Integrated Family Planning Programs: Rationale, Concepts and Methodology for Evaluation

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INTEGRATED FAMILY PLANNING PROGRAMS:

Rationale, Concepts and Methodology for Evaluation

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A. **INTRODUCTION**

1. Over the past two decades, policymakers, scholars and international aid agencies have become increasingly interested in the complex interrelations between population and development. As articulated at the 1974 World Population Conference held in Bucharest, "... the basis for an effective solution of population problems is, above all, socio-economic transformation". (World Population Plan of Action, paragraph 1). There is growing agreement that population problems cannot be viewed in isolation, but should be addressed within the context of broader development processes.

2. Research on the determinants of fertility has provided considerable evidence to suggest that fertility decline is related to a range of socio-economic variables in societies at different points in the demographic transition. Thus, while specific fertility regulation programs and policies can affect fertility behaviour, they represent only one set of forces influencing fertility rates.

3. Recognition of the interrelationship between population and development, and specifically fertility and development, has led to an understanding of the need to go "beyond family planning" in order to achieve the aim of fertility decline. The implication which has emerged is that family planning should not be provided separately, but as part of an integrated package including other development activities. It has been hypothesized that such integrated programs would be more efficient and effective than single-purpose programs delivering services separately.

4. On the basis of these assumptions and hypotheses, considerable investments have been made by national governments and international agencies in integrated approaches to the delivery of family
planning. These have taken the form of national programs and pilot projects. In practice, integration of family planning has been primarily with health services, based on the assumption that fertility and health are mutually reinforcing and harmonious activities.

5. Some of these national and pilot integrated programs incorporated research processes designed to evaluate the efficiency and effectiveness of various approaches to integration. However, the evaluation methodologies have been plagued with difficulties, and point to the need for serious conceptual and methodological refinement.

6. The general purpose of this paper is to shed some light on the conceptual and methodological issues associated with integration. The thrust of the paper will be to systematically analyze the methodologies which have been utilized in evaluating integrated programs, and to propose an evaluation framework and areas for further research based on the lessons learned from previous studies.

7. The specific objectives of the paper are as follows:

(a) to discuss definitions and dimensions of integration;
(b) to discuss the rationale for integration of family planning and health at the level of fertility - development interrelations, fertility - health interactions, and program delivery efficiency and effectiveness;
(c) to discuss studies of integrated approaches to family planning, based on pilot projects and natural programs; and to analyze the evaluation methodologies employed in such studies; and,
(d) to discuss a proposed framework for evaluation of integrated programs and areas for further research.
B. DEFINITIONS AND DIMENSIONS OF INTEGRATION

8. According to the Oxford dictionary, integration is the "making up or composition of a whole by adding together or combining the separate parts or elements". When applied to the integration of family planning with health and other development activities, the term integration defies one universal definition. The reason for this is not difficult to uncover. Integration has occurred in countless different ways in varying contexts, and can be viewed along several different dimensions.

9. Firstly, integration can take place at various levels. At the national level, the establishment of an umbrella coordinating committee can enable policymakers to take account of development-population interrelations in the formulation of overall development programs. Integration can also occur among ministries or agencies, as when family planning activities are subsumed within maternal and child care in the health ministry, or the staff of family planning and health agencies are encouraged to interact. Finally, integration may be evident at the level of program service delivery. For example, family planning and health services may be delivered by the same multi-purpose field-workers, or single-purpose workers in a clinic may be directed to work together as a group.

