes possible the generation and application of improved knowledge and techniques which result in higher productivity per person and so the process of circular

causation with cumulative effects continues (Girvan, 1983:11).

At an institutional level, effective knowledge and skills transfer and acquisition is a long and complex process. It takes a critical mass of accumulated knowledge to rationally determine what additional skills, knowledge, institutions and technologies are required; how to search and select the types and knowledge needed; how to negotiate for favorable terms of transfer; how to adapt and absorb new production systems; and finally, how to generate and diffuse technologies in selected areas (Stewart, 1978; Bell, 1984). When all is said and done, so the argument goes, the major criterion to assess TC effectiveness is whether or not that TC helped institutions and the staff involved to perform the relevant activities by themselves after the completion of the project and the withdrawal of funds and expatriate personnel.

That is the **leit-motif** of TC. Less than that it may then become, at best, an end in itself. In that regard, the content of such a TC arrangement would lead to a building of skills in the nationals of a developing country regardless of what they do with it thereafter. Such a short sighted view of the role of TC would simply create and strengthen the analytical capacity of individuals but fail to institutionalize the acquired skills and expertise precisely because the said expertise would fail to respond to the realities of the institutional environment in which they operate. Well over two decades ago, Cooper (1973:5-6) and Herrera (1973:19-24) perceptively observed that scientists in developing countries tend to be alienated from the production activities or simply marginalized because there is no demand for their knowledge and skills. The lack of pressure on the scientific community from the local economy means that their knowledge and skills tend to be lost...either because of disuse or of migration to other countries. The migration does not always manifest itself in the physical movement of people. There are scientists and other professionals of developing countries whose skills become irrelevant to their societies and get channelled to unanticipated uses under the attraction of transnational demands which provide them with both

the funding and a frame of reference for their collaborative research and development work.

When such unfortunate circumstances arise, therefore, the preoccupation of the national research experts and technocrats developed through TC arrangements strive, as much as possible, to satisfy the research norms and values of the international scientific community rather than respond to the crucial technological problems of their societies. It is in this very sense, that Raj Panday (1989:25) once poignantly observed that the local experts can easily be more alienated from their people than the expatriate experts who are presumably handicapped culturally. As a result, the basic TC goals of human resource development and institution building ultimately get buried deeper under the cavalcade of conceptual redefinitions.

It should perhaps be emphasized that the TC resources from the rich developed "North" to the poor developing "South" are almost invariably provided on concessionary terms. This includes the provision of, among others, specialized personnel, training, machinery and equipment as well as finance. However, as Dichter (1988) aptly observed, those resources are largely intended to be channelled into "development-oriented" technology transfer activities. This is, indeed, one of the unique instruments of technology transfer in the North-South economic relations. It is unique in the sense that technology is transferred on non-commercial transactions with the ultimate goal of creating and nurturing institutional, policy and management capacities in the recipient economies at minimal costs.³

TC resources are widely recognized as a very important contributory factor the in development efforts of many countries of the South. It has had a major impact on the training of large numbers of national professional and technical personnel and on the strengthening of many institutions throughout the developing world. The cross-cultural exchanges resulting from TC activities have increased the understanding of different viewpoints while enriching the societies involved (OECD, 1991:5). However, during the last two

decade or so, there has been growing concern about the effectiveness of TC in building and strengthening sustainable institutional capacities and promoting self-reliance. The tool so long used as a solution to many problems has tended to become a problem in itself. On this subject, donors and recipients point accusing fingers at each other.

From the recipient side, there has been claims that TC delivery and administration is "inordinately donor driven" and that the recipient government positions have usually been reactive rather than initiative. Arguably, this state of affairs is symptomatic of the asymmetry of power and wealth between donor governments and their agencies on the one hand; and, recipient governments and beneficiary populations on the other. It is further contended that because of these inherent unequal power relationships donors conceive projects, design them, supervise implementation and evaluate the performance according to their preconceived objective criteria. Moreover, all the above is carried out with the least involvement of the recipient governments and target populations. As a consequence, so the argument goes, the overall impact of TC on indigenous capacity building and self-reliance has variously been rated marginal at best and destructive at worst (Green, 1973; Mushi and Kjekshus, 1982; Baskin, 1985; Doornbos, 1990).

It should also be added that the above donor practices run counter to the OECD's DAC publicly advertized TC delivery mechanisms to developing countries. One of the key DAC delivery principles seeks to promote a lead role for the recipient government. Specifically it states:

....while project financing decisions are taken jointly by donors and recipients, responsibility for project identification, design and implementation rests with the recipient. Strengthening the capacity of recipient countries through training and institutional development for project appraisal, design and management, including budgeting and auditing, is an important objective for donor-recipient cooperation.

From the donor side, however, international development agencies have consistently complained, in the first place, about the virtual absence or crippled institutional frameworks in most countries of the South through which to channel TC resources. The bureaucracies in these countries, they argue, are not only inept but also too demotivated to perform any serious independent undertaking. It is against that background that bilateral donors and multilateral agencies have, for a long time, insisted on employing large numbers of foreign personnel in their TC-aided projects either to fill the existing personnel gaps or simply to circumvent bureaucratic red tapes. The rationale has usually been that "the structural impediments to development and the demands for tangible results have converged in a situation where the illusory but tempting solution is to deliver a finished product, rather than to struggle on with the difficulties inherent in a true partnership" (Wilkens, 1990:7).

In the second place, and as earlier stated, donor agencies have consistently argued that most African governments were insufficiently staffed, poorly motivated and highly corrupted and corruptible bureaucracies. The tendency for most donors has been either to bypass those bureaucracies or simply marginalize them by engaging them the least. The failure to fully engage recipient governments at all stages of a project cycle has had deleterious consequences on the anticipated target population. Hidden in self-created cocoons, most donor agencies ended up identifying, designing and financing projects and programs that were either inappropriately packaged, poorly targeted or excessively lavish for the actual need (Kleemeier, 1982; Nordic Report, 1988; Mutahaba, 1989; Doornbos, 1990; and, Bossuyt, et al. 1991).

It is precisely because of the above practices that there is now a clear unease about whether the actual results are commensurate with the very large TC expenditures on Africa. Throughout the 1980s, for instance, sub-Saharan Africa received an annual average of about US \$4 billion worth of TC and that about 70,000 to 100,000 expatriates worked on a variety of projects and

programs (Wallace, 1990:27). Irritatingly, the personnel category absorbed, on the average, between 70 to 80 percent of the value of the total resources provided (Bernis, 1990:10). Worst of all, there has also been a growing malaise in Africa concerning the role of those TC personnel. While the number and quality of educated, trained and skilled Africans have been increasing, the volume of TC personnel has also been rising. Much too often, TC experts have been engaged in operational areas where nationals with better qualifications and even richer grassroots level experiences exist. Such unfortunate donor practices do at least suggest that TC interventions have often deliberately failed to make the best possible use of available national skills or to ensure timely phasing out of expatriate personnel.

Behind that bureaucratic inadequacy charade, lay hidden donors' agendas which are often at variance with their lofty publicly espoused aid principles. Here we have in mind the pervasive tendency by most donors to bypass local institutions in favor of independent, short term organizational structures to manage TC-aided projects. As was noted earlier, priority may be given to ensuring "quick visibility results" for their home legislators and tax payers, which in the long run, may turn out to be counterproductive to the recipients. Several arguments have been presented to explain this reprehensible behavior. These include, among others:-

- . a fear of misuse of funds if there is not an external advisor or project manager controlling project expenditures;
- . concern that local technical capacities are not strong enough to deal with complex issues especially if focussing on technology transfer;
- . desire on the part of the donor to have an insider well placed within a recipient country to pursue the donor's broader political and economic concerns; or,
- . the convenience of having someone on site with whom to

communicate easily as an interface with local administration on the day-today basis.

Surprisingly, but for quite different reasons, some and indeed most recipient governments in Africa tend to feel more comfortable with TC personnel than with their own nationals. At first, this observation might sound rather odd. At a closer inspection of Africa's political economy, however, what might sounds odd elsewhere is perfectly in order in this part of the world. To start with, the presumed objectivity of foreign advisors is often considered a tremendous asset in some complex local socio-political settings. This may be particularly true if conflicts of interest could arise with nationals involved. Moreover, personal gains from dealing with foreign consulting firms may be another factor that reduces the share of TC programs from going to local consultants. Incidentally, some recipient governments like donors, also see foreign advisors as an easy way to communicate with donors: foreigners can act as an interpreter and facilitator on behalf of recipients and handle directly with donors many issues that arise during the course of project implementation. Naturally, such unfortunate incidence have forced some critics to seriously question the otherwise "hidden agendas" on both sides of the aid relationships (Hayter, 1970; Bhatt, 1980).

Moreover, some critical studies by Morss (1984), Doornbos (1990) and Cassen (1986) have advanced the argument that, in fact, donor and project proliferation particularly in sub-Saharan Africa have tended to contribute to institutional disarray and indeed decay. Much too often, donors bypass national institutions that they were supposedly out to strengthen by establishing parallel institutional structures to run their programs. In theory, all TC interventions should complement, strengthen, and wherever possible build on the existing structures and capacities, public as well as private. The creation of parallel institutional structures, of course, serve to subdue and disempower aid recipient societies in whatever way one looks at it.

Furthermore, the overwhelming pressure and demands of donors divert the attention of governments from attempting to determine their own policies to simply trying to please them for additional aid. The additional pressures often imposed on recipient governments include, among others, keeping track of all donor funded projects, preparing quarterly progress reports, negotiating with donors on new projects and the like. Under the pretext of "policy dialogue", it is contended, African governments end up accepting ready-made policy packages and programs that were largely agreed upon by the major donors in other fora⁴. It is those rather informal consultation fora that have come to form the basis of economic policy management of most developing countries⁵. Not infrequently, the imposed programs tend to be far removed from the real needs of the intended populations. In this sense, then, the primary TC objective of strengthening institutional capacities in order to distil development objectives, to elaborate development plans and strategies is, more often than not, side-tracked.

Above all, some official misconceptions about the TC by recipient governments have partly and indeed largely contributed to its poor performance. Incidentally, those resources are misconceived as purely "free gifts" with no serious economic and political implications. Simply put, they are requested and usually accepted as costless development funds. Surprisingly, the indirect costs linked to TC use are seldomly considered let alone budgeted for (Bernis, 1990:6)⁶. As would be expected, the political side of these relations rarely becomes part of the bargaining agenda. Such misconceptions have neither served economic development nor promoted national sovereignty and security of the recipient countries.

It is perhaps important to reiterate the point that foreign assistance is an integral part of the foreign policy of a nation. Aid for development should be conceived of as a foreign policy objective either in its own right or as an instrument of broader foreign policy objectives. The United States foreign policy, for instance, has two distinct, conceptually interdependent but

potentially conflicting set of goals in the Third World. First, there are the diplomatic goals which serve to advance America's short-term political and long-term strategic interests. Secondly, there are humanitarian and developmental goals directed at the short-term alleviation of suffering and the long term promotion of economic growth. Development assistance serves as the key instrument for the attainment of those US foreign policy goals.

Other non-super power Western nations put less emphasis on geostrategic concerns in their respective aid policies. Other objectives are, however, more or less similar. Small and middle Western powers stress the principle of "humane internationalism". In a nutshell, the core of humane internationalism is the acceptance of the principle that citizens of industrial nations have moral obligations towards peoples and events beyond their borders. The concept implies three closely related concerns, namely, the acceptance of an obligation to alleviate global poverty and promote social and economic development in the Third World; a conviction that a more equitable world would be in the best long-term interests of the Western, industrial nations; and, the assumption that meeting these international responsibilities is compatible with the maintenance of a socially responsible national economic and social welfare policy (Stokke, 1989:10-11). The failure to appreciate some of the underlying "private" donor motives (trade, investment and employment opportunities) has often made most African Governments accept some of those "gifts" regardless of their importance in the development plans and priorities nor of their impact on the national security standing.

As would be expected, little or no effort is made by recipient institutions to carefully assess say, the professional competence of the TC personnel, the rigorousness of the counterpart training programs nor the appropriateness of the technological packages being recommended for the target population (Bagachwa and Rugumamu, 1991; Forss et al. 1988). To be sure, the scale of expenditures and the number of expatriates involved put serious pressure on the economic and social systems of most sub-Saharan African countries.

In short, misconceptions of this kind have not, in any way, helped to enhance the technological competence of the recipient communities nor have they strengthened their institutional capacities.

1.3. Statement of the Problem

As the literature review has amply demonstrated previous studies on the role and effectiveness of TC have, by and large, tended to narrowly focus either on the missing critical inputs in the recipient's managerial and absorptive capacities or on the modes of TC delivery by donors or even on both sets of issues. The role of and the impact on the target population was largely assumed away. To be sure, the ultimate goal of development is to empower people to take charge of their development. They should fully participate in the planning, designing and implementing of their development programs in order to release private energies and to encourage community initiatives. Following the footsteps of Gramser (1988:714-18), "the user-interactive research and development involves making consumers of technology more active partners in the creation and development of new knowledge". He further added that "consumers of new knowledge should not be limited to guinea-pig roles but should participate in determining development trajectories or research directions and priorities". In this regard, we intend to examine the role of the target population in specific TC arrangements in order to determine not only the level of their participation in major decisions but also the effectiveness of those resources in enhancing institutional capabilities at national, sectoral, institutional and village levels.

The failure of previous researchers to incorporate this critical component of development in their various analytical frameworks led, in our view, to their inability to fully capture the nature of contradictions that arise from a complex interplay of

donor, recipient institution and the target population. Consequently, their conclusions and policy prescriptions on the role and effectiveness of TC were partial at best and mechanistic at worst (Muscat, 1986; Stokke, 1989; and, Nordic Report, 1988). This research project set out to fill this lacuna. Attempts were made to search for a reciprocal causation...of action and reaction...of the three major actors that simultaneously define and change each other's behavior at all stages of the project cycle. By carefully integrating the perceptions, experiences and expectations of the target populations in our equation we were able to uncover and expose the fundamental causes for relatively poor returns on huge TC expenditures in Tanzania. It became increasingly clear in the course of our investigations that imposed solutions to insufficiently studied and poorly understood problems of the target populations seriously exacerbate rather than attenuate their misery.

Specifically, the study examined the following set of hypotheses in order to establish the effectiveness of TC in Tanzania.

- a) If the target population, the Government and donor agencies effectively participate in project identification, planning, design and implementation, then the net impact of the project is likely to be large.
- b) If the target population, the Government and donor agencies agree on the division of labor in the project execution, then the conflicts are likely to be minimized.
- c) If the Government formulates and effectively implements a clear and comprehensive TC policy, then problems of sustainability are likely to be avoided.
- d) If joint project evaluations are undertaken, the net TC pay-offs are likely to markedly enhance the farmers' technological competence.

1.4 On a Conceptual Framework

The structuralist dependency theory in international political economy provides valuable insights to explain the relationship between donor and recipient states. In the first place, the theory assumes unequal distribution of power and wealth between the two partners. The relational inequalities among actors translate into uneven distribution of opportunities, constraints and vulnerabilities that impinge on each other (Caporaso, 1978). In fact, the economic inequalities and power imbalances between the partners are a necessary condition for the actual exercise of influence over behavior. The recipient state finds itself continuously under pressure from powerful donors to accept different aid conditionalities, only to find itself literally left with very few independent options of its own. Furthermore, there are neither direct nor automatic **quid pro quo** in these types of transactions as one actor is a donor and the other one simply a recipient. In other words, the relationships are typically characterized by a peculiar type of asymmetry...the asymmetry of domination and dependence.

In the second place, the theory further assumes a disproportionate influence of the donor over the very content of these relationship. The international aid regime consists of written and unwritten rules, norms, principles and procedures which are equally asymmetrical, reflecting the inherent power imbalance. As would be expected, the inordinate donor control over resources translates into control not only over the actors but also over events and outcomes **a la** Hart (1976). All things being equal, the theory predicts that the more foreign assistance acquired, the greater the influence of donors over the socio-economic destiny of the recipient state particularly as it relates to policy planning and management (Poulantzas, 1974; Jalee, 1968; Ake, 1979). It is in this particular sense that we figuratively construe foreign assistance laying siege to a recipient state. Jalee (1968:83) is quite categoric on the subject:

Bilateral public aid brings political servitude and economic subjugation. It is given, received and applied in such a way

as to strengthen business circles in the countries giving it and the local oligarchies in the country receiving it.