10. Related to the level of integration, it is also possible to differentiate between administrative or service integration (UNFPA, 1979). Administrative integration implies that an organization, such as a government ministry, has administrative control over several specialized services. This form of integration addresses issues of administrative authority, responsibility, jurisdiction and accountability. Service or functional integration involves the linking together of several functions at the point of service delivery, such as a rural health clinic, and concerns issues of worker roles and time allocation, referrals and individual contacts.
11. The form of integration can be conceptualized in terms of its structure and its process (ESCAP, 1979). The structure of programs can be designed in such a way to bring together specialized activities. For example, integrated programs for health and family planning have been designed in which family planning activities are to be carried out by health field staff along with their normal health duties. The process of integration, on the other hand, is the extent to which the prescribed integration is actually being carried out; i.e., the extent to which workers are actually delivering all services equally well. While structural integration can help facilitate the process of integration at the delivery level, it does not necessarily guarantee such a uniting of activities.

12. A final dimension of integration is related to the comprehensiveness, timing and sequence of combining different activities. One approach is to introduce a comprehensive package of activities together at the same point in time. For example, the Alma Ata 1978 declaration calls for the introduction of family planning as part of MCH services within a comprehensive primary health care program (WHO, 1978). An alternative approach would be "a selective combination of relatively low-cost services..." which,"over time, can develop into more fully integrated programs that are able to incorporate a wider range of services as capacity grows" (Winikoff/Brown, 1980, p. 175).

13. The dimensions of integration outlined above point to the complexity of the concept, and the difficulty of defining its meaning. For the purposes of this paper, emphasis will be put on the process of integration at the service or delivery level.
C. THE RATIONALE FOR INTEGRATION

14. The rationale for integration of family planning with health can be described under three headings: fertility-development interrelations, fertility-health interactions, and program delivery efficiency and effectiveness. While the first two headings provide a general rationale for integration, the program delivery rationale suggests two specific hypotheses regarding efficiency and effectiveness of integrated programs.

Fertility-Development Interrelations

15. As indicated above, there is growing recognition that family planning programs alone are not sufficient to lower fertility to desired levels. "There is now greater appreciation of the fact that a reduction in birthrates depends on whether changes in various socio-economic and cultural variables modify attitudes, motivation, and ideas about optimal family size sufficiently to induce decisions and behaviour which result in smaller families" (Johnston/Meyer, 1977, p. 3).

16. This recognition is in keeping with numerous studies of the determinants of fertility. For example, in a recent macro-analysis of the correlates of fertility decline in developing countries over the period 1965-1975, Parker Mauldin and Bernard Berelson analyze the relative influence of socio-economic/health factors and family planning programs on fertility decline (Mauldin and Berelson, 1978). The study revealed that the demand factors representing overall level of modernization (education, health, economic indicators and urbanization) correlate significantly with crude birthrate decline and are closely interrelated with each other. It was also found that program efforts correlate closely with demand factors. Finally, while both demand and program factors separately influence fertility decline, their influence is most pronounced when they are combined. They are combined.
17. In an effort to explain why and how socio-economic factors such as income and education affect fertility behaviour, a number of studies have focussed on decision-making at the household level. Several models of the household decision-making process have been developed, ranging from econometric formulations to more descriptive approaches. In general, however, the focus is on factors which influence the economic, social and psychological costs and benefits of children. Factors which change the value of children are assumed to influence the demand for children, and consequently, family planning and fertility behaviour. Some of the more important factors hypothesized as influencing the value of children include women's education and labour force participation, children's education and children's productive activities.

18. The implications of the findings of research on the determinants of fertility are that governments can influence fertility behaviour not only through family planning programs, but through other forms of development activities such as provision of educational facilities, employment opportunities and so on. The findings also suggest that family planning programs are likely to be most successful in settings where socio-economic development has reached a level where the demand for children is falling.

Fertility-Health Interactions

19. In the context of the interacting issues of fertility and development, specific attention has been paid to the close inter-relationship between fertility and health.

20. A forthcoming WHO publication (Omran and Standley, 1981), reviews the evidence regarding the impact of fertility on health. Based on studies from both developed and developing countries, it
is demonstrated that large family size, short birth intervals and early/late maternal age pose significant risks with respect to the health and mortality of mothers and children.