Things are, however, not always equal. The nature and capacity of a recipient state would make a world of difference. Ideally, in international transactions the overall distribution of capabilities shapes the bargaining outcome in favor of the strong. However, and indeed dialectically, it also creates "spaces" that the weak can exploit for its advantages. In other words, it is possible for the weaker actor, even in a highly asymmetrical power relationship to exploit its weakness to gain power over the stronger actor. As Koehane (1971:162), and Hirschman (1978:45) elegantly argued, appropriate bargaining capabilities and strategies can be gainfully employed to allow the weak to prevail over the strong under conditions of power asymmetry. In Hirschman (1978:47) words, "a country is likely to pursue its escape from domination more actively and energetically than the dominant country will work to prevent this escape".

In the above sense, therefore, a committed nationalist state with a mass based legitimacy would be capable of setting a domestic policy agenda and controlling the outcome. This would be reflected in its capacity to formulate coherent policies and in its institutional ability to execute them effectively. Moreover, the state capacity would be demonstrated by its ability to resist pressure from competing domestic factional interests and to change the attitudes and motivations of the broad masses of the people. Finally, the capacity of the recipient state would be gauged against its ability to direct, regulate and monitor the activities of foreign economic actors participating in the national economy. In our opinion, those capabilities would naturally translate into an effective countervailing force to protect the core national values and interests of the recipient state. In this sense, therefore, the chances for donors to impose low priority TC projects and programs or transferring inappropriate technologies would be substantially reduced. So also would be the frequency of

program failures simply because of insufficient domestic back-up support. Curiously enough, as the experience of Tanzania has shown, those critical institutional capabilities develop unevenly among different sectors of the national economy (Rugumamu, 1989).

1.5. Study Coverage, Methodology and Justification

This project studied four agricultural research-cum-training institutes in Tanzania as well as two adjacent villages. In principle, the research institutes in Tanzania are supposed to be the primary producers and disseminators of modern agricultural technologies. Again in principle, the neighboring villages are virtually the first consumers of the technologies developed by the research institutes. According to the UNDP data (1988), the agricultural sector was one of the leading beneficiaries of TC resources in the economy for the whole last decade. Moreover, it is a well known fact that agricultural research and development is one of the key pre-requisites for the transfer and adaptation of foreign technologies. The available evidence from some national research and development institutes show that local R and D activities have led to the adaptation of new technologies in such areas as the development of new improved of plants and livestock; improved methods of land preparation, cultivation, irrigation and harvesting; improved agricultural machinery and tools; and, better methods of pests and disease control (UNDP/FAO, 1982; FAO, 1987).

Two basic research methodologies were used this study. These were documentary reviews and questionnaires. The initial stage of the research drew heavily on documentary reviews at the selected research institutes' government's and donor agencies' libraries. The published and unpublished materials were examined and analyzed to establish the size and magnitude of technical assistance flows to Tanzania. Secondly, a structured questionnaire was administered on a predetermined sampled population. The questionnaire was initially pre-tested at the Mbegani Fisheries Center for

ambiguities, inconsistencies and validity of the questionnaire items. Then four research assistants administered it on a randomly structured sample of forty eight senior researchers and research administrators; ten donor agencies in Dar es Salaam; and on eighty farmers living in the neighborhood villages of the candidate research institutes.

The choice of the former category was determined by the experience of the researchers experience and or that of aid administration. Long service was, therefore, the primary criterion. At this stage of the investigation, we were interested in assessing the impact of TC on the research and development capabilities of those institutes. Quantitative data on the amounts and distribution of TC resources to the agricultural sector in general and the research institutes in particular were collected. This information was analyzed to determine the size, magnitude and direction of TC resources going to the research institutes. The qualitative data on the kinds of R and D activities that had been undertaken and/ or published were gathered and analyzed to determine the knowledge and skill capabilities that had been acquired and accumulated through TC arrangements.

The choice of the twenty farmers from the two villages studied was also sampled using a structured random sampling technique. The two criteria used were education and income. This was further subdivided into high, medium and low for each category. All that information was readily available from respective research institution. The central question revolved around the critical factors that influence TC effectiveness in enhancing institutional and technological capabilities of the intended beneficially populations. At this stage, attempts were made to investigate what types of agricultural technologies had been adopted or rejected and why.

Finally, information on farmers' participation in the decision-making processes as regards to what should be the priorities in the agricultural research, technologies to be adopted, conditions of transfer, farmers perceptions of new

technologies and those on the disseminating agencies will be solicited. Such data were considered important in order to understand and explain the role of the target population in technology transfer decision-making.

Most of the data that was sought and collected were largely qualitative. Consequently, their analysis were naturally an interpretive one. Some of the quantitative data that was obtained were analyzed by using simple descriptive statistics like averages, percentages, standard deviations and much else.

This research project was expected to come up with several outputs, namely, the size and magnitude of foreign assistance to Tanzania; an indepth assessment of the effectiveness of technical assistance in general and in specific case studies; and, to provide policy recommendations on how best to exploit foreign resources provided to Tanzania. Currently, the Government of Tanzania is trying to design a comprehensive policy on aid coordination and management. Hopefully, the arguments advanced in this report will, in a modest way, contribute to that policy formulation process not only to the Government but also to the donor community.

CHAPTER 2: TC VOLUME, POLICY AND PLANNING IN TANZANIA

2.1 The Problem of Technical Assistance in Africa

For practical reasons, the available statistical information on developing countries in general and Africa in particular is replete with inconsistencies. Each authoritative donor source, for reasons best known to them, tends to come up with completely different figures. The OECD Development Assistance Committee (DAC) members reported that bilateral TC expenditures to developing countries was to the tune of \$10 billion in 1989, that is about 25 percent of total bilateral Official Development Assistance (ODA). It was further estimated that the above sum financed some 80,000 experts and volunteers, over 125,000 students and trainees,

feasibility studies, surveys and research. In addition, the United Nations system contributed an estimated \$2 billion. Adding TC resources by the World Bank and the IMF (over \$1.5 billion), it is likely that the total outlay on TC to developing countries is of the order of \$15 billion (OECD, 1991:4).

The same sources estimated that sub-Saharan Africa received an annual average of about US \$4 billion worth of TC during the decade of the 1980s. Additionally, World Bank loans---as distinct from grants---for technical assistance to Africa rose from \$343 million in 1986 to over \$500 million in 1988. Within these sums, the TC components in Bank capital loans rose from \$268 million in 1986 to an all time high of \$373 million in 1988 and free standing TC projects financing increased from \$57 million to 143 million during the same period (Williams, 1991:14).

In a number of African countries TC accounts for a significant share of aid and is an important element of their economies. While the average for the region as a whole was, for the 1980s, 25 percent of net official development aid flows, the range varied widely. Aid levels tended to be on the order of \$50 million to \$300 million for individual countries. At least 14 countries had TC aid levels equivalent to more than 5 percent of their GNP in 1987; and for 23 countries it represented between 2 and 5 percent.

Why then has technical assistance to Africa reached such high levels and achieved so little ? In the first place, the objectives of these efforts are all too often ambiguous: the institutional development goals supported by TC are difficult to operationalize and consequently, to monitor and evaluate. It is precisely because of this lack of adequate instruments and methodologies that long-term goals are frequently side-stepped by donors and beneficiaries, with the attention focussed on gap filling and substitution in order to achieve successful physical implementation of the project.

In the second place, there is a widespread consensus on both sides of the aid relationship that such large levels have grown more in relation to the availability of donor funds rather than to the actual needs of the recipient countries since most TC projects

are donor conceived and initiated. Moreover, it has generally been the case that donor agencies have considered technical assistance to be central in ensuring proper monitoring and implementation of **their** projects. Above all, some perceptive recipient governments regard TC need as overstated and construe it as but a price that they must continue to pay for the needed capital funds (Williams, 1991:14).

The 1980s and 1990s were characterized by acute economic crisis in almost all African countries. This gave rise to sharp deterioration in the budgets and implementation capacities of many African institutions. Governments could not, and in many a case, afford to pay their nationals a living let alone a an incentive wage. To this effect, donors tended to increasingly stress technical assistance components in almost all aid packages both for purposes of monitoring and allegedly of improving implementation prospects. At the same time, recipient governments were equally eager to accept experts and the accompanying equipment in the hope of relieving severe budgetary constraints. In the final analysis, the process tended to feed on itself with adverse consequences: dependence on technical assistance become a virtual necessity. The primary focus on capacity building and self-reliance turned into its opposite, thereby negating the long-standing principle that "aid is developmental if it lays the foundation for its own rejection" (Mushi, 1982:9). In sum, while technical cooperation has grown in volume, its impact, measured in terms of national institutional capacity and sustainable human resource development, has not.

The rising high level of technical assistance also may be related to the deterioration in the management capabilities of African governments and institutions resulting from the large migration of highly skilled manpower out of the continent. With falling incomes and the budget crunch coupled with pervasive political instability and insecurity, it has been estimated that annually 23,000 skilled Africans migrated to Europe in the period of 1985-87, or a loss to Africa in these years of some 70,000 of

its trained and educated citizens. This is roughly equivalent to the 80,000 expatriate advisors and consultants believed to be financed each year by the TC programs in Africa (Williams, 1991:15).

The growing interest in the National Technical Cooperation Assessment and Program (NATCAP), a project supported by the UNDP, is based on the realization that improvements in the management of technical cooperation could lead to significantly better development results. The express purpose of this continent-wide project is to improve TC effectiveness in Africa through strengthening the capacity of the recipient institutions. In particular, both donors and recipient governments firmly believe that the large aid resources devoted to technical assistance could be better utilized. In this sense, NATCAP promises to empower recipient governments and their people in the management of the external assistance that they receive. It is further hoped that the project will facilitate a coherent strategy for capacity building which defines TC priorities and requirements both to fill the immediate operational gaps and to build longer-term national capacity.

2.2 TC Volume, Policy and Planning in Tanzania

At the national scene, the performance of TC in Tanzania was equally alarming. The **1985 Annual Manpower Report to the President** and the 1991 Ministry of Labor and Youth study on work permits found out, for example, that a total of 5,211 work permits were granted to non-citizens to work in Tanzania in 1985, 1989 and 1990. As Table 1 shows, engineering posts claimed 1193 permits, closely followed by the executive and finance related posts with 953 and 810 respectively. Other professions distantly followed. A further occupational classification in Appendix 1 reveals an uncalled for engagement of expatriate personnel by international donor agencies. It should be quickly pointed out that Tanzania does not currently suffer from any shortages of qualified and experienced craft workers, technicians, secretaries or accounts clerks. One would

also add that the economy has, for a long time, been self-sufficient in middle cadre management personnel. The two reports that we alluded to above attributed the continued presence of expatriate personnel in Tanzania to five related factors:-

- 1) distrust of indigenous experts by aid agencies;
- 2) lack of qualified counterparts;
- 3) lack of adequate training programs;
- 4) strings often attached to technical cooperation programs;
and,
- 5) preference for foreigners by local bureaucrats for their
own ulterior motives.

Table 1: EXPATRIATES REGISTERED UNDER RESIDENT PERMIT "B" *

Category	Description	Number		
		1985	1989	1990
Executive Posts	Managing Directors, Executive Chairmen, Senior Managers	175	375	403
Engineering Posts	Mechanical, Civil, Electrical	486	378	329
Financial Posts	Auditors, Accountants, Finance	389	226	195
Medical Posts	Doctors, Nurses, Pharmacists	86	62	44
Teaching Posts	Teachers, Lecturers, Professors	165	200	221
Supervisory Posts	Building foremen, workshop supervisors	195	105	104
Pilots	Pilots	7	27	30
Others	Not mentioned above	363	332	314
TOTAL		1866	1705	1640

Sources: **Annual Manpower Report to the President** 1985, Table 28 pp.50; and, Ministry of Labor and Youth Development, 1990.

* Category "B" resident permits are issued to expert/expatriates engaged in the civil service, parastatal or private companies.

Tanzania has been one of the major foreign assistance recipients in sub-Saharan Africa. Foreign assistance financed about 20 percent of the development budget during the First Five-Year Plan of 1964-69. This figure substantially rose to 40 percent during the 1970-75 Plan and to almost 60 percent during the 1976-81 Plan and it has continued to rise ever since (World Bank, 1990:13). Even more recently, the **1992-93 Annual Development Plan** expected to be financed by well over 70 percent from foreign assistance resources (Economic Survey for 1991 and Annual Development Plan for 1992-93:38). One would safely add that perhaps an equal degree of influence and domination in the policy planning and management of the national economy was exercised by donors.

The composition of foreign assistance to Tanzania has changed over time as well. From the early 1960s through the 1970s project aid was the most dominant. Since the 1980s, however, there has been an increasing shift towards import support/commodity assistance.

The aim of import support has been quick procurement of raw materials and spare parts to rehabilitate capacity mainly in industry, transport and agriculture. However, as Rugumisa (1990:7) observed, like any other forms of aid, import support has, in its own peculiar way, increased the economy's dependence. In some cases it has increased the cost of imported goods; and, distorted the industrial structure by supporting low priority firms. Many donors have tended to support not only the subsidiaries of their home-based companies and joint ventures but have also tied the sources of supplies under this particular program thus resulting in more costly or inappropriate inputs.

On the face of it, however, foreign assistance to Tanzania seems to have been extended on favorable terms and often with minimum controlling conditions (World Bank, 1984; 1987). During the early 1970s, the ratio of grants to loans was about 1:2; subsequently, the ratio has been moving in the direction of 1:1. Moreover, since the 1980s, a number of European donors have converted all or part of their earlier loans to grants and quite a number of them have continued to provide technical assistance resources on grant basis. Those seemingly favorable conditions encouraged the Government of Tanzania to imprudently embark on ambitious development programs without adequate regard to the absorptive capacity of the economy. In retrospect, one can argue that the Government readiness to accept massive foreign assistance was running counter to the Arusha Declaration's explicit goal of socialism and self-reliance. Incidentally, there were no other powerful state institutions to check the excessive actions of the Government.

The sectoral orientation of foreign assistance in general and technical cooperation in particular has changed over time too. The late sixties and early seventies were, to some extent, guided by the Arusha Declaration's broad objectives. As a result, most project assistance was directed to the agricultural and transport sectors. As the national development emphasis shifted to basic industry in the second half of the seventies so did the direction

of foreign assistance. From the late seventies and thereafter, the state seemed to have abandoned the grand Arusha Declaration development vision. This was an ideology that had, for more than a decade, mobilized popular classes behind the state by denouncing capitalism and ostentitious capitalist living styles and had sought to built a socialist and self-reliant society.

As the state lost an ideological vision, the flow of foreign assistance became not only **ad hoc** and **laissez faire** but **donors took direct charge**. Among the commonly cited concerns of this period is that aid flows came to determine to a large extent the structural patterns and pace of national economic and social development. As the World Bank poignantly observed "the advice of donors did not always push in the right direction, and was not always based on information sufficiently reliable for policy formulation. Foreign assistance gradually became counter-productive in terms of its quality and effect on strengthening institutional capacities. What was more, donors did not always speak with one voice" (World Bank, 1990:15). Policy confusion has occupied, since then, the front seat.

Table 2: VOLUME OF FOREIGN ASSISTANCE TO TANZANIA 1980-1990

(in US\$ mill.)				
YEAR	Total Aid	Value of Exports	Tech. Coop.	Tech. Coop as % of Exports

1980	666	505	233	46
1981	701	570	229	40
1982	684	369	178	48
1983	593	347	209	60
1984	557	335	216	64
1985	486	317	200	63
1986	680	355	260	73
1987	814	362	244	67
1988	905	393	250	63
1989	906	424	293	69
1990	956	429	238	55

Sources: OECD, (several issues)
UNDP, (1987-90).

As Table 2 demonstrates, between 1980 and 1990 the annual TC flows to Tanzania averaged about US \$232 million⁷. This was about one third of the total foreign assistance flows, or about 20 percent of the total import bill and well over 58 percent of the value of exports over the same period. Relatedly, during the same period, the number of TC-supported projects increased by leaps and bounds as well. Whereas there were only 420 donor-supported projects in 1986, they increased to about 980 in 1989 and to well over 1200 in 1990 supported by one hundred donors or so. Most of those resources were provided by bilateral donors, who were distantly followed by the multilateral agencies and non-governmental organizations. On the basis of 1990 UNDP figures, the top ten donors to Tanzania were: the UN system (21.0%), Norway (10.5%), Sweden (9.8%), Canada (6.9%), Denmark (6.9%), Finland (5.3%), Germany (5.1%), the Netherlands (4.7%), Italy (4.6%) and

Japan (4.4%) (UNDP, 1992:34-7).

From the above account, four important observations are in order. To start with, donors have increasingly remained project rather than program or sector oriented in their development approach. As earlier stated, the **Development Cooperation Report** of 1990 indicated that Tanzania was implementing over one thousand projects supported by about one hundred donors. The quality of the project planning and monitoring desks in the Planning Commission and the line Ministries leaves a lot to be desired. Too often they were manned by junior officers; and in a number of cases, too few of these to handle the tasks assigned to them. Projects were therefore preferred to programs for their inherent easier execution and monitoring. Under those circumstances, one would safely conclude that most of the basic ground work in project identification, planning, design, monitoring and evaluation were most probably undertaken almost independently by donors or their agents. Above all, most projects must have been hastily identified and designed by foreign consultants with little or no knowledge of the specific technology that is appropriate, the accumulated skills and experiences of the target populations or the institutional know-how necessary to sustain the project. This problem has, in turn, led to the perpetuation of foreign technical assistance personnel and protracted aid dependence by the national economy.

Secondly, donors have almost invariably tended to push their own motives in employing and perpetuating technical assistance personnel which had nothing to do with the availability of the local manpower or its training needs. The 1988 Nordic study found that in 11 out of the 21 cases studied in Tanzania, the need for technical assistance personnel was identified by donors who sought to ensure efficient project implementation under their direct and full control and accountability. The report further noted that in the other seven cases studied, donors had set up their own parallel organizational structures and had imposed special procedures upon existing government structures. This is what Morss (1984) aptly referred to as "institutional destruction" of the aid recipient

states as a result of uncontrolled donor demands, by-passing existing institutional structures and their pathological bias against employing qualified and experienced locals.

Thirdly, the unquestioned pursuance of donor objectives has also jeopardized the national objectives of training, staffing and institutional development and sustenance. In the 1988 Nordic study that we referred to earlier, it was also found out that only 23 out of 172 technical assistance personnel interviewed were fully involved in the training and manpower development. Additionally, 64 out of 172 TC personnel interviewed performed jobs which had a surplus of trained local personnel. Indeed, such employment practices are in direct contravention of the 1966 Government policy on employment of the non-citizens. The policy sought to confine the recruitment of expatriates only to those areas where there is a proven absence of qualified local persons. It also seeks to link expatriate employment to the training of the locals. More specifically the policy categorically states that:

It is the Government policy that the economy of Tanzania should be manned by trained and competent citizens. Entry Permits (or renewal thereof) for employment in Tanzania are issued to non-citizens with skills not available at present in the Tanzania labor market only on the understanding that effective training programs, in-service or otherwise, are undertaken within a specified period to produce trained citizens competent to replace them (URT, 1966).

Finally and perhaps the most important of all, is the fact that the Government of Tanzania has, for a long time, pursued employment policies that make it difficult to attract, utilize, develop and retain trained indigenous manpower. First of all, it is the whole question of a poor compensation policy and rigid administrative control structures. Salary structures and increases in the Civil Service are determined by the Government and in the case of parastatals such salary structures were, at least until 1992, determined by the Standing Committee on Parastatal Organization. The compensation schemes, were for a long time, characterized by extreme low levels of real wages and salaries at all skill levels. The precarious nature of wage earners in Tanzania

has been extensively documented (World Bank, 1988). The low compensation policy and practice has led not only to skilled workers leaving the civil service and parastatals to join the private sector but it has also been cited as one of the major factors forcing the highly trained and skilled Tanzanians to seek for employment outside the country. As a result, the failure to retain endogenous manpower has aggravated the problems of retaining competent counterparts to understudy the expatriates thus making localization targets difficult to attain.

As the development philosophy of Socialism and Self-Reliance lost steam in the late 1970s so did the development policy directions in general and manpower policies in particular. The manpower plans and training needs rarely synchronized. As was earlier pointed out by Bagachwa and Rugumamu (1990:15-18), this lack of synchronization has been partly but largely a function of unsound institutional arrangements and coordination, sloppy needs assessment and prioritization among line ministries; and, lack of coordination between parastatals and line ministries and between private firms and the public sector. The education and training component, for instance, has tended to pay much more attention to increasing the quantity of the output and far less attention to the quality, skill types and skill mixes and the critical needs of the market.

It is largely because of inconsistent policies and weak management capacities of the Government of Tanzania that a huge amount of TC resources was found to be donor driven, scattered, diffused and sometimes channelled to peripheral activities. As Table 3 demonstrates, general development, policy and planning sectors received an average of 26 percent over that four-year period (1986-90). In the light of the increased importance of economic policy formulation and implementation in the wake of the economic policy recovery program that relatively high figure was perhaps quite in order. However, a relatively small proportion (42 percent) was allocated to the officially targeted priority sectors of agriculture, industry and transportation. The agricultural

sector, supposedly the nerve center of the national economy, was allocated only 12 percent of the disbursed funds over the same period. Indeed, one would have expected a larger share of TC resources to be allocated to the government identified priority sectors. As we shall have occasion to argue, this is a clear manifestation of an aid regime where donors seem to have a free hand to pick and choose where and how to invest "their resources." This comes out clearly by studying more closely specific areas of TC support.

TABLE 3: SECTORAL DISTRIBUTION OF TC IN TANZANIA 1986-90

(in percentages)						
Sector	1986	1987	1988	1989	1990	1986-90 (average)
General Dev. Issues						
Policy and Planning	16	37	30	12.9	17.3	26.6
Transport and Communications	13	16	18	20.3	14.8	16.4
Agric., Forestry and Fisheries	13	15	15	8	12.2	12.6
Industry	8	10	13	19.7	17.1	13.5
Health and Water	5	9	11	5.7	11.8	7.4
Education	5	3	5	7.3	7	5.4
Others	40	10	8	26.1	19.8	18.3

TOTAL	100	100	100	100	100	100
=====						

Source: UNDP (1986-90).

Over the 1987-90 period, a total of 420 projects were recorded in Tanzania. The annual average disbursement was just over US \$240 million. The TC resources extended to Tanzania fell under five distinct budget-line categories of assistance plus a sixth unclassified category. These were:

- a) Financial support;

- b) Experts;
- c) Training;
- d) Equipment and Materials;
- e) Consultancy; and,
- f) Others.

TABLE 4: BUDGET BREAKDOWN OF TC ASSISTANCE TO TANZANIA 1987-90
(in US \$ '000 and percentages)

Nature of Assistance	1987-88	1988-89	1989-90
Financial Support	5,628 (2.3%)	6,717 (2.9%)	7,627 (3.1%)
Experts	43,988 (18.0%)	46,738 (20.0%)	24,478 (9.8%)
Training	22,256 (9.1%)	21,774 (9.3%)	18,666 (7.5%)
Equipment	20,034 (8.2%)	17,227 (7.4%)	29,580 (11.8%)
Consultancy	5,753 (2.4%)	3,879 (1.7%)	5,651 (2.3%)
Others	146,926 (60.1%)	137,640 (58.8%)	163,742 (65.6%)
TOTAL	244,585 (100%)	233,975 (100%)	249,744 (100%)

Source: Odunga, Doriye, and Mlolwa, 1990 p. 42

The distribution of TC resources in Table 4 above raises several important questions. In the first place, more than 60 percent of the TC resources extended to Tanzania during the 1987-90 period was apportioned to the "Others" category. It was not immediately clear to us what specific activities were serviced by the Others' budget line. One also really wonders whether this specific category ever got transferred to the country or not. Once again this brings to the fore the question of a besieged state. If the government of Tanzania ever participates in the planning and budgeting of foreign assistance resources and then fails to unbundle the allocated foreign assistance packages, then this speaks definitely a lot about the structural relationship between the donor and the recipient states.

Secondly, foreign aid should, ideally, be accepted on the terms that strengthen sustainable development or should simply be rejected. The nationalist culture of saying "NO" to questionable utilization of donor-allocated aid should be nurtured at all costs. Thirdly, however, in the real world of power asymmetry, one would argue that if donors wield such inordinate influence in the policy planning and management of the Tanzanian national economy, it would then be gravely naive to expect the recipient state to unbundle TC packages to suit the broad national development objectives. In that case, therefore, the relatively fat "Others" category in the TC resources budget in Tanzania would simply and neatly be expected to fall under the "aid administration costs" both in Tanzania in the donor country.

2.3 TC Management in Tanzania

For a long time the Government of Tanzania did not put in place comprehensive aid and debt policy management institutions. At a policy level, there are various cautionary statements in the **Arusha Declaration of 1967** about the role of foreign assistance in the development process of Tanzania. The major thrust of those statements was to build a self-reliant economy and to maximize national sovereignty. To this effect, the Declaration laid down some broad policy guidelines for accepting or rejecting foreign assistance and investment in Tanzania:

We have firmly rejected the preposition that without foreign aid we cannot develop. We shall not depend upon overseas aid to the extent of bending our political, economic or social policies in the hope of getting it. But we shall try to get it in order that we may hasten our economic progress.....Similarly with private enterprise: we have rejected the domination of private enterprise, but we shall continue to welcome private investment in all those areas not reserved for Government (Arusha Declaration, 1967:24).

It is important to emphasize the fact that whereas the Second Five-Year Plan (1969-74) attempted to amplify on the kinds of foreign assistance that Tanzania sought to acquire and utilize. It also went further and stipulated three criteria to govern aid

acquisitions namely, that it should not threaten the sovereignty of the state; it should not substitute local efforts; and, that it should correspond with the ability of the state to repay in case of loans. However, that document and even subsequent policies inexplicably shied away from stipulating sanctions against those who violated the said aid acquisition criteria.

Ironically, the post-Arusha Declaration period was characterized by excessive donor intervention in Tanzania. By mid-1970s, there were more than forty bilateral and multilateral donors "assisting" in various sectors of the national economy. The investment planning process in Tanzania ended up bifurcating projects between high priority (A) and lower priority (B). However, as the World Bank (1977:111) poignantly remarked, it has been not unusual for the aggregate of A projects to exceed total resource availability, thus subverting the attempt to build flexibility within the plan. When faced with the gap dilemma between project initiation resources availability, the tendency was to authorize the initiation of a large number of projects in the hope that finances would be available along the line. And when the contrary happened, some projects were abandoned before they were commissioned.

Moreover, like most other countries, Tanzania has a Loans and Guarantees legislation. In the spirit of Socialism and Self-Reliance, this piece of legislation was meant to regulate official borrowing by the Government and to provide a sound debt management framework. The Loans, Guarantees and Grants Act of 1974 (Act No. 30 of 1974) regulates, inter alia, foreign borrowing and guarantees by the Government. The Act confers competence to raise foreign loans on behalf of the Government of Tanzania on the Minister for the time being responsible for finance. It also regulates amounts that may be raised in relation to debt service requirements. Specifically, the Minister responsible is obliged to ensure that in any financial year:

...the aggregate of the service cost becoming due and payable in respect of all outstanding foreign loans during that

financial year and the four succeeding years does not exceed fifteen percentum of the average annual foreign exchange earnings computed on the basis of the annual foreign exchange earnings of the preceding three financial years.

Table 5: TOTAL DEBT SERVICE AS COMPARED TO VALUE OF EXPORTS
1980-1990 (in US \$ million)

	1. Total Debt Service	2. Value of Exports	1 as% 2
Year			
1980	51.2	505	10.0
1981	47.3	570	8.8
1982	53.4	369	14.0
1983	77.8	347	22.0
1985	89.0	335	26.0
1986	86.0	355	24.0
1987	95.0	362	26.0
1988	91.0	393	23.0
1989	73.0	424	17.0
1990	103.0	429	24.0

Source: Computed from the World Bank: **World Debt Tables 1984-85 and 1990/91 Supplement**

As can be observed from Table 5 above, for the most part of the 1980s, the Government of Tanzania surpassed the legally allowed maximum for loan acquisitions and servicing. The failure to enforce the laws and regulations of the land clearly exposed the gross incapacity of the state to govern. As several studies have earlier demonstrated, ill-planned and uncoordinated foreign resource transfers have led to neither sustainable institutional capacity building, economic self-reliance nor to cumulative technology transfer. Much too often, projects and programs were either inappropriately packaged, poorly targeted or excessively lavish for the actual need (Rugumamu, 1992; Mutahaba, 1989; Kleemeir, 1982). As a consequence, donor financed projects have come to contribute enormously towards budgetary pressures to cover the maintenance and operating costs of those projects. Lately, also, donors are increasingly covering a good part of the Government recurrent expenditures!.

As was earlier argued, large aid flows with relatively minimum

conditions encouraged policy makers in Tanzania to embark on ambitious development programs without adequate regard to the limitations of scarce and important resources. On this score alone, one encounters accusations and counter accusations between donors and the Government of Tanzania as to who is to blame for all this mess. As would be expected, donors are quick to place the major causes of TC ineffectiveness on the door step of the recipient. Numerous donor evaluation reports on Tanzania complain about too many incidences of inadequate project and program planning and management, lack of careful and realistic definitions of objectives; lack of skills and deficient staffing; inadequate infrastructural support from Government; inter-sectoral competition for donor funding and over reliance on expatriates. The inevitable conclusion is that after all, "TC can only be as effective as the policies and receiving structures of the recipient" (OECD, 1991:5)⁸.

It is further posited that in the absence of coherent policy directions and strategies on the subject; and, given the inefficient government bureaucracies, donors have ended up creating their own parallel bureaucracies that independently plan, design and implement "national projects." To all intents and purposes, the exercise of bypassing local institutions has had deleterious effects on institutional capacity building. The central authority tended to lose control. In the final analysis, as Honadle and Rosengard (1983:300) graphically put it, each sectoral Ministry was made up literally of "discrete projects each marching to procedural tunes, reimbursement schedules and measured objectives of different donors".

Above all, despite relatively huge foreign assistance flows to Tanzania, the institutional coordination and management of TC resources has developed rather slowly over the years. Until the early 1990s, there were no sound and reliable systems in place for a transparent and flexible planning and management of TC resources either within the government system or between the government and the donor community. There are, however, informal exchanges of

views and ideas between the Government and its major donors. There are regular quarterly Government-donor meetings chaired by the Principal Secretary of the Planning Commission and served by a joint secretariat of the UNDP and the Planning Commission. These joint Government-Donors Group Meetings usually discuss general and not specific issues and make non-binding recommendations. The meetings aim at an exchange of information designed to avoid major overlaps or conflicts. In other words, there are no concerted efforts aimed at achieving increased effectiveness through synergism and mutual support. As a result, assistance from several donors to the same sector or agency tends to be segmented vertically, leaving the horizontal integration and coordination irreparably weak.

That should not, however, come as a surprise. This is precisely because one cannot realistically expect donors who are in many different respects competitors, to coordinate one of their major instruments of influence. Only the Government, through its planning machinery and other agencies, is in the position to ensure that the assistance received from different donors is effectively integrated and coordinated nationally.

In principle, major donors to Tanzania have a three-year or four-year country program. Ideally, in a country program, the donor provides an indicative planning figure for a specific period and a recipient government is invited to come up with suggestions for the utilization of the funds made available. In a way, a country program, is a planning instrument that is supposed to enhance the Government's opportunity to plan the use a particular donor resource by enabling it to select in advance its development priorities to be partly supported by technical assistance. Those suggestions are, in turn commented on by the Agency's Resident Representative before being forwarded to the home head office for a further scrutiny. These discussions result in an amended list of supportable projects. The final list is then presented for discussion with the recipient government. However, as Stokke (1989:202-3) aptly observed, all these otherwise lofty procedures

are open to all kinds of donor manipulations. Once again, the question of unequal power relationship comes to the fore. In our case it is manifested by the donor's ability to control events and outcome.

That is not all. In the case of the Norwegian assistance to Tanzania, Havnevik et al. (1988:208) questioned the functional utility of the country program. They argued, and indeed quite convincingly, that there was a relative growth in the bilateral and multilateral components of foreign assistance which were not part of the Tanzania-Norway country program. Those included big sums of resources that were mainly provided to Tanzania through regional organizations like the Southern African Development Coordination Conference (SADCC) and the Preferential Trade Area (PTA). This means, therefore, that the country program as a tool for coordination and planning of the overall Norwegian assistance to Tanzania lost some of its importance.

From the early 1960s, the Ministry of Planning and Economic Affairs was formally responsible for government aid coordination as an outgrowth of its role of identifying sources of financing the development plans that it was charged with preparing. However, this Ministry has constantly been subjected to institutional instability as the planning and finance sections were either combined or separated into different ministries on several occasions. In 1986, for example, the Ministries of Finance and that of Planning and Economic Affairs were combined into one, and a Deputy Principal Secretary position was created to improve the coordination and allocation of external finance, in general, and foreign aid in particular. More recently in 1989 this seemingly powerful ministry was dissolved once again. In its place, the Ministry of Finance and the Planning Commission were formed. Ideally, the Planning Commission is the highest government machinery and operational organ with the responsibilities for macroeconomic planning and management.