21. The effect of health on fertility is not as straightforward an issue. Improved health can lead both to increases and decreases in mortality, which, at least in the transitional stages of a country's development, can result in population growth. Furthermore, improved health can increase fertility, by eliminating diseases which interfere with fecundity and the completion of pregnancy. On the other hand, the child-survival hypothesis suggests that improved health can also lead to declines in fertility. The argument can be summarized as follows: when parents either have experience with, or fear of, child loss, they may be inclined to have additional children, either to "replace" those who have died, or as "insurance" against expected deaths.

22. The child-survival hypothesis has been the subject of a great deal of controversy and several reviews (Omran, 1971; Taylor, Newman and Kelly, 1976b; Friedlander, 1977; Ware, 1977; Preston, 1978; Scrimshaw, 1978). This has led to a more realistic assessment of the hypothesis. Taylor, Newman and Kelly (1976b) have suggested five clarifications as follows:

- reduced child mortality is not a pre-condition for fertility reduction. However, there does seem to be a linkage between the two variables;

- the postulated fertility reduction attributable to increased child survival expectations does not necessarily compensate fully for the population growth effects of reduction in child mortality;
- the child survival effect is likely to be greatest in circumstances where mortality is falling rapidly, fertility levels have begun to decline, and family planning services are available;

- the child survival effect on parents is likely to be indirect and subconscious; and

- more important than the consideration of spontaneous linkages between mortality and fertility is the possibility that parents' attitudes might be influenced through attempts to produce conscious awareness of better child survival by integrating child health care with family planning services. In other words, if the same health worker or group of workers explains to households the relationship between family planning, child care and child survival, and delivers health and family planning services together, households are more likely to become conscious of the possibility of better child survival, and be more willing to restrict their family size. This suggests that the child-survival hypothesis may have its greatest relevance at the level of service delivery. As will be discussed below, this is one of the arguments related to the presumed greater effectiveness of integrated programs.

**Program Delivery Efficiency and Effectiveness**

23. Growing evidence on the relationships between fertility and health have led scholars and planners to speculate about, and experiment with, the integration of these variables at the program delivery level. At the conceptual level, it is hypothesized that integrated programs are potentially more efficient and more effective than single-purpose programs which deliver services separately.
24. Several authors have suggested that the integration of family planning and health has the potential to increase efficiency and lower the costs of delivery. For example, it is hypothesized that a delivery system using multi-purpose health field-workers to provide both family planning and health services "should require fewer worker-client contacts and less worker time and should be less costly per person assisted than the delivery of these same services separately" (Johnston/Meyer, 1977, p. 16). Assuming that integrated services are well organized, duplication can be minimized and savings incurred through the common use of facilities, supplies, equipment, transportation, personnel and administrative structure. This becomes particularly important since many of the more effective methods of contraception require the skills of medical personnel in terms of initial provision and management of health-related side effects (Brogger and Liisberg, 1981). Finally, it is hypothesized that it should be possible to achieve efficiencies in training. "It is more efficient to train workers to perform multiple tasks where there is as much overlapping in the core of background information and skills as occurs in maternal and child health, family planning, and nutrition" (Taylor/Newman/Kelly, 1976a, p. 96).

25. The hypothesis related to greater effectiveness of integrated family planning and health service delivery is based on four assumptions: greater accessibility to the population most at risk, higher motivation of clients, higher motivation of workers, and the possibility of explicitly strengthening the natural interrelations between health and fertility (child-survival hypothesis).

26. Firstly, the delivery of family planning based on a program of maternal child health can, at least in theory, provide access to every eligible woman. In developing countries characterized by limited facilities, efforts must be concentrated in the most effective way. Thus, a system which uses the event of pregnancy and childbirth to identify the physiologically most fertile women, those who are most at
risk, should be more effective than a single-purpose family planning program aimed at the entire population (Taylor/Berelson, 1968).

27. Secondly, it has been argued that the health system, and more specifically, maternal and child care, is a logical and systematic framework within which to include family planning motivation, education and services on a gradual and ongoing basis, thereby increasing client motivation to accept family planning. While definitions and components of maternal and child care vary (see WHO, 1976; Taylor and Lapham, 1973), the minimum set of services would include antepartum care, care at delivery, postpartum care and child care. At each of these stages, family planning information can be provided, supported by provision of family planning services after birth. Such a system would motivate women to accept family planning for several reasons. In the first place, the MCH system creates several "entry points" at a time when motivation to adopt family planning is high, and the provision of child care after birth creates an opportunity for ongoing family planning activity. In addition, family planning is made more acceptable to women because it is presented by the same health workers who are offering more comprehensive health services which are in great demand. Related to this issue is the contention that the "presentation of integrated health, nutrition, and family planning services as a single package of interrelated innovations has a further potential to affect client motivation positively in that an individual who has adopted one innovation in a package, with generally beneficial results, may be more likely to adopt other related innovations in the package" (Johnston/Meyer, 1977, p. 15). Finally, clients are more likely to be motivated to accept and continue use of family planning because of the convenience afforded by being able to obtain all necessary health and family planning through one set of contacts or at one source, such as the health clinic.
28. Thirdly, some authors have speculated that worker motivation would be higher in integrated than in single-purpose programs, and that this would lead to greater effectiveness of integrated programs. This argument is based on the assumption that field staff must be occupied with tasks both sufficiently complex and sufficiently founded in the ongoing cycle of health needs of villagers to maintain staff interest and to maintain them in a valued role in the village community" (Johnston/Meyer, 1977, p. 16). Therefore, since the activities of staff in integrated programs are generally wider in scope, it would follow that such staff would be more highly motivated.

29. Finally, as indicated above, the reformulation of the child-survival hypothesis has suggested that an integrated program which deliberately and consciously links family planning activities with the delivery of health services should be more effective in changing the attitudes, motivation and behaviour required to slow population growth.
D. STUDIES OF INTEGRATED APPROACHES TO FAMILY PLANNING - PILOT PROJECTS AND NATURAL PROGRAMS

30. The governments of some countries such as India and Malaysia have long sought to integrate family planning with health as a matter of official policy. The rationale for this approach has been very pragmatic in nature. Health networks were in existence and their outreach was very extensive. Further, these governments wanted to diffuse the practice of family planning as quickly and as widely as possible. Thus, it was more efficient to deliver family planning through an existing, relatively well-established health network than to set up a separate mechanism with the sole function of delivering family planning.

31. A number of international agencies have also been involved in integrated health and family planning programs. For example, since the mid 1960s the World Health Organization has included family planning as a part of health services in those countries where it operates. While the rationale was in part related to efficiency, WHO was perhaps even more concerned with the close interrelationship between health and fertility, and the necessity of providing family planning for health reasons. Coupled with this was the belief that family planning should be provided for social welfare purposes as a basic right to which people are entitled.

32. Notwithstanding the existence of functioning integrated health and family planning programs, supported both by national governments and international agencies, by the late 1960s and early 1970s there was still little understanding of whether integrated programs are more efficient and effective than single-purpose programs in delivering services. Furthermore, there was very little understanding of what integration really means, and there were as many definitions of integration as there were different programs. With many governments and international agencies facing difficult choices as to whether to deliver services together or separately, and as to what the best forms of integration would be, there was a need to examine the issue of
integration more scientifically.

33. Accordingly, several national governments and international agencies together initiated a series of studies designed specifically to evaluate the efficiency and effectiveness of different forms of integrated programs. Some of these studies were based on experimental pilot projects, while others were based on "natural" programs already under way in select countries.

34. The following two sections of this paper critically analyze the evaluation methodologies employed in the various studies. Select findings of the studies are also discussed, primarily to highlight methodological strengths and weaknesses of the research designs.