The major actors in the macro planning and aid coordination are the divisions of Macro Planning, External Sector, Human

Resources, Sectoral Planning and Coordination and Monitoring at the Planning Commission in liaison with the division of External Finance and Debt Management at the Ministry of Finance. In principle, while the Commission is responsible for policy formulation, monitoring and evaluation and for the development of the budget; the Ministry of Finance prepares the recurrent budgets and the coordination of the flow of internal and external sources of finance. Moreover, on paper Tanzania is blessed with an elaborate set of mechanisms for short term economic management. These include the Annual Plan and Budget, Annual Finance and Credit Plan, money and credit policy controls of the Bank of Tanzania and the National Bank of Commerce, the Annual Price Review for producer prices and much else. However, as several observers have noted, the degree of effective coordination has been ridiculously inadequate (Hyden, 1984; World Bank, 1987). This state of affairs has been blamed on a number of factors. They include, among others, inadequate and poorly motivated technocrats, lack of timely and reliable data, disrespect for national economic plan priorities and lack of accountability and probity on the part of the top decision makers.

It has also been argued that unconstrained by rigid performance criteria or plan priorities some big parastatal bosses have often displayed a marked propensity to first shop around for huge external aid commitments for projects and later approach the Treasury for approval and local funding. As Forss (1985) concluded, big projects are a symbol of national progress and prestige for the recipient state, while they serve as one of the instruments for power projection on the part of the donor. In fact, such arbitrary investment practices diluted automatically coordinated vetting and priority setting among the domain of possible projects, while accentuating the tendency for overcommitment in pursuit of ambitious social and economic targets. In the subsequent chapters an attempt is made to explain how different modes of TC delivery and the institutional environment in Tanzania have impacted skill and knowledge acquisition as well as technology transfer.

CHAPTER 3: THE MBEGANI FISHERIES: ILL-CONCEIVED PROJECT

3.1 Introduction

As earlier pointed out, for a long time, Tanzania did not have a policy framework to guide TC activities. Nor were there any formal and reliable mechanisms for identifying and programming TC requirements for different sectors of the national economy. It is precisely because of this critical policy lacuna that a good number of TC projects in the country were found to be donor conceived, designed and implemented and indeed driven. This led, more often than not, to designing projects which were either inappropriately packaged, poorly targeted or excessively lavish for the actual need. The Mbegani Fisheries Development Center project (here-to-after, the Center) supported by Norwegian aid is one of the classic examples on a long list of poorly conceived, designed and executed projects in Tanzania.

The Bagamoyo-based Mbegani Fisheries Development Center is located on the Indian Ocean about sixty kilometers north of Dar es Salaam city. It was established in 1966 by the Government of Tanzania along with two other colleges (Kunduchi and Nyegezi) to run programs for local fishermen and train officers to be responsible for regulating fisheries, serve as extension officers and collect statistics for the Fisheries Division in the Ministry of Natural Resources and Tourism.

In 1972 the Government of Tanzania approached the Royal Norwegian Government for assistance to develop the fisheries sector in the country. It should be quickly noted that Norway is one of the leading fishing nations of the world. In particular, she is quite famous for modern industrial fishing. After preliminary feasibility studies, the two countries agreed to establish a modern and advanced fisheries training center in Tanzania. The initial agreement between Tanzania and Norway broadly sought to develop technically qualified manpower for the fisheries and other allied industries in the country. However, as will be demonstrated, at the implementation stage, the attention was focused on the training for

commercial industrial fisheries, based on modern trawlers, fish processing and refrigeration technology (Havnevick, 1988:217-18). The big enthusiasm behind commercial industrial fishing was based largely on the official misconceptions concerning the fish stock in Tanzania. Fish stock estimates in the country were usually subject to considerable margins of error. As Bryceson (1985) correctly observed, most of the fish stock assessments carried out in the 1970s and 1980s on which the Government based its planning were unrealistic because they were all too often grossly inflated. There were, in fact, wide variations in the fish stock estimates by FAO (1979), Ministry of National Resources and Tourism (1985) and Sanders (1990) ranging between the lower estimate of 373,000 tones and the higher estimate of 810,000 tones that could be harvested each year without depleting the stock. Most presumably the Government eye was cast on the higher estimates as a working figure⁹.

The enthusiasm behind the large modern industrial fishing sector was also premised on the standard modernization diffusionist assumptions that such a sector would strengthen the economy; expand markets; spill over into the larger economy; and above all, that it would act as development and growth engine that would pull other poorer sectors of society and economy along with it. In short, "the trickle down effects" thinking. There were also other remotely related justifications to that enthusiasm. The fisheries sector was gradually emerging as one of the important sectors in the economy. Between 1965 and 1975, for example, the sector doubled its value added share in agricultural output from 2.3 percent to 4.7 percent, and in total GDP from 1 percent to 2 percent. Between 1975 and 1985 the sector's share in total GDP rose from 2 percent to 2.8 percent. In 1989, the share of the fisheries sector in agriculture and in the total GDP stood at 7.3 percent and 3.4 percent respectively (Bagachwa et al. 1993:18). The modernization effort in this sub-sector, therefore, was considered well in order.

3.2 Project Planning and Implementation.

Rather than institute a joint project planning and executing unit, NORAD subcontracted a Norwegian Fisheries Development Corporation (FIDECO)...a Norwegian firm of fisheries consultants working within the advanced sector of the fishing industry...to carry out comprehensive socio-economic studies of the fisheries sector in Tanzania and then advise on the kinds of support projects and programs to be provided. As will be demonstrated momentarily, after a sketchy and indeed impressionistic survey, the FIDECO consultants recommended to NORAD to rehabilitate, expand and modernize the existing Mbegani Fisheries Development Center facilities for purposes of industrial fisheries training and development. In order to establish a modern industrial fisheries training college, FIDECO further recommended that the Center be provided with two mechanized training vessels, a fishing receiving station with freezing technology, a mechanical workshop, a jetty, and to refurbish and up-grade the entire infrastructure at the Mbegani College. Apparently, NORAD and the Government of Tanzania accepted almost all the above "expert recommendations".

Right from the start, the Mbegani Fisheries project, like most other TC projects before it, lacked a strategic vision and definition of what exactly that project was intended to achieve, how to achieve it and the like. The FIDECO recommendations tended to delineate the project objectives in terms of "inputs to be provided" rather than in terms of "capacities to be developed". Little was actually mentioned about the planning strategies or organizations necessary to actualize the intended human and institutional capacities. Retrospectively, one really wonders whether the project was prepared and designed with sufficient detail to permit a rigorous appraisal using the standard financial, economic, social, technical, managerial and institutional criteria.

Based on FIDECO recommendations, NORAD approved a grant of NOK 13.2 million in 1974 and NOK 17.5 million two years later for

the project. Moreover, the same FIDECO consultants were awarded a new and lucrative contract to execute the entire project. In theory, this was to be undertaken in close collaboration with the Tanzania Fisheries Division. In practice, however, the latter hardly sought for effective participation in the execution of the project and were subsequently marginally involved. Eleven foreign experts were attached to the project to plan, design, and supervise the construction activities as well to establish courses leading to a two-year certificate and a three-year diploma courses.

It is important at this juncture to underscore the point that after signing a "Letter of Understanding", the Government of Tanzania and NORAD seemed to have left almost all the project preparations and execution in the hands of FIDECO. Worse still, the Center's indigenous faculty and staff were hardly involved in those critical project development activities. NORAD's demand and desire for the "Norwegianization of the project management" *a la* Gran (1985) was basically to ensure a timely completion of the project. The driving force was, therefore, to do technically defined jobs as quickly and as efficiently as possible, and of course, without involving unnecessary local procedural encumbrances. One should perhaps add that NORAD was eager, just like any other international aid agencies, to show results back home. This tendency, rather common among all donors, is what Brenner (1984:3) aptly referred to as "quick visibility results".

In fact, such a technicist and indeed mechanistic approach to international cooperation ultimately left little room for consideration of the societal consequences of the project. As a result, the cardinal objective of any TC resource which is to strengthen the institutional, administrative and planning capacity of the recipient, is usually relegated to secondary importance. As one Norwegian Aid Review Report on Tanzania observed, the tendency to ignore local advice was not uncommon among foreign consultancy firms:

Very few of the Norwegian consultancy firms have engaged Tanzanian counterparts in their planning and implementation

tasks. Most of the planning exercises have thus made limited learning impact on the Tanzanian side...Tanzanian participation could possibly also have led to a better overview of the constraints existing at different levels (Havnevik, et al., 1988).

What is even most disturbing, is the fact that this foreign consulting firm ended up doing a mediocre job in determining the constraints, limits, opportunities and trends in the fisheries industry in Tanzania. In the first place, the basic project studies failed to capture the nature, scope, and problems that the recipient society defined as its critical problems. It stands to reason, therefore, that the fisheries development solutions that were presented to the Government of Tanzania were bound to bear little relevance to the actual pressing needs of the sector. It is precisely because of this sloppy "issue problematization" that we regard FIDECO's feasibility studies impressionistic.

In the second place, at an organizational level, it would seem to us that FIDECO was apparently given a relatively free hand in executing the Mbegani project. Such unconstrained freedom of action ranged from choosing the types of technologies to be procured, the suppliers, to the appointment of sub-contractors. Although a Joint Steering Committee had been established at the Fisheries Division in the respective Ministry in Dar es Salaam, it was rarely involved in the key issues of project planning and implementation. It is our argument, therefore, that had the Government of Tanzania or its designated agencies adequately involved themselves at all stages of the project cycle, subsequent very costly policy reversals would have probably been avoided if not minimized. Comprehensive joint feasibility studies, for example, would have presumably facilitated informed decisions regarding relevant training and development programs at the Center. Left to operate relatively independently, FIDECO not only missed the critical beneficiary population but also went out of its way to overdesign the project to the consternation of both NORAD and the Government of Tanzania.¹⁰

Some studies by Mytelka (1981) and Parker (1979) on the

textile industry in the Ivory Coast and the National Development Corporation in Tanzania respectively, separately found out that poorly supervised private consulting firms tend to overdesign and overbuild facilities simply because the amount of fees charged is usually proportional to the value of the equipment and machinery installed. In an earlier study, this author confirmed Mytelka and Parker's observation in the textile industry in Tanzania. It was noted that:

...with little or no effective state participation in the machinery procurement and installation, foreign companies have a strong propensity to overbuild plants and substantially increase the costs from which their fees are calculated. Several foreign consulting companies and construction firms did precisely that in the modernization exercise of the Tanzania textile industry in the mid-seventies (Rugumamu, 1989).

We have every reason to believe that FIDECO might have been influenced by the same profit motive. After all, FIDECO was a conglomerate of Norwegian firms in the fisheries and boat building sectors. It is important to note also that the standing national bidding procedures were always bypassed in the Mbegani Center construction transactions. One would safely add, therefore, that possibly most of the project procurement were made from their affiliates and indeed by extensively exploiting the notorious overinvoicing practices. In fact, well over 65 percent of the TC grant went into procurement of the machinery and equipment as well as paying the contractors fees. Capital accumulation is about nothing but maximization of profits.

3.3 Norwegian Impact on Fisheries Sector

The types of vessels and their gears as well as the consultants' business background and inclinations significantly influenced the nature of training and the skills that were to be imparted at the Center. In the first place, the training was dominated by higher-level fisheries training (diplomas and

certificates) which were intended for large scale modern industrial fishing. The courses that were initially offered included, marine engineering, nautical science, fish processing and marketing, and boat building. The Mv. Mafunzo and other mechanized vessels...the main training vessels...had a limited capacity for only using large scale industrial fishing gears. High sea trawling, purse seining and trolling were the major fishing techniques that were imparted on the Center's trainees. The level of technological complexity of the fishing gears that were acquired for and used by the Mbegani Center was simply amazing! However, the Tanzania side seemed to have shown no signs of alarm. But as Lecomte (1984) had earlier persuasively concluded, some of the TC gifts ultimately prove poisonous to the recipient. They are "too attractive to be refused, too foreign to fit in, too costly to be repaired, but just perfect to form the basis of another aid application". One Norwegian Evaluation Report of the Mbegani Center had the following to say about the level of complexity of imported teaching vessels and equipment:

the technology introduced was too complicated to be maintained locally, too expensive compared to the carrying capacity of the fishing sector, and to a certain extent, threatened the economic conditions of many artisanal fishermen by disturbing their fishing grounds (Norwegian Evaluation Report, 1986:8).

Moreover, one comprehensive tracer study of the Center's most recent graduates and their employers come up with equally telling revelations. The graduates lamented that the knowledge and skills that they had acquired from the Center were, more often than not, far removed from the concrete fishing conditions in Tanzania. The Center's graduates complained that in their day-to-day professional duties, they were generally confronted with ominous lack of modern working tools, equipment, and facilities. In other words, the acquired knowledge and skills were considered irrelevant, to say the least. In particular, most of the graduates who worked among artisanal fishing communities as extension officers were amazed and disillusioned as they found out that their knowledge of large scale

industrial fishing could not be transferred nor adapted to those completely different circumstances (Eastern and Southern African Universities Research Program, (ESAURP) 1988b: 110-12). In such circumstances, fisheries extension officers could not be taken seriously by the artisanal fishermen as they were unable to offer substantive professional advice.

The traditional artisanal fishing has been estimated to contribute well over 95 percent of the total annual fish harvest in Tanzania. The remaining, about less than 5 percent is accounted for by larger trawlers and purse seine boats operated by public institutions and privately owned fishing firms. The ESAURP (1987) survey estimated that about 128,000 persons were involved full-time in fishing activities, of whom 1,200 or about 1 percent of the total were women. The study further suggested that another 601,000 were employed in fishery related activities such as boat building, net manufacturing and the processing and marketing of fish.¹¹ The main fishing vessels for small scale fishing were dhows and canoes largely propelled by sail. The standard gears employed included gill-nets, shark-nets, seine-nets cast-nets, traps and hard lines. Motorized gears among traditional fishing communities were quite uncommon. The fish was traditionally processed largely by drying and smoking methods. Despite those rudimentary production techniques, artisanal fishermen accounted for about 95 percent of total annual fish harvest (FAO, 1989). As we have earlier pointed out, the FIDECO feasibility study reports and recommendations ostensibly failed to capture the importance of this critical fishing community in the industry. It is that very omission that deservedly earned the Center its empirical notoriety (Havnevik et al., 1988:218-30).

Not surprisingly, the 1979 Nore Commission (lead by one A. Nore) strongly criticized the job performance of FIDECO and the very objectives of the TC project. In the first place, the Commission was of the opinion that the Center's emphasis on training for industrial fishing was a misplaced one given the

realistic fish potential of Tanzania marine waters. It, therefore, recommended to reorient the project mandate to focus on small scale artisanal fishing; introduce certificate level courses; and, descale the intended size of diploma intakes. In the second place, the Commission found that FIDECO's job performance in implementing training and construction programs was not only below standard but far behind the planned schedule. It recommended the termination of its contract. Above all, the Government of Tanzania had, on its part, failed to provide most of the agreed upon inputs as its local contribution to the project. In the subsequent phases, the Government's proforma participation was further marginalized.

In the subsequent project negotiations between NORAD and the Government of Tanzania, the former succeeded in including a one-year certificate course for extension officers together with short courses of between four to ten weeks for small scale fishermen. The latter managed to retain a three-year diploma on the project. In financial terms, those recommendations turned out to be very costly to both parties. In June 1980, NORAD approved an additional grant of NOK 85 million for the subsequent four years. As the FIDECO's contract was revoked two other Norwegian companies were hired to complete the infrastructural works at the Center and to undertake training. Diploma courses began in September 1982. Short courses did not take off until the end of 1984.

Unlike in the subsequent foreign aided projects in Tanzania, the Center's staff development program was sloppily conceived and implemented. The project implementation team had drawn up a lousy training schedule. Despite the fact that one of the project's missions was to produce, among other things, three-year diploma graduates, only five out of fifty two instructors were trained to an M.Sc level, three had a first degree, thirty four had diplomas, and ten had only ordinary certificates by 1992. This means that the diploma graduates were teaching diploma courses. Pedagogically speaking, such arrangements should be considered as unacceptable. Even from instructors themselves, this was one of several key issues of concern that disturbed them the most.

As for the short courses, Table 6 demonstrates that between 1984 and 1992, a total of 1,058 fishermen undertook short courses organized by the Center in five regions namely, Coastal, Tanga, Musoma, Ruvuma and Zanzibar. Of those, 932 were men and 126 were women. According to our interviews with the Center's extension officers and with some of the fishermen who had undergone the training, it was found out that the former had markedly upgraded their fishing gears and adapted new technologies. The amount of fish harvest was reported to have commensurably increased too. It was also reported that their incomes had substantially improved and so were their fish handling and processing.

Table 6: Short Course Training Output 1984 to 1992.

Station	Males	Females	Total
Mbegani	290	31	321
Pangani	211	16	227
Musoma	183	60	243
Liuli	132	15	147
Zanzibar	116	4	120

Total	932	126	1,058

Source: Mbegani Files.

It has to be emphasized once again that most of the problems at the Mbegani Fisheries Center were a product of a poorly conceived, ill-planned and designed project. The general socio-economic characteristics of the industry were never thoroughly addressed both by the Government and NORAD in order to understand and establish the dynamic social elements in which a technology problem is always emersed. In that respect, the chosen technological solution to the fishing industry in Tanzania by FIDECO turned out to be grossly inappropriate. Nor were key actors in the industry ever involved in determining what types of

technologies were appropriate for their circumstances. As Herrera (1981:27) poignantly observed, technology users provide critical insights for successful adaptation and introduction of new technologies, processes and products. On the question of people's participation in influencing research directions he counsels:

The basic principles involved in the generation of technologies for rural areas are also valid for the whole society, although the mechanism for their implementation could be somewhat different...Two of the essential elements....are the utilization of local knowledge and participation of the local people in the whole process (Herrera:1981:27).

After several negative evaluation reports, NORAD was reluctant to abandon the project. This option was probably considered undiplomatic. To save faces, it rushedly and indeed armed with scanty informed background studies massively reinvested in this otherwise enviable project by retaining old programs and creating yet new ones. As Table 7 demonstrates, between 1986-87 and 1990-91, NORAD and the Government of Tanzania invested well over three hundred million Tanzania shillings to establish a one-year certificate course for extension officers, short courses for artisanal fishermen and in the Center's invigorated development activities. In retrospect, it can plausibly be argued that both the Government of Tanzania and NORAD had marginally taken into account the socio-cultural setting and specific needs of Tanzania's fisheries industry. This is, in fact, what made this project a classic failure case. Even after that radical project objectives reorientation neither NORAD nor the Government of Tanzania were clear on how to operationalize those new objectives. Important questions were rarely asked let alone answered. Such issues would include: what specific problems local fishermen faced? What subjects were relevant to their peculiar environment? What specific knowledge and skills were in dire supply? Who and how should those programs be run? and what types of development work should be initiated and so on.¹²

Table 7: MBEGANI FISHERIES CENTER BUDGET FOR 1983-84 to 1990-91
(in mill. Tshs)

	83/84	84/85	'85/86	86/87	87/88	88/89	89/90	90/91 .
a)Tanzania	0.8	1.3	4.2	5.6	11.5	17.9	19.6	36.7
b)NORAD	6.4	8.3	6.9	16.5	21.7	36.9	46.2	98.7
c) Total	7.2	9.6	11.1	22.1	33.2	54.8	65.8	135.4
b as % of c	89%	86%	62%	75%	65%	67%	70%	73%

Source: Mbegani Fisheries Development Center Accounts
(various years).

As already argued, the failure to appreciate the importance of the socio-cultural setting of the fisheries industry led to a rather vague operationalization of the target population and resulted into this unfortunate tragedy. Above all, the Government of Tanzania deserves a full share of responsibility blame. One would have expected the Government to assume a lead role in all key issues of the TC delivery process. In that regard, local experts would have been fully engaged as a matter of principle. Passivity, however, tended to reign here. Kleemeier (1982:80-82) who earlier studied the role of technical assistance in rural development in Tanzania, strongly argued that the seemingly passive posture was reinforced by some Government's dependency notions that "technical" aspects of foreign-aided projects were better left to the discretion of donor experts!

3.4 Artisanal Fishermen Discovered

As was earlier pointed out, the initial fisheries development thrust as was conceived by FIDECO and subsequently by NORPLAN marginally incorporated the needs of artisanal fishermen in the project plan. This was reflected in the teaching curricula at the Mbegani Fisheries Development Center and in the types of development activities that were formally initiated by the Norwegian experts. Both had little bearing on this otherwise critical segment of fishing population. As has already been

suggested, the renewed mandate of the project was to pay a special attention to the traditional sector of the industry. The new project focus was to be directed at improving work situation among the fishing population in terms of employment, working standards and returns; improve the national nutritional situation in general; and, to increase the fish output under resource control measures. However, given the background of the Norwegian fisheries experts, little was expected in that direction in the short and medium runs. The Center had, given limited socio-economic baseline studies, vague and at times preconceived ideas about the problems of the traditional, small scale fishing communities. To those issues we now turn.

A survey of twenty Mlingotini Village fishermen had the following telling revelations. The low levels of working capital and the lack of institutional credit were identified as the severest constraints faced by almost all artisanal fishermen. Access to capital was ranked the highest constraint by all interviewees. It was revealed that it inhibited their capacity to expand and to technologically upgrade their business. Undoubtedly, this finding signaled the presence of some critical bottlenecks in Tanzania's financial system. Lending policies and procedures in the formal financial institutions were generally not considered "small entrepreneur friendly". They tended to discriminate against small businesses. The vast literature in Tanzania and elsewhere has amply demonstrated that the incentives are weak for the formal financial institutions to target funding towards small and medium size entrepreneurs such as artisanal fishermen: loan sizes are often times small and so the cost of processing tends to be high relative to the loan amounts; the track record and reputation of those emerging entrepreneurs is often questionable...adding further to the costs of loan processing; and finally, the probability of failure was considered high even for well conceived new ventures (World Bank, 1991:151-55). The loan conditions set by the National Bank of Commerce, for instance, automatically discriminate against small, little educated and poorly connected entrepreneurs like

fishermen. The most discriminatory conditions include, among others:-

- . a tangible, legally acceptable and convertible security to cover the loan amount;
- . applicant must be able to contribute a minimum of 25 percent of the total working capital requirements;
- . a compound interest of 21 to 27.5 percent subject to change is charged depending on the type of a project;
- . applicant must have an account with the branch where the loan is applied for;
- . applicant must ensure that the project will have enough cash flow to repay the loan;
- . applicant must be a qualified and competent manager to run the project.

As earlier pointed out, most of the fishermen interviewed confirmed that they were poor. Almost all of them did not possess sufficient assets to serve as collateral. Even when some of them did, often times they did not possess the title deed of their property which could be posted. Nor did any of those Mlingotini fishermen interviewed have their business formally licensed. This problem straight forwardly excluded most of them from formal bank borrowing.

In the light of open discrimination, artisanal fishermen in Tanzania, like other small private entrepreneurs, resort to financing their start-up operations with their own savings, support from family members, short term credit provided by suppliers or loans from informal community-based financial intermediaries. Admittedly, such loans were made against no better security than the farmers' verbal promise to discharge his/her obligations¹³. This is, definitely, in very sharp contrast to the bureaucratic, time consuming, often distortionist procedures and practices in the formal financial sector (Rugumamu, 1993:47).

Those fishermen who could not obtain loans from the informal sector worked as hired fishermen. In Mlingotini village, most of

the boats and gear were owned by very few relatively rich individuals. Rarely were the owners fishermen themselves. In fact, they were "absentee boatlords". They were basically responsible for replenishing and maintaining the equipment. The poor but skilled fishermen often worked either as hired laborers or simply hired boats and gear at a rent. This means, therefore, that the question of credit would have been given the urgency it rightly deserved from the project initiators. Without thorough socio-economic studies, of course, it took the Government and its foreign sponsors quite some time to realize the need.

The Government's regulatory environment just like the formal financial rules and procedures, were ranked the second serious constraint in the development of small and medium-sized entrepreneurs in fisheries sector in Tanzania¹⁴. Unlike other countries where small enterprises often fall outside the regulatory net, all enterprises in Tanzania have to be registered and licensed. Moreover, those licenses have to be renewed annually. However, some of our interviewees reported that this renewal was not always automatic. It depended on prior clearance from various tax authorities. In the circumstances where not all the necessary clearances had not been obtained, the proprietor found himself or herself at the mercy of the licensing officer...who has to be handsomely "lubricated" to let the business remain open.

The system of commercial licensing was found to be not only patronizing but also exceedingly cumbersome. This was usually due to either the actual cost of licensing i.e the amount of fees may be too high for artisanal fishermen to afford, or simply because of long and cumbersome procedures and other equally important requirements for registration or obtaining a license.

The third problem, in their own order of severity, was the lack of adequate processing and preservation facilities. Fish in the Mlingotini Village was processed through traditional smoking or sun drying on the landing sites. These processing methods are rather crude. The products were of relatively poor quality and a considerable amount of post-harvest spoilage was reported by almost

all the fishermen interviewed. Our sample survey responses indicated that about 15 to 20 percent of fresh fish and about 25 to 30 percent of dried or cured fish were lost through bacterial decay or breakage.

Additionally, there are several legislations in Tanzania which impose health standards on those doing fish business. The Public Health Act, for instance, empowers local authorities to control communicable diseases. It also sets standards with regard to food, sewage, and building. The enforcement of those laws has generally taken the form of demolition of informal sector premises and outright banning of such operations.

Finally, was the transportation problem. Fishermen complained that during bumper seasonal harvests, they lacked reliable transport facilities to carry their fish to more lucrative distant markets. They argued, indeed convincingly, that precisely because most of the Mbegani residents were fishermen, the market for fish was rather small. The preservation problem that was earlier discussed tended to further compound the issue. To be sure, none of the above problems could have been alleviated by aggressive training at the Mbegani Center. The following were courses that were listed for short fishermen courses:

- . maintenance of boats and nets
- . mending and mounting of nets
- . fishing
- . local smoking techniques
- . quality and nutrition
- . reading and writing
- . book keeping and budgeting
- . information about official borrowable funds
- . foreign aid funding
- . fishing regulation, licensing and marketing.

As was earlier pointed out, the rate of acceptance or rejection of new technologies and practices is partly and indeed largely contingent upon the degree of the recipient's participation

in the planning and management of the whole exercise. This argument implies three closely related issues. Technology recipients will tend to reject external interference particularly if they perceive that such interference is of questionable economic advantage to them. This scenario is likely to arise if the utility of a new or improved technology has not sufficiently demonstrated its potential for expanding their opportunities.

The second issue is closely related to the first. Technology recipients are likely to reject new practices if they perceive that they have not been adequately involved in the whole technology development exercise. In other words, technology recipients should be made to feel that the problems that the researchers are tackling are those which they have themselves identified as the burning agricultural issues obtaining in their communities. In a word, they should expect to get what they exactly asked for.

Thirdly and equally important is the whole question of technology affordability. The rate of technology rejection is likely to be influenced by cost considerations. Relatively affordable technologies have a greater chance of acceptability than expensive ones. As was earlier pointed out, small scale and poor entrepreneurs in the fishing sector in Tanzania were faced with limited sources of official credit. It stands to reason, therefore, that such an environment rules out the possibilities of adapting expensive newly developed technologies. The designers of the new syllabus at the Mbegani Fisheries Development Center did not, when the project objectives were expanded to include the artisanal fishermen, address themselves to those cardinal issues of technology transfer to the agricultural sector.

As Table 8 below indicates, excepting for knowledge about reliable financing almost all other subjects were poorly rated by a sample of twenty respondents. That observation corroborates our initial arguments that fishermen are not interested in education for its own sake. Education or technology has to help in solving their daily socio-economic problems. In this sense, therefore, knowledge about boat making, smoking techniques, maintenance of

boats and nets were considered rather useless. After all, fishermen were not necessarily boat makers nor net makers. The instructional materials disregarded the division of labor within the fishing community. In other words, additional knowledge and information that did not augment the conditions of their daily lives was simply a waste of their valuable time.

Table 8: FISHERMEN RESPONSES TO MBEGANI SHORT COURSE PROGRAMS

<u>Item</u>	<u>Responses</u>			
	Very Important	Important	Useless	Total
Maintenance of boat and nets	0	17	3	20
Smoking and drying techniques	1	4	15	20
Quality and Nutrition	0	5	15	20
Reading and Writing	6	12	2	20
Bookkeeping and Budgeting	1	7	13	20
Information about official borrowing funds	7	6	7	20
Foreign sources of funding	17	3	0	20
Fishing regulations	3	2	15	20

Source: Survey Data.

After several evaluation exercises, the Center reworked the courses to be given to artisanal fishermen. By 1992, courses that were offered by the Center included: gear technology, fishing techniques, fish processing, boat repairing, book keeping and engine repairing. When the Commodity Assistance Program was in operation, it was found out that fishermen were eager to attend such courses. The truth of the matter was that each participant was supplied with basic raw material to produce either boats or nets which they took with them at the end of each course. Attendance is said to have fallen as such incentives are no more.

The above-mentioned TC administration quagmire can be explained in three ways. In the first place, the Norwegian experts lacked both the necessary background information and the requisite expertise to determine the nature of the problems facing artisanal

fishermen in Tanzania. The fishing cultures of both actors were, to say the least, poles apart. As already pointed out, the Norwegian expertise was confined to modern, high technology industrial fishing. To all intents and purposes, those TC personnel that were recruited literally had little inclination in pondering about improving on the traditional fishing boats and gears. The Center's Boat Building and Marine Mechanics Departments were, for instance, ill-equipped to competently handle development activities of this kind. Nor would one trained in refrigeration technology, for example, be expected to upgrade and modernize existing fish processing and preservation methods of drying and smoking in order to improve the quality of fish and minimize post-harvest losses among peasant communities. Under normal research and development circumstances, therefore, such activities would have ideally required a comprehensive socio-economic research inventory of the traditional fishing technologies and practices before any meaningful development and training work were seriously attempted at all.

Moreover, the expatriate teaching and development personnel lacked a firm training in communication skills to deal with the artisanal fishermen's problems. Their contractual obligations did not include such aspects. To be sure, they had no incentive to acquire an additional foreign language. The nature of their job contracts was such that they did not require foreign instructors to interact and learn adequately from the peasants in order to develop improved versions of their premodial fishing technologies and practices.

Towards the end of project life, some modest attempts were made to reach the artisanal fishermen. The Center established short courses for artisanal fishermen. The courses lasted for about thirteen weeks and concentrated on the general knowledge of fishing gear, net-making and mending, practical fishing and servicing of boat engines. The Boat Building Department, for instance, in association with traditional boat builders embarked on improving the traditional fishing boats namely the "ngalawa" and "mashua". In

fact, one can argue that all this effort was too little too late.

Secondly, the Center began to provide extension services to various groups and individuals particularly to the neighboring villages. The Mlingotini Women Fish Dealers Society has, on several occasions, got experts from the Center to give instructional assistance in modern fish processing and preservation methods. From our interviews, we found out from the fish dealers that such interactions had commensurably improved the quality of their fish product and markedly increased their incomes. A fish dealers group had also received some equipment from the Center such as improvised small kilns for fish smoking that had been developed by the Center. The kilns had been constructed out of clay-soil bricks and it used saw dust as the source of energy.

Moreover, the Center began selling ice blocs to various small commercial fishing companies in its neighborhood as well as fishmonger in an effort to promote fish preservations. Some private fishing companies and individuals also utilized those services which were provided at a small fee by the Center's cold storage facility. In this strict sense, therefore, the Center was no longer an high technology island surrounded by backward artisanal fishermen. Some kind of professional transactions and collaboration had firmly been established.

Finally, as late as 1985 the Center began to administer a NORAD-supported scheme known as Commodity Assistance Program to address the most severe problem of artisanal fishermen in Tanzania. Under this scheme, the Center acted as the clearing house for equipment procured from anywhere in Europe such as fishing gear and spare parts and sold them to small scale fishermen at almost cost price. The fishing gear purchase that one could make under the program ranged from hooks and line worth about Tshs 135 to seine nets and their accessories worth about Tshs 80,000. The net beneficiaries were, on the whole, the fishing communities that lived around the Center and its extension stations such as Pangani, Musoma, Mwanza, Ruvuma, Zanzibar and Musoma. The items provided under this scheme included, among others, gillnets, hooks, floats

and mending twines. Other items included tools for the maintenance of refrigeration equipment, engines and insulated containers.

Between 1986 and 1990, NORAD provided Tanzania with 7 million Nkr for this specific program. It was found out that during those five years, 5,489 artisinal fishermen benefitted from the program. As would be expected, when NORAD finally wound up its support to the Center in 1990, so did the program.

The end of NORAD funding to the Center in 1991 further exposed the crudity of sustainability of foreign-aided project in Tanzania. The Government was unable to take over the project let alone to run it efficiently. Since the 1992/93 financial year, the Government of Tanzania instructed the Center to stop admitting fresh certificate and diploma intakes. Instead, it was mandated to call back its former graduates from the field for short-term refresher courses and to continue running short courses to artisanal fishermen. Meanwhile, that modern and elaborate infrastructure at Mbegani lays fallow. To be sure, since 1991, the Center's annual expenditure estimates to the Government have been to the tune of Tshs. 200 million. However, for the last three years the Center received on the average, 45 million shillings only!. One can legitimately argue, that unless another donor is found, the Center is likely to close down pretty soon. And that will register, once again, yet another classic case of a poorly conceived and managed foreign-aided project in Tanzania.