Pilot Programs

35. This discussion will be limited to three of the several pilot projects which have been implemented in various countries. While this excludes many very worthwhile studies, the selection has been made on the basis of availability and comprehensiveness of documentation describing methodology and research findings. Moreover, the three projects selected represent distinct stages of development of program and research design.

36. The International Postpartum Family Planning Program (IPP) was implemented in 1966 over a period of 9 years in 138 hospitals in 21 developed and developing countries. The purpose of the Program was to demonstrate the feasibility of providing family planning information and services as part of hospital-based maternity care. This was not a new idea, of course. As early as the 1930s in the U.S., obstetricians had been giving birth spacing advice to their private patients. This was followed by gradual liberalization and extension of the concept in several hospital wards. However, the IPP was the first international
effort to test the feasibility of such an approach in various institutional and cultural contexts throughout the world.

37. On the basis of the performance of the IPP, several international agencies and national governments began to express interest in testing the possibility of an extension of the postpartum concept to the health clinics and field activities of the rural parts of the developing world. At the end of the 1960s, a feasibility study was undertaken for a world program to determine what would be required to provide a minimal service of maternal child health and family planning to every pregnant woman. The study was carried out in 9 countries (see Taylor and Berelson, 1971), and was followed by the establishment of maternal and child health (MCH/FP) pilot projects in Indonesia, the Philippines, Turkey and Nigeria. These projects were designed to demonstrate the feasibility of the MCH/FP approach in rural areas of developing countries, and to assess the efficiency and effectiveness of the approach. For the purposes of this paper, discussion will be limited to the Philippines project in Bohol.

38. At the same time as the IPP and MCH/FP international programs were in operation, several countries were also conducting, with or without outside funds, their own pilot experiments integrating family planning and health. The most famous was the Narangwal project in India. The study was based on a program design which permitted an evaluation of different mixes and intensity of integration of family planning with women's services and child care.

39. The IPP, Bohol and Narangwal projects utilized prospective, experimental research designs. Integrated clinics, or, in the case of IPP, integrated postpartum services in hospitals, were established. Performance efficiency and effectiveness were evaluated in terms of services provided and services utilized. Furthermore, all three studies endeavoured to evaluate the ultimate impact of the programs on fertility, while the MCH/FP and Narangwal projects also examined the health impact.
40. The basic hypothesis to be tested was that integrated programs are more effective and efficient in delivering services than programs which deliver the same services separately. By extension, it was hypothesized that the integrated programs would have a greater impact on health and fertility. In this sense, integration at the delivery level was the independent variable, program performance the intervening variable, and health and family planning impacts the dependent variables. These relationships can be shown schematically as follows:

```
Independent Variable | Intervening Variable | Dependent Variables
---------------------|----------------------|---------------------
Integration at Delivery Level (Clinic/Hospital) | Performance | Impact
Efficiency and Effectiveness
- services delivered
- services utilized | Fertility
Health
```

41. At the time these studies were being conducted, a great deal was already known about the measurement of the intervening and dependent variables (performance and impact), based on past experience with evaluating separate health and family planning programs. Moreover, by the late sixties and early seventies, refined sets of indicators had been developed for evaluating performance and impact of programs delivering family planning together with health services (see WHO, Technical Report Series 569, 1975). Therefore, little attention will be devoted to performance and impact indicators in this discussion. By contrast, very little was known about measurement of integration, despite the fact that it was the major independent variable presumably responsible for improvements in performance and impact. As shall be seen, the earliest studies did not attempt to measure integration at all, but assumed it to be constant. It was only after several years that explicit attention began to be given to the independent variable. The following discussion
will therefore focus on progress made in the measurement of integration, and on related research design issues such as the use of control areas.

(i) The International Postpartum Family Planning Program (IPP)

42. The IPP sought to evaluate the performance and impact of integrated family planning programs in 138 hospitals. In doing so, the independent variable was assumed to be the integrated structure of delivery of family planning with obstetric care in the hospitals. However, it was hypothesized that there could be variation in the actual process of integration from hospital to hospital. Various institutional and program factors such as size of obstetrical case load, types of maternity services offered, staff training in provision of health and family planning services, could affect performance. Recognizing this, the IPP study conducted a series of small, focussed studies to examine the relationship between these factors and performance. However, there was no systematic measurement and weighing of these process factors as they relate to performance. Given the large number of hospitals in the study, this type of analysis could have contributed greatly to explaining variations in performance.

43. The measure used to evaluate the effectiveness of the IPP was the ratio of acceptor/delivery of obstetric cases. This was compared to the national program acceptance ratio (i.e. acceptor/total women in reproductive age). On this basis, it was concluded that in countries with extensive family planning programs, the IPP Program acceptance ratio was about 4 to 9 times higher than for the national program as a whole. However, it must be emphasized that this is a very biased comparison in favour of the IPP, since the national program's target is all the married women in the reproductive age (MWRA), a group which is far more spread out and difficult to be motivated than obstetric cases in the IPP urban hospitals. A more valid comparison would have been with the acceptance ratio in hospitals without postpartum integration. These hospitals could have served as a control to the IPP hospitals. Similarly, the IPP
demonstrated very high continuation rates; on the average, 71% continued after the first year, 56% after the second, and 46% after the third year. Unfortunately, however, these continuation rates were not compared with control hospitals not in the IPP Program.

44. Efficiency of the IPP was calculated as cost per family planning acceptor. Interesting comparisons were drawn between the IPP and national programs of four countries having national family planning programs. In these countries, the average cost per acceptor in IPP was $2.95. The average cost per acceptor in national programs in these same countries was $10.54. On this basis it was claimed that the IPP Program was much more cost-effective than the national program. It should be emphasized, however, that this comparison has limitations since the national programs include the entire population, including those in remote rural areas, which are particularly expensive to reach.

45. The impact of the program was analyzed in terms of fertility only. There was no measurement or discussion of the impact of the health status of mothers or children. According to the IPP study, fertility rates declined from 383 per 1000 to 93 per 1000 and pregnancy rates declined from 442 per 1000 to 130 per 1000 over the period of the project. However, it is not clear how much of this decline was due to the project itself, as the decline rates were not compared with control hospitals outside the sample. Furthermore, it should be noted that rapid socio-economic development was taking place in many developing countries during the period 1966-1975, and there was no attempt to control these changes over the duration of the project.

(ii) Maternal Child Health/Family Planning Project - Bohol, the Philippines

46. The Maternal Child Health/Family Planning (MCH/FP) project in Bohol, the Philippines, differed methodologically from the IPP in two ways. Firstly, it included both experimental and control areas. Secondly,
baseline and post surveys were conducted in both the treatment and control areas. The report stresses, however, that the control area was not a "control" in the strictest sense, as it experienced an augmentation of resources (especially staff) at about the same pace as the project area, through World Bank support. Moreover, because of the proximity of some villages of the treatment and control areas, there was some movement of people in the control areas who utilized services available in the treatment clinics.

47. The independent variable was the structure of integrated delivery of maternal child health and family planning at the rural clinic level. This variable was taken as given and constant, despite the fact that several clinics were in operation in the experimental site. There may have been variations in the process of integration in the various clinics. However, these factors were not taken into account in evaluating the performance of the project.

48. Performance was measured for both family planning and health services utilization. In the case of family planning, service utilization remained about the same in both the control area and the experimental site after treatment. However, in the experimental site there was an increase in the use of more effective family planning methods after the project.

49. Although there was some calculation of costs for the integrated program, this was not systematically related to the control area or the national health program. Project costs were estimated at approximately $0.30 per person per year (not per woman or MWRA). It was suggested that this was similar to national health expenditures per person. However, there was no detailed assessment of specific services delivered and associated costs.