CHAPTER 4: THE UYOLE AGRICULTURAL CENTER: A TARGETED BENEFICIARY**4.1 Introduction**

The Uyole Agricultural Center is located about eight kilometers to the east of Mbeya town along the main highway to Dar es Salaam. The negotiations to establish this institution between the Governments of Tanzania and the Nordic governments of Denmark, Finland, Norway and Sweden began in 1968. After two comprehensive feasibility studies---one by the Nordic Agricultural experts and another by the Nordic Appraisal and Planning experts---a technical cooperation agreement was signed in 1972. The Nordic-Tanzania Consultative Committee was established to oversee the implementation of the project. Like in the Mbegani project, the local expertise in agricultural sciences community were left in the cold. The Finnish government was appointed as the project executor on behalf of other donors. In March 1976, the Uyole Agricultural Center became a parastatal organization by the President Order No 17 under the Public Corporation Act of 1969. This Act enabled the Center to operate relatively freely with regard to decision making and program planning and implementation.

The Uyole Agricultural Center was mandated to carry out the following three broad functions:

- . to conduct agricultural, livestock and related applied and adaptive research with small holder farmers as the target group;
- . to train students at certificate and diploma levels so as to enable them join in the implementation of Tanzania's national agricultural policy; and,
- . to engage to some extent in the production activities to demonstrate the results of research and generate revenue to supplement the Government's subvention.

The Uyole Center owns 4,095 hectares of land in those four different agro-ecological zones. About a fifth of that land was under cultivation at the time of research in 1992; a tenth of that

was for experimental plots and the rest was for seed multiplication or commercial production. About two-fifth is pasture or rangeland. The Center had adequate facilities for offices, laboratories, greenhouses, workshops and a well supplied library.

In the 1972 Technical Cooperation Agreement, the Nordic government agreed to provide, among others, the following:

- a) a grant for investment in various facilities and equipment;
- b) consultancy services for the construction and design of buildings;
- c) a personnel assistance program for 145 person-years during a five-year period;
- d) scholarship for 37 Tanzanians for University level education; and,
- e) to finance Nordic administration costs.

In 1975 Iceland became a supporting member of this project. The 1972 agreement was renewed three times up to 1985 when all but Finland withdrew from the project. From 1985 to 1992 the Finnish government alone supported the Uyole project.

4.2 Project Implementation: Problems and Prospects.

By 1975, most of the research and training offices had been completed and so were the laboratories, green houses, workshops and livestock facilities. The training program became operational two years later. Until the early 1980s, both the research and training programs were understandably dominated by Nordic experts. Gradually, however, that picture began to change as Tanzanians returned to the Center from studies with graduate diplomas.

In March 1976, the Tanzania-Nordic project at Uyole was incorporated by an Act of Parliament into a public corporation. Uyole Agricultural Center was established by the Act of the Parliament as a semi-autonomous zonal agricultural and training center for the four regions of Mbeya, Iringa, Ruvuma and Rukwa. The Southern Highlands of Tanzania cover an area of about 249,347 square kilometers with an estimated population of 4,163,414 of whom

well over 90 percent are engaged in agriculture. The zone is, to say the least, the granary of Tanzania. It produces about 80 percent of the national maize (Mussei and Shiyumbi, 1992:85). The Center was mandated to undertake production-oriented research and training activities in order to solve the immediate technical problems of the farmers. To this effect, its crop research programs include the major staples of those regions like: maize, rice, phaseolus beans, potatoes, wheat, fruits and vegetables. In turn, each crop research covers breeding, agronomy, crop production and on-farm research. The livestock programs concentrate on pasture development and pasture nutritive value studies for dairy cattle.

In brief, unlike the Mbegani Fisheries Development project, the objectives of the Uyole program were unambiguously stated, carefully operationalized and strategized. Specific capacities to be developed were identified right from the start and so was the time horizon. The inputs to be provided by foreign TC resources were directly derived from the expected out. However, the Government's contributions to the project over the initial and subsequent project renewal were not categorically specified. This, in our view, largely explains some of the dramatic successes and failures of this project.

Despite occasional brain drain from the Uyole Center to other more attractive local and international jobs, the project has relatively succeeded in training and managing a handsome pool of its professionals. As of December 1992, the Center employed 83 professionals and 138 technicians. Moreover, a very negligible percentage of them had left the Center for other "greener pastures" within or outside the country. In this sense we can confidently argue that one of the primary objectives of this technical assistance project of training Tanzanian researchers and trainers had been accomplished.

Relatedly, one can add that the program has managed to build and strengthen national research and training capabilities. Uyole's professional capability in searching and identifying critical agricultural problems facing the farmers, has been

demonstrated by its immense capacity to define appropriate research projects and programs and deliver appropriate and indeed acceptable scientific solutions to their clients. In this regard, the Center has long debunked the received conventional research and development approaches whereby research priorities were solely determined by scientists who generated technologies in their research field plots and laboratories, and who, through the extension system, finally transferred the same to farmers.

To be sure, the poor and semi-illiterate farmers of Tanzania in general and those of the Southern Highlands in particular were less likely to exert a "demand-pull" on the ivory tower research agenda. Deliberate attempts must be made to elicit farmers' views and to observe in the field how and why farmers accept or reject new technologies. This, as was earlier suggested, calls for the need to integrate farmers in all stages of research and development cycle. Farmers should be made to participate as equal co-collaborators and evaluators of alternative technologies in their communities. This is community empowerment **par excellence**. Loppe et al. (1980) put forward this argument pointedly that:

...rather than being left out of the development process, the poor have an integral part, both as a resource and as victims. The poor have provided their labor, their products and often their land. The issue then is not to bring the poor into the development process but the poor to achieve the power they need to direct a development process in their interest...

The Uyole Agricultural Center has, in recent years, indefatigably strived to encourage constructive dialogue and interaction with farmers in order to understand each others' objectives, interests and capabilities. Commenting favorably on the overall performance of the Uyole Agricultural Center, the 1988 World Bank evaluation team remarked that:

The Uyole Agricultural Center has been more successful than others...in reaching farmers, **helped by its extension section**...it can be regarded as a useful model for regional adaptive research which could be replicated. The experiment of combining training and research has also worked well (World Bank, 1988:8) (our emphasis).

The Uyole's Unit for Extension was established with a brief to liaise with farmers in order to identify their problems and inform them of the results of research. The Center has implemented its research-extension functions through a variety of mechanisms:

- . adaptive/farming systems research directed towards small agriculture;
- . publication of research findings;
- . production of leaflets and fact sheets which popularize research findings and recommendations for farmers and extension workers;
- . research-extension workshops and seminars for extension workers, their supervisors and NGOs;
- . field days organized by the Center and at its sub-stations;
- . on-farm (farmers' field) trials;
- . demonstrations, complemented by the International Committee on Food Crops efforts;
- . regular and informal contacts with other donor program staff, for example, FAO/Ministry of Agriculture program; Sasakawa Global 2000/Ministry of Agriculture; FAO Women in Irrigated Agriculture program etc;
- . adaptive/ farming systems research orientation to small scale farming;
- . the Uyole Agricultural Center's extension training courses for prospective extension workers and farmers (Ekpere and Shetto, 1992:135).

The Southern Highlands Maize Improvement research and development project graphically demonstrates the Uyole research and development competence. The maize program began in the 1970-71 cropping season under the Tanzania-Nordic agricultural project. The long term objectives of that program included forming agro-economic packages of maize for different agro-ecological zones and farming systems found in the Southern Highland regions; breeding hybrids and open-pollinated varieties; and, monitoring pests and diseases of maize. In the last twenty years or so, the maize research

program has successfully provided the requisite information on land preparation, varieties, planting time, rates and methods of fertilizer application, the use of organic manures, rotations, plant density, and weed and pest control. This valuable information has been passed on directly to the farmers or indirectly through Uyole's extension system. A number of impact assessment studies of the maize project have been carried out. Three basic elements were studied. These were, among others, level farm inputs consumption; productivity per farmer; and production packages recommended and adopted by the majority of farmers. Most of those studies reported, almost invariably, that maize production from the studied regions has substantially increased as a result of acreage expansion as well as the adoption of improved production technology and management practices. To be even more precise, estimates of maize production by region between 1984 and 1987 show that the Southern Highlands accounted for 46 percent of the total maize production in the country (Moshi and Nnko, 1989). It should perhaps be emphasized that similar successes have also been reported for other crops such as sorghum, millet, rice, wheat and grain legumes (Moshi and Marandu, 1988; Marandu, 1988; Lyimo and Temu, 1992).

Secondly and equally important, a comprehensive three-year monitoring study by Mwakyembe et al. (1992) of a smallholder farm enterprise combinations and production practices in the Southern Highlands of Tanzania, concluded that Uyole's technological impact was phenomenal. The study observed that this zone alone bought and used more than 65 percent of Tanzania's total fertilizer consumption. The majority of this fertilizer was used in maize production. The study further revealed that there was a general awareness among the zone's farmers about the benefits of improved seeds and their accompanying package of inputs. In a study of three districts of Njombe, Mbozi and Songea, it was found that about 55 percent of the farmers used improved seeds and inorganic fertilizers. The figure would have been even higher, the study concluded, had prices been far much lower and deliveries made on time (Mwakyembe et al. 1992:102-3). Another study by Lyimo and Temu

(1992:157-58) noted that the improved seed sales in the country increased from a meager 25 tons of seed in 1970 to over 6000 tons on average between 1987 and 1991. Finally, the same study found out that most of that improved seed was sold mainly to smallholder farmers of the Southern Highlands of Tanzania.

Table 9: FARMERS' RESPONSES TO MODERN TECHNOLOGY APPLICATIONS

Item	Levels of Input Intensity out of 20 Interviewees			
	Very Much	Moderate	Never	Total
Herbicides	5	12	3	20
Hybrid seeds	6	10	4	20
Fertilizers	4	8	8	20
Rotations	12	8	0	20
Use of manure	11	9	0	20
Plant density	13	7	0	20
Extension officers	12	8	0	20
On-farm trials	14	4	2	20

Source: Survey data.

Although the adoption of Uyole developed maize production technologies has proved beneficial to many farmers in the Southern Highlands, there are still several major constraints that derail its expanded diffusion in the area. We should, however, hasten to add that those constraints lay largely outside Uyole's institutional competence. Just like the artisanal fishermen on the Mbegani Fisheries Development project, small farmers in the Southern Highlands of Tanzania have a poor resource base. Our survey interview data of twenty farmers in the Uyole neighborhood clearly demonstrated that all the farmers interviewed were well aware of what it takes to produce a quality maize crop. However, fifteen out of the twenty farmers interviewed admitted that they were too poor to afford most of the recommended modern agricultural packages from their meager savings. Moreover, like the Mlingotini fishermen, the small Uyole farmers had no official property titles to their land that could be used as collateral for official bank

loans.

As Table 9 indicates, almost all farmers in our survey sample tended to use intensely the Center's facilities that did not demand costly inputs like rotations, plant density and the use of free extension officers. However, the use intensity rate fell when it came to relatively costly inputs like herbicides and hybrid seeds. It was further revealed that precisely because of their weak purchasing power, small farmers tended not to use those crucial but expensive agricultural inputs in scientifically recommended levels.

The recent dramatic increase in yields achieved in these Southern Highlands is attributed to a good number of farmers who have taken advantage of the favorable credit facilities provided by the Sasakawa-Global 2000 project clearly demonstrates the centrality of poverty¹⁵. Five out of the twenty farmers interviewed were relatively well to do. These were the potential users of modern agricultural packages. They could either resort to their own savings or borrow from the formal banks. They were, however, faced with different kinds of problems. The delivery of seeds, herbicides and other related inputs were rarely made at the right time and the right place. The impact of such delays on the quality and quantity of the harvests, it was confirmed, tended to be almost always devastating.

A variety of imaginative incentive schemes had been created to motivate and retain qualified researchers and trainers. These include, among others, subsidized rent, free medical care, free transport, adequate research funds, equipment and teaching facilities and highly subsidized rental charges on the Center's farming equipment for private use. Those research incentives had markedly facilitated unequalled retention rates in any public institution in Tanzania.

On the training side, the Center's Training Institute has had commendable performance since its inception. It houses five academic departments namely : agricultural engineering, agricultural extension and farmers training, animal science, crop science, and food production and nutrition department. The

Institute also conducts three different programs: diplomas, certificates and short courses for farmers. It opened its doors to the first intake in January 1975 to 29 students for a five-month certificate course in agro-mechanization. The student population has steadily grown over the years. For the 1993/93 academic year, the Institute has 363 students enrolled, of whom 70 are female and 293 are male. See Table 10. A total of 2830 graduands have trained at the Institute between 1975 and 1991: 2117 at the diploma level and 713 at certificate level.

Table 10: Student enrolment at Uyole Training Institute Sept. 1992.

FIRST YEAR	Male	Female	Total
Certificate IN Agric and Livestock Production	-	-	-
Diploma Animal Production	40	9	49
Diploma Crop Production	54	5	59
Diploma Food Production and Nutrition	15	9	24
TOTAL FIRST YEAR	109	23	132
SECOND YEAR			
Certificate Agriculture and Livestock Production	-	-	-
Diploma Animal Production	41	9	50
Diploma Crop Production	55	13	68
Diploma in Food Production and Nutrition	12	7	19
TOTAL SECOND YEAR	108	29	137
THIRD YEAR			
Certificate in Agriculture and Livestock	16	12	28
Diploma in Animal Production	-	-	-
Diploma Crop Production	-	-	-
Diploma Food Production and Nutrition	-	-	-
TOTAL THIRD YEAR	76	18	94
DIPLOMA	217	69	286
DIPLOMA AND CERTIFICATE	293	70	363

Source:Hiza et al. 1992 Table 1 p.384.

With the benefit of a hindsight, one can plausibly argue that the phenomenal achievements at the Uyole Agricultural Center would

hardily have been possible without the unfailing generous donor support. Its up-to-date infrastructure for research and extension schemes for example, had been uninterruptedly maintained by and supported with TC resources. For how long can such support last? Are the programs sustainable after donor withdrawal? These and other similar questions are the subject of the subsequent discussion.

Despite those apparent praises and accomplishments, the TC management for the Uyole Center has not always been rosy. The perennial question of sustainability stands out prominently. During the initial construction phase (1971-1976) for example, the Nordic governments extended about Tshs 256 million to the project while the government of Tanzania contributed Tshs 240 million or 58 and 42 percent respectively. Under normal circumstances, donor require host governments to make a formal commitment of finances and institutional support as a precondition for development assistance. In the same vein, one would have naturally expected that the local financial contributions would have gradually been raised for a penultimate take over. Surprisingly, subsequent agreements between the donor and recipient government paid neither sufficient attention to the exact size of the national contributions over time nor to an agreed phasing out time-table. This oversight, in fact, explains, among other things, why the project was renewed several times. On the one hand, at each time, the Government of Tanzania was simply not ready to take over. On the other, FINNIDA was still willing and able pour more monies into the project. As a result, the project seemed to owe its continued existence to foreign assistance.

The 1980 joint Nordic-Tanzanian Mission Report on the project casually commented on the relatively unincreasing Government contributions to the project. The Report recommended, therefore, that the Government substantially raise its annual contributions to the Center. Curiously, however, no exact estimates were proposed nor deadlines suggested. Once again, this rather disturbing omission, it will be argued, came to contribute significantly to

the Center's sustainability problems after the withdrawal of the Finns technical assistance funding.

The withdrawal of the Finns at the end of 1992 plunged the Uyole Agricultural Center into a deep management crisis. This was, in fact, the problem of sustainability. All along the project years neither the Center nor the Government took trouble to study various ways of raising the requisite resources to sustain the programs when the time for the take over was at hand. And when that penultimate hour came, the Government of Tanzania was not ready to finance all the Center's operations single-handedly. At the same time, the Center did not have in place well researched possible alternative sources of financing. All hopes were based on an expectation of a change of mind on the part of the Finns. Unfortunately those hopes failed to materialize.

Some experiences from other countries have shown that a well designed project unambiguously stipulates various strategies for smooth take overs. All possible recurrent costs contingencies are carefully addressed well in advance. These include a combination of gradual low cost delivery systems, aggressive government financing and the introduction of user charges (Gow and Morss, 1988). Let us explain each briefly. A service delivering institution would limit its costs by involving the local population in the project design and implementation. More often than not, the local population's knowledge of the local situation permits cutting corners with the resultant direct savings. Moreover, if the beneficiary population is interested enough in the services in question, it will make a direct recourse commitment to it, then the cost problem can be alleviated.

Secondly, it is the whole question of increased Government subventions to the project. This would largely depend on the prevailing political and economic climate as well as the lobbying capacity of the local project managers. If the top Government leadership were committed to the cause of the project then chances of aggressive Government financing would be great. The reverse would be true if little interest was shown in the project by the

leadership.

Finally it would be the introduction of user charges over and above the two suggested strategies. User charges are usually based on the premise that the people benefitting from a particular service should pay at least a portion of the cost. The rest would automatically be borne by the Government. In practice, however, this would lead to withholding benefits from those who need those services most but are the least able to pay. One way would be to structure charges in such a way as to allow for differing payment abilities.

Table 11: FINNISH AND TANZANIAN FINANCIAL CONTRIBUTIONS TO UYOLE IN

YEAR	1985-86 TO 1989-90			
	(in Tshs. mill.)			
	<u>1. FINNISH</u>	<u>2. TANZANIAN</u>	<u>3. TOTAL</u>	<u>2 as % 3</u>
1985/86	25.0	29.0	54.0	54%
1986/87	98.0	52.0	160.0	39%
1987/88	108.0	72.0	180.0	40%
1988/89	158.0	138.0	296.0	47%
1989/90	279.0	151.0	430.0	35%

Source: Uyole Center Accounts (Several Years)

As Table 11 clearly shows, between 1985-86 and 1989-90 the government of Tanzania contribution to Uyole averaged only 43 percent. In fact, there seems to have been no conscious efforts on the part of the Government of Tanzania to gradually increase its relative annual contributions to the Center for purposes of an eventual smooth takeover. A further breakdown of the 1988-89 and 1989-90 budget figures in Table 12, for example, ably demonstrates that FINNIDA had, until the final days of the project, continued to financially support the core activities in the research and training activities at the Uyole Center. For those two years, FINNIDA contributed about 69 percent and 50 percent to finance the

Center's research and training activities respectively. In the light of our burning concern for TC sustainability, this is surely a clear indicator of a poor project management capacity on both sides of the aid relationship.

Table 12: TANZANIA AND FINNIDA CONTRIBUTION TO UYOLE 1989 and 1990
GOVERNMENT AND FINNIDA EXPENDITURE COMPARISONS
1989 AND 1990 (Mill Tshs)

Items	1989			1990		
	GOVT.	FINNIDA	TOTAL	GOVT.	FINNIDA	TOTAL
1. Research Institute	36.0 (39%)	56.0 (61%)	92.0	34.5 (26%)	100.0 (74%)	134.6
2. Training Institute	26.2 (53%)	23.2 (47%)	49.4	31.0 (48%)	33.9 (52%)	64.9
3. Others (collaboration & training)	- (0%)	17.7 (100%)	17.7	- (0%)	17.4 (100%)	17.4
4. Rehabilitation	- (0%)	26.8 (100%)	26.8	- (0%)	54.6 (100%)	54.6
5. Institutional Support	72.1 (68%)	34.4 (32%)	106.6	76.9 (51%)	73.2 (49%)	150.0
6. Development	9.0 (100%)	- (0%)	9.0	3.6 (100%)	- (0%)	3.6
Total	138.0 (47%)	158.2 (53%)	296.3	151.5 (35%)	279.4 (65%)	430.9

Source: Finnida/Uyole Annual Meeting
 Uyole 11 - 12 November, 1991.

CHAPTER 5: INSTITUTION TWINNING : THE CASE OF FORESTRY FACULTY

5.1 Introduction

Despite the absence of a national policy framework on TC, the Sokoine University of Agriculture's two Faculties of Forestry and Veterinary Medicine have effectively managed to acquire and assimilate technology through TC arrangements. The secret behind that phenomenal success is the University's relatively strong institutional capacity which was a significant bottleneck in our earlier case studies. Indeed, as the 1989 Development Assistance Committee Report (1989:107) poignantly observed, "sustained and self-reliance development depends on the strength and quality of the country's institutions". The University of Sokoine skillfully deployed its accumulated knowledge and experience to strike favorable deals with donor agencies. Such great performance in technology transfer and institution building corroborates the conclusions made by the 1986 Muscat's study. He persuasively argued that the major determinant in TC effectiveness is the level of development of the recipient institution, that is the degree to which the institution in question is able to absorb and exploit the technical and material resources provided from outside (Muscat, 1986). Indeed, the observation that technology transfer and TC effectiveness increase through time, along with rising skills and institutional capacities, implies that effectiveness would normally be low among the least developed economies and institutions.

The need for veterinary training at a University level in Tanzania arose with the break up of the University of East Africa in 1970. Previously, most of Tanzania's forestry graduates were trained at Makerere University in Uganda and, a few, in other universities abroad. In July 1973, political developments in Uganda made it increasingly difficult for Tanzania to continue supporting her students in Uganda. With the help of NORAD, the Government of Tanzania established a department of forestry under the University of Dar es Salaam. In 1974, the department was elevated into a

division, giving it a mandate to develop itself into a faculty. It became a fully-fledged faculty in July 1984 when the Morogoro Campus of the University of Dar es Salaam was elevated by an Act of the Parliament into an independent University.

5.2 Main Project Objectives

The main objectives for establishing the Faculty of Forestry at the University of Sokoine were three, namely:

- a) to provide high quality and relevant professional level education in forestry and related fields in order to address the manpower needs of Tanzania and other African countries;
- b) to conduct basic and applied research in forestry and other related fields, paying special attention to the problems of the region; and,
- c) to disseminate research findings to users through extension programs to relevant institutions and individuals.

NORAD provided several generous grants for the buildings, equipment, infrastructure and academic staff members to establish the Faculty. From 1973 to 1991, NORAD had spent well over US \$30 million on the project. The University of Sokoine had, on its part, carefully undertaken a thorough internal needs assessment long before any feasibility studies were carried out. This comes out clearly from the project agreement documents. The fine details of the project activities were unambiguous and priorities well articulated and carefully sequenced. Moreover, the effectiveness of the recipient's participation in project planning, design and implementation was obvious from the ways in which technology transfer mechanisms were programmed and finally implemented.

5.3 Project Planning, Implementation and Problems

A comprehensive training program for young Tanzanian academicians and technicians was drawn up specifying colleges, areas of specialization and the time frames for each category.

The project further identified the School of Forestry at the Agricultural University of Norway as a senior counterpart in a twinning arrangement with the Sokoine University of Agriculture. The former was assigned several responsibilities. Those were, among others, the training of the Tanzanian counterparts in order to build up scientific and technological skills, methodologies, research stations and laboratories organization; develop collaborative research and training; and, to supply technical assistance personnel to establish the faculty. It is noteworthy to point out that the Mbegani Fisheries Development Center project agreement did not involve any form of institutional twinning arrangement.

As already pointed out, the department of Forestry started in 1973 with seven foreign lecturers and only one local lecturer. Ten years later when the department was elevated to a division, the faculty had expanded to twenty six members of whom seventeen were Tanzanian and nine from different foreign countries. By 1991, the faculty strength had grown to thirty one, of whom, all but one was foreign. On this score alone, one can legitimately argue that one of the principle project objectives had been thoroughly accomplished. Moreover, by mid-1991, the project had trained well over 300 B.Sc degrees, 57 M.Sc degrees, and 14 Ph.Ds. About seventy percent of those graduates were Tanzanians. The rest came from Kenya, Uganda, Rwanda, Malawi, Ethiopia, Sudan, Nigeria, Ghana and Gambia (Faculty of Forestry Review Report, 1990).

Moreover, the Faculty's three-year Bachelor of Science and a two-year Master of Science in Forestry programs are particularly designed to produce forestry professionals qualified to apply forest science in the management of forests and the environment. As a result, important subjects such as forest resource management, environmental amelioration, agroforestry and wood energy are given special emphasis in both curricula. This explains partly but largely why the programs have attracted so many students from several African countries in recent years.

In less than two decades of existence, the Faculty of Forestry

grew from a modest beginnings to a fully-fledged faculty. As earlier indicated, the phasing out program for the expatriate personnel and the training of the nationals were implemented in a timely fashion. Moreover, the Faculty has already been earmarked as the center of excellence in the Southern African sub-region. To that effect, the this Faculty is the only institution that runs graduate programs in the whole region. Above all, as a clear testimony of its maturity, the Faculty of Forestry at the Sokoine University of Agriculture has, since 1991, been annually publishing a comprehensive research priorities booklet which outlines its areas of research interests and consultancy strengths (Faculty of Forestry, 1991)¹⁶.

Going by its annual research publications and consultancy reports, the Faculty of Forestry at the Sokoine University of Agriculture has produced outstanding contributions in local and in leading international forestry journals. According to the **Faculty of Forestry Records**, the two major research areas fall under two broad categories, namely, applied and adaptive research and strategic and basic research (Faculty Records, 1992). The faculty members have contributed extensively in both research areas. This is yet another solid testimony of the fact that scientific knowledge and skills have been effectively transferred to national researchers.

It is also interesting to observe that the Government of Tanzania usually allocates insignificant amounts of money to University research and development. The 1987 ESAURP study of fourteen universities in the Southern African region estimated that, on the average, they receive about 2 percent from their recurrent expenditure for research activities (ESAURP, 1987:198-199). As a result, most of the research funds have been obtained through competitive research applications and through collaborative research programs with foreign universities and research institutions. To be sure, the Faculty's ability to compete and win in regional and international research contests is yet another substantive proof that it had accumulated comparable research

capabilities. According to the research and publications office records, members of the faculty had obtained research funding from as many diverse sources as Ford Foundation, Rockefeller Foundation, International Research Council of Canada and Swedish International Research Council to name just a few.

Above all, the Government of Tanzania has, on its part, recognized the importance and the rich potential of the forestry scholars in influencing national public policy and management. Not infrequently, some senior faculty members have been called upon to provide expert policy advise to the Government as well as sitting as members of important board of directors in several parastatals. Government gestures of this kind have markedly boosted the morale of the faculty members.

However, like in the previous two TC programs, the Faculty of Forestry has had a mild problem of sustainability. The Government's annual contributions to finance the Faculty's recurrent expenditures has remained too low to meet the requisite operational and maintenance costs. NORAD has continued to contribute, on the average, Nk 5 million a year to the Faculty. This sum is by far much greater than what the Government allocates to the whole University! Should NORAD finally withdraw, then the Faculty may find itself in a very precarious situation.

CHAPTER 6: INSTITUTIONAL TWINNING: THE CASE OF VETERINARY MEDICINE

6.1 Introduction

The need for veterinary training at university level in Tanzania arose when the University of East Africa broke up in 1970. Most of the Tanzania's veterinary graduates were trained at the University of Nairobi and a few others at other universities abroad. The annual output was, however, not sufficient to replace the expatriate staff and to meet the needs for the high level manpower of the industry. It was also felt that the foreign universities' curricula had laid too much emphasis on the field requirements of veterinary services while the nature of Tanzania's livestock industry demanded more emphasis on such aspects of veterinary services as animal production, statistics, farm economics, livestock extension and rural sociology (DANIDA Evaluation Report, 1988).

Veterinary training in Tanzania started in 1979 with a generous grant from the Danish International Development Agency (DANIDA). The negotiations which led to the establishment of this project began in April 1976. After three Danish appraisal missions, the two sides agreed to establish a comprehensive veterinary training program in Tanzania. The project had two specific objectives. First, it set out to assist the Sokoine University of Agriculture to build up the capacity of the Faculty of Veterinary Medicine to conduct research and provide training at all degree levels. Second, and as a result of the first objective, was to support the livestock industry in Tanzania through the provision of qualified veterinarians.

During the first phase of the project (1979-86), DANIDA had planned to spend DK. 36 million on it. However, due to poor execution of the project by a Danish contractor the costs shot up to an astronomical sum of about DK. 64 million at the end of that phase. The Government of Tanzania agreed, on its part, to provide a site, undergraduate subsistence costs, local staff emoluments and a research budget. The project set out to accomplish the following

specific tasks:

- a) to provide technical assistance personnel for 232 person-months for teaching in the early years of the Faculty formation;
- b) to build an infrastructure from the scratch of staff houses, hostels for students, extensions to the cafeteria, and 4,300 square meters of an academic complex of lecture rooms, teaching and research laboratories, offices, a clinic , operating theater, post-mortem room and animal accommodation;
- c) to provide equipment, books and journals for the new Faculty; and,
- d) to provide graduate training for academic members of staff to the tune of 12 Masters in Veterinary Medicine and 21 Ph.D as well as several advanced technician courses.

6.2 Phase 1:Project Implementation and Problems

Like NORAD in the Mbegani Fisheries project, DINIDA went out of its way to appoint its Mission in Dar es Salaam as the project executor and a Danish veterinary professor as a coordinator who was located at the project site and undertook light teaching. Very little, if at all, were the locals involved in the early stages of project implementation. As if that were not enough, a Development Cooperation Bureau was set up in Copenhagen to organize, on behalf of DANIDA, staff development programs, purchase of research and teaching equipment, recruitment of technical assistance staff, and facilitating foreign students to settle in Denmark. The underlying argument behind DANIDA's close control of the implementation activities was to ensure speedy execution; monitor and guarantee accountability; and, above all, to show quick results at home. As we had earlier argued, such an approach ended up marginalizing the recipient institutions as the project was perceived simply as a foreign undertaking.

Moreover, as it turned out, rather than tendering internationally for the recruitment of the veterinary academicians

and equipment with significant tropical bias, the Development Cooperation Bureau resorted to sourcing from Denmark only. In the first place, the recruitment of only Danes had far reaching consequences on the types of curricula that were adopted at the Sokoine University of Agriculture. At the beginning, the Danish syllabi were simply imposed unaltered. One would quickly smell a danger of inappropriate knowledge, techniques and values being transferred from the donor to the recipient country. One of DANIDA's evaluation reports of this project captured this unfortunate trend very succinctly:

.....98 percent of cattle are indigenous breed kept by substance farmers. Health problems in such systems differ from commercial systems in major respects: they are low inputs, low output systems. Appropriate interventions are not well established and the relationships between costs and benefits of disease control are uncertain (DANIDA, 1992).

The procurement of machineries and equipment by the Danish contractors and suppliers faced similar problems. Pervasive delays, inappropriate machineries, and parts, spoilage due to long storage time under unfavorable climatic conditions and weak local networking to facilitate efficient project execution cost DANIDA millions of money. In another self evaluation report DANIDA had the following harsh appraisal about its performance:

It is worth noting that delays caused by lack of materials and TANESCO (electricity) have "hidden" a number of other hinderance which would have otherwise have caused delays by themselves. However, major factors were: lack of parts for construction equipment, lack of fuel, slow and inadequate planning of water supply by the consultant engineers, very slow work by the electrical subcontractor, sloppy workmanship by the main contractor, misunderstanding in DANIDA's handling of the contractor's orders for construction equipment" (DANIDA, 1984:41).

On the training side, however, the project achieved significant results. It was both aggressive and very much on time. As can be observed from Table 13, the size of the local faculty increased from only two in July 1976 to 40 in September 1990. However, characteristic of donor mentality, DANIDA initially

insisted that all graduate training of young Tanzanian scholars had to be undertaken in Denmark. This was done regardless whether or not the Danish institutions were adequately prepared to train veterinary science experts for tropical conditions. Just as in case of the Faculty of Forestry, this TC package included a twinning arrangement with the Royal Veterinary and Agricultural University of Copenhagen. After numerous complaints from former grant recipients, this aid tying requirement was later dropped to allow Tanzanians to joint institutions of their own choice.

Table 13: Local Faculty, Education and Disposition by Sept 1990

Dept.	B.V.M degree	M.V.M degree	Ph.D.	Total	Projection 2000
Anatomy	2	2	-	4	7
Physiology	-	4	2	6	12
Microbiology	-	3	8	11	12
Pathology	-	2	2	4	5
Medicine	1	4	2	7	10
Surgery	3	2	3	8	10
TOTAL	6	17	17	40	56

Source: DANIDA Mission Report, 1990 Table 6 p. 8.

The 1991 Faculty of Veterinary Medicine Review mission had the following nice words to say about the project:

The overall impression is that the Faculty of Veterinary Medicine is now fully operational as far as the undergraduate program is concerned.....the Faculty is well organized, runs and provides facilities for training and research on international level. The graduates are well prepared to contribute to the veterinary profession in Tanzania and they compare favorably with graduates from other schools (1991:8).

For our purposes, however, it is important to revisit the issue of aid tying. A restrictive clause in any TC agreement, like

the one we referred to above, amply demonstrates the inherent power asymmetry between the donor and recipient institutions. The capacity to impose constraints on where to undertake graduate studies, sourcing of machineries, equipment and spare parts is a clear exercise of power. One would have expected that hard nosed bargaining would have allowed young Tanzanians to train at any reputable university outside Denmark with a track record of tropical veterinary research and training. That was, however, not the case.

Several possible explanations can be advanced in this regard. It is quite possible that the Tanzanian negotiators were too cautious to embarrass their Government by not reaching a deal with their benefactors. In other words, they were scared of losing the entire offer simply because of hard-nosed bargaining strategies. Secondly, is also possible the recipient negotiators possessed insufficient knowledge and information about say alternative training arrangements and the likely costs involved. This aspect alone would have called upon a detailed research on its own. Explaining the importance of information in the bargaining encounters Singer (1975:379) perceptively observes that:

Information, like technology, feeds upon itself. If you do not have information to begin with to know where to look for the information that you need, or to know what new information could be assembled, your initial inferiority is bound to be sharpened and perpetuatedThis unequal bargaining situation will affect all relations between the investing and borrowing countries, whether labelled aid, trade, investment, transfer of technology, technical assistance or any other (emphasis original).

The last possible set of explanation stems from a mistaken notion that TC experts and advisors know what is "good" and "bad" for the recipient governments and institutions. Their investment preferences and priorities should but be considered final. To be sure, more often than not they are. This dependence mentality is usually ingrained in almost all asymmetrical relationships of this genre. Too much hard bargaining would be easily perceived by arrogant and patronizing donors as simply "poking one's nose in

their business!". As earlier pointed out, such "nationalist" attitudes might also lead to losing the whole deal altogether. Donors are never tired of reminding recipients of the possibility of pulling out and investing their resources elsewhere. In short, the three explanations account, in one way or another, for the repeated occurrence of restrictive clauses in TC packages in Tanzania and elsewhere in the Third World countries.

The project scores a high grade in undergraduate teaching. Out of 350 veterinarians registered with the Tanzanian Veterinary Board in 1992 183 had graduated from the Sokoine University of Agriculture. The Faculty has an intake of twenty five students with about twenty graduating each year. All things being equal, it was projected that by the year 2000, Tanzania would have a total of about 540 veterinarians----also considering losses resulting from retirement and death (DANIDA Evaluation Report, 1992). That figure translates into 1 veterinary doctor per 30,470 veterinary livestock unit, a figure that meets FAO guideline figure of 30,000 Veterinary Livestock Units per veterinary surgeon in developing African countries for preventive and curative work (FAO, 1988). Moreover, due to the deep economic crisis that Tanzania had faced since the mid-1970s, DANIDA had also agreed to provide to graduating veterinary students with clinical kits to facilitate efficient execution of their professional activities in the country side.

6.3 Project Consolidation

Though initially planned for five years, phase one of the project ran for about seven years. As already pointed out, the first phase was concerned mainly with the construction of the buildings, the supply of equipment, vehicles and furniture. The second phase of the project was approved in July 1986 and was envisaged to run to June 1991. It was later extended to September 1992. A grant of DK. 15.1 million was allocated by DANIDA for the maintenance of buildings, equipment, vehicles, as well as operational costs and contingencies. Additional financial support was given to the staff development program in the form of

scholarship and foreign technical assistance personnel.

Additionally, a sum of DK. 2.7 million was set aside as an "exchange facility" to the Faculty. The facility was intended to be used to import equipment and supplies on condition that the Government of Tanzania provided an equivalent amount in local currency as counterpart funding. Moreover, a total of 28 person-years of expatriate research and teaching staff was approved of which 27 person-years were long term and 1 person-year was for short-term personnel. Finally, well over seventy international veterinary journals and scientific periodicals were ordered for the Faculty.

The Faculty of Veterinary Medicine project, like other projects before it, seems to be destined to face the problem of sustainability. For the whole project life, the Government of Tanzania has failed to allocate its annual contributions to match the basic needs of the Faculty. The Government had, in the 1988-89 financial year, commitment itself to a systematic phasing out arrangement by mid-1993. This meant that the local contributions would have systematically increased to attain the envisaged target at the time when foreign assistance wound up.

Despite written commitments, the Government of Tanzania had, until 1992 failed to allocate funds to take care of the "the exchange facility". As the aid contract comes to an end the Government will have to ensure that it allocates sufficient financial resources or else the Faculty will come to the grounding halt. As Table 14 demonstrates, the importance of the exchange facility cannot be overemphasized. It was intended to take care of such important aspects of teaching and research as laboratory equipment, maintenance and replacement; laboratory supplies; students textbooks; vehicle maintenance; office equipment and supplies; and, the Tanzania Veterinary Bulletin. Those equipments and services were and still are indispensable components in the running of the Faculty.

Table 14: Implementation Schedule of the Exchange Facility 1986-91

(in '000 DK.)

	1986	1987	1988	1989	1990	1991	Total
Lab. equip, maintenance and replacement		30	100	180	290	150	750
Lab. supplies		20	70	110	150	70	420
Vehicle maintenance		20	70	110	150	70	420
Student textbook	50	70	70	70	70	50	380
Tanzania Vet. Bulletin	-	30	70	70	70	40	280
Office equip.& supplies		10	30	50	70	50	210
Total	50	180	410	590	800	430	2460

Our discussions with the Faculty administrators revealed that other than Government subventions, the Faculty has no other sources of income to fill the wide gap that was to be left by DANIDA. In the first place, other potential donors like DANIDA are also experiencing donor fatigue. Secondly, the Faculty did not have any significant income generating consultancy activities to bank on. It lacked not only the institutional infrastructure to carry out such activities but also the Faculty was not located in a pastoral region which could have otherwise exploited their expert services. Finally, almost all the students in the Faculty are Tanzanian nationals and are on the Government bursary. They did not pay any fees that could have helped running the University. Above all, those meager bursaries took care of students' basic needs only.

7. Conclusion

The above four case studies from Tanzania have demonstrated that foreign assistance like all other aspects of international relations is governed by the structural power patterns. It was argued that the economic inequalities and power imbalances inherent in the international aid regime invariably influence the behavior of the actors. The asymmetry of domination and dependency that ensues characterizes those relationships. It was further argued that such circumstances are further exacerbated by indiscriminate aid acquisitions and utilization. We have therefore concluded that

in the long run, foreign assistance dependency like drug addiction destroys slowly but steadily the institutional capacities of the user and erodes the legitimacy and sovereignty of the recipient state.

If there is anything that Tanzania can do to influence the behavior of the international aid regime, it is first to put her house in order. That would mean working hard towards strengthening her institutional structures that would credibly act as a countervailing force to the international aid agencies and multilateral organizations. We are convinced that whatever gains are made in the international aid regime, such gains would only make cumulative effects if the domestic environment in Tanzania is fine-tuned to assimilate them. It was argued that if a national development project is not informed by a clear and consistent philosophical vision, a nation is likely to be easily blackmailed by more powerful states, international financial institutions as well as aid agencies. Interestingly, despite its inherent philosophical shortcomings, the ideology of Socialism and Self-Reliance gave Tanzania a great developmental vision in the sixties and seventies. When it lost its steam, as the above studies have amply demonstrated, confusion followed.

First, we have observed that the nature and capability of the recipient institution largely influences the amounts of gains to be reaped, risks to be faced and the damage to be suffered from foreign transactions. As earlier postulated in the theory, institutional capabilities will invariably be reflected in its in-house ability to undertake comprehensive and realistic TC needs assessment and planning. If national plans were carefully observed and diligently implemented, the chances of donors imposing low priority TC programs or inappropriate technology packages would understandably be commensurably minimized.

Secondly, it was observed that the capacity of the recipient institution was partly a reflection of the level and intensity of its participation in the TC project identification, planning, design and implementation. It was argued that effective knowledge and

skill transfer presupposed, *ab initio*, the recipient's full participation in all project cycle activities. The effectiveness of institutionalized participation would, in turn, be determined by its ability to direct, regulate and monitor the activities of the TC executing agencies in order to ensure that only the stated project objectives were pursued. Our case studies revealed that the differential capacities of recipient institutions in Tanzania invariably determined the impact of the TC and its performance.

The third conclusion is closely tied to the first two. The effectiveness of the recipient institution's strategies also largely assumed the existence of a comprehensive national TC policy framework within which to operate. It is our submission that such a framework would be sufficiently detailed to deter its abuse in practice. Moreover, it would provide broad guidelines to help TC planners, negotiators and monitoring agencies in their day-to-day activities. The failure to institute such a framework in Tanzania, we have argued, tended to markedly jeopardize the chances for TC effectiveness. As other researchers have extensively documented, unplanned low priority TC were usually approved in Tanzania, most of which were later poorly designed and unprofessionally implemented. In short, more often than not, the Tanzania aid regime lacked the institutional basis for sustainability (Mongula, 1990; Nordic Report, 1988).

Fourthly, it was also found out that there was an urgent need to sensitize the state bureaucracy in the Third World to the otherwise "hidden agendas" of international aid agencies. To be sure, the political leadership in donor countries make decisions concerning the broad political and economic interests which their TC resources have ultimately to serve. These include, as earlier pointed out, economic interests, promotion of foreign policy, international security concerns and, of course, humane internationalism *a la* Stokke (1989:15). In the absence of a realistic national policy framework and effective recipient participation, such donor interests are bound to set the pace and policy direction in the recipient country.

Finally, it is now well known, the motives behind aid policies are too often intertwined to disentangle. Public utterances, notwithstanding, rarely are aid policies simply altruistic. Nor need the development objectives of donor and recipient countries coincide. It is therefore imperative that recipient countries are thoroughly clear about their development objectives and their critical TC needs. That will undoubtedly minimize the recipient's economic and political vulnerabilities.

ENDNOTES

1. The three controversial reports by the World Bank on the sources of sub-Saharan economic problems are:- 1) Accelerated Development in Sub-Saharan Africa: Agenda for Action, 1981; 2) Sustained Development in Sub-Saharan Africa 1984; and, 3) The African Capacity Building Initiative: Towards Improved Policy Analysis and

Development Management, 1990.

2. Technology is herein construed as "knowledge, skills, methods and procedures associated with the production of socially useful goods and services from the products of the natural environment". For insightful details on the subject see Girvan (1983:6-10).

3. The commercial forms of technology transfer include, technical assistance agreements, know-how agreements, joint ventures, sub-contracting, licensing and franchising. An informed discussion on the subject is found in Vaitsos (1975).

4. Stockke (1989:203-4) has persuasively argued that despite the apparent recipient-oriented Norwegian aid posture, the asymmetric power relations in this type of cooperation and the inherent weak institutional capacities of most African states, NORAD wields overwhelming influence in determining the nature and mechanics of aid administration in those countries.

5. Those meetings are commonly known as "round table conferences". They are meetings between a Government of a developing country and its major aid partners for the purpose of reaching an agreement on economic management policy, development strategies, aid requirements and, finally, an external support for agreed upon programs. Such conferences are convened periodically and normally organized outside the recipient country.

6. The indirect costs linked to the use of TC is when part of the TC resources is in the form of loans and not grants. There are also considerable indirect costs for the recipient such as housing and transport for the expatriates, costs for counterpart personnel and those for the central administration to manage an impressive number of projects. For a concise account on the subject see Bossuyt (1990: 11-13).

7. Comprehensive reliable data regarding the size and composition of externally financed technical assistance in Tanzania is not available. The data collected by the UNDP area office is not comparable with the balance of payments and national accounts data, which in turn, is known to be incomplete in terms of its coverage of its technical assistance flows.

8. Since 1988 the Government of Tanzania with the help of the donor community has been drafting a TC policy framework, planning and programming. This long delay has largely been prompted by the lack of consensus among donors and between donors and the Government. This revelation goes a long way to say something about who is, in fact, incharge of designing national development policies.

9. At the 1985 graduation ceremony of the Mbegani Fisheries Development Center, the then Minister of Lands, Natural Resources and Tourism, Mr. P. Bomani claimed that Tanzania could harvest more

than 700,000 metric tons of fish a year without causing serious environmental degradation. He further claimed that only about 200,000 metric tons of fish were being harvested. See Fagerness (1986) Appendix 7 p. 2.

10. The Center only operated at about 60 percent capacity throughout the 1980s and it was estimated that the cost per students per year was more than four times higher than comparable institutes in the country during the same period. For fuller details on the issue see EASAUP (1988a).

11. Such activities include, among others, marketing, distribution, net making, marine engine repair, boat building and the production of related fishing industry accessories. For details on the subject see Eastern and Southern African Universities Research Program, 1988a.

12. There was only one major attempt that tried to carry out an extensive feasibility study to determine specific fishermen needs in Tanga region before technical assistance was determined by the Mbegani Fisheries Training Center. See specifically Watten, J. and I. Matemba (1982).

13. The informal financial sector in Tanzania includes moneylenders, credit unions, rotation savings and credit associations, and cooperative societies. For insightful discussions on the subject see Ndashau and Hyuha (1991).

14. The Fishing Act of 1970, for example, gives regulations for registration of fishing vessels, licensing of fishermen and fish mongers, use of different kinds of fishing gears, regulations of the use of fishing grounds etc.

15. The Sasakawa-Global 2000 projects in Africa are sponsored by the Sasakawa Africa Association and the Carter Center with the financial help from FINNIDA. The projects in Tanzania were initiated in 1989 and are designed to encourage small farmers to adopt an improved seed, fertilizer and crop protection packages and to improve the quality extension advice offered to farmers. For elaborate details of its activities see Quinones et al. 1992:485-90).

16. NORAD has continued to provide a token sum of Nk 5 million for strategic recurrent expenditures of the Faculty of Forestry. This money runs the laboratories, vehicles and workshops.

APPENDIX 1: WORK PERMITS JULY 1988 - DECEMBER 1990

NUMBER OF APPLICANTS BY OCCUPATION (DETAILED) BY 1ST ISSUE(1ss) /RENEWAL

OCCUPATION	1988*				1989				1990			
	1st- Iss	Rene- wal	TO- TAL	%	1st- Iss	Rene- wal	TO TAL	%	1st- Iss	Rene- wal	TO TAL	%
<u>Admin & Mang</u>												
Managers & Directors	29	37	66	8	70	78	148	9	61	101	162	10
Finance Managers	11	20	31	4	43	38	81	5	43	29	72	4
Oth. Special Mangrs	9	5	14	2	15	11	26	2	24	12	36	2
Prod & Operating Mangr	36	22	58	7	58	60	118	7	52	52	104	6
Oth Man. & Sen. Adm	34	23	57	7	55	31	86	5	54	47	101	6
<u>Professional</u>												
Managing Supervisors	16	19	35	4	55	50	105	6	61	43	104	6
Civil Engineers	17	27	44	5	37	40	77	5	35	42	77	5
Electric Engineers	17	7	24	3	27	15	42	2	23	18	41	3
Mechanical Engineers	13	20	33	4	29	55	84	5	53	48	101	6
Surveyors	5	7	12	1	36	7	43	3	22	6	28	2
Oth. Eng. & Sci. Profs	43	40	83	10	68	64	132	8	47	35	82	5
Health & Life Sci. Profs	7	13	20	2	24	38	62	4	16	28	44	3
Accountant/Auditors	15	23	38	4	36	43	79	5	30	31	61	4
Oth. Business Profs	5	11	16	2	24	27	51	3	29	22	51	3
Other Professionals	2	5	7	1	10	5	15	1	7	4	11	1
<u>Tech. & Ass. Prof.</u>												
Phys. Sci. & Eng. Techn	27	16	43	5	27	15	42	2	33	9	42	3
Teaching Asso. Profs	43	31	74	9	60	53	113	7	73	54	127	8
Other Assoc. Profs	11	12	23	3	32	13	45	3	32	20	52	3

<u>Clerical</u>												
Clerical	4	2	6	1	15	6	21	1	9	9	18	1
<u>Pers. Serv.</u>												
Pers. Serv. Workers	6	4	10	1	17	1	18	1	23	8	31	2
<u>Skilled Agr.</u>												
Skilled Agr. Workers	2	0	2	0	6	1	7	0	5	3	8	0
<u>Craft & Rel.</u>												
Constr. Supervisors	18	7	25	3	36	19	55	3	13	15	28	2
Constr. Rel Craft Wks	14	3	17	2	20	3	23	1	34	10	44	3
Mech/Elect Resp. Supvs	32	9	41	5	45	15	60	4	20	12	32	2
Mech Fitters	14	6	20	2	41	13	54	3	37	11	48	3
Metal Craft Workers	14	8	22	3	10	13	23	1	31	6	37	2
Other Craft Supers.	1	3	4	0	6	8	14	1	9	7	16	1
Other Craft Workers	1	1	2	0	9	8	17	1	15	2	17	1
<u>Pl. & Mach Opers</u>												
Plant & Mech Opera.	8	11	19	2	18	11	29	2	42	9	51	3
<u>Other</u>												
Other Workers & N/S	8	7	15	2	19	16	35	2	9	5	14	1
TOTAL	462	399	861	100	948	757	1704	100	942	698	1640	100

* July - December

Source: Ministry of Labour and Youth Development, 1990 Table 7 pp.8.

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