50. Impact was analyzed both for fertility and mortality. With regard to fertility, the data did not permit meaningful comparisons between the project and control areas. However, it was demonstrated
that the crude birthrate declined by 5.2 points in the project area compared to 3.6 points nationally over the period 1975-1979. Unfortunately, it could not be clearly demonstrated whether this greater decline was due to the project itself, as data limitations did not permit the study to control systematically for socio-economic factors which might have influenced fertility behaviour.

(iii) Narangwal Study - India

51. The Narangwal study represented the first attempt to provide variation in the forms of integration to be studied. The independent variable was operationalized in four experimental sites and one control site as follows.

(a) FP plus WS plus CC: family planning plus women's services (i.e., maternal care) plus child services (i.e., child care). This represented full integration;

(b) FP plus WS: family planning plus women's services (moderate integration);

(c) FP plus CC: family planning plus child care (moderate integration);

(d) FP plus Ed: family planning plus family planning education (no integration);

(e) Control: regular government program with separate family planning and health programs (no integration).

Thus, the independent variable ranged from fully integrated to no integration, as measured by the range of services provided.

52. Based on this variation in the independent variable, the study set out to test two hypotheses:

(a) The greater the extent of integration, the better will be the performance and the greater the impact
of the program. Thus, it was hypothesized that the programs with maximum integration (FP plus WS plus CC) would perform better than programs characterized by either moderate integration (FP plus WS or FP plus CC) or no integration (FP plus Ed or Control).

(b) Reductions in infant mortality will lead to increases in family planning acceptance and ultimately to decreases in fertility (child-survival hypothesis). Moreover, this hypothesis was likely to be most evident in sites with maximum integration (FP plus WS plus CC).

53. Good evaluation procedures were imbedded in the project from the outset. Four rounds of surveys were planned in the experimental and control sites as follows: (i) baseline, (ii) 1½ years after project, (iii) 3½ years after project, (iv) 4½ years after project. The results of the evaluation exercise were mixed, and can be summarized as follows:

54. During the period 1969-1974, there was a significant increase but little variation in the family planning ever-use rate between FP plus WS plus CC (16-51%) and FP plus WS (16-54%). (Complete data were not available for FP plus CC, FP plus Ed and the control area). On the basis of the results of the fully and moderately integrated sites, the degree of integration made no difference to family planning acceptance.

55. By contrast, performance in terms of continuing-use rate was better in the moderately integrated FP plus WS site (12-31%) than in the fully integrated FP plus WS plus CC site (11-24%). The same pattern was evident for the use of more effective family planning techniques. It was hypothesized that this was the case because workers in the fully integrated programs were busier than those in the moderately integrated program, and did not have as much time to discuss the advantages of more effective family planning techniques with women, nor could they devote
as much time to follow-up visits related to side effects of the more effective techniques such as the pill and IUD.

56. With regard to efficiency, the study demonstrated that the experimental sites with full integration were more efficient in the use of financial resources and manpower than non-integrated sites. In the second year of operation, the cost per couple-year of effective protection was $7 in the FP plus WS plus CC site as compared to $25 in the FP plus Ed site.

57. The study measured the impact of the programs on fertility and child mortality. Between 1969 and 1973, fertility declined at the same rate (5% per year) in the programs with maximum and moderate integration. By contrast, there was no fertility decline in the control group (fertility data were not reported in the FP plus Ed group). Child mortality rates declined in all groups, but there was little variation related to the degree of integration in program sites.

58. Due to political pressures, the Narangwal study ended prematurely. Thus, according to the final report, it was not possible to directly test the child-survival hypothesis, as the program had not lasted long enough to change fertility behaviour as a result of child mortality decline. However, the study endeavoured to indirectly test the hypothesis on the basis of client perception rather than behaviour. This was accomplished by comparing the attitudes of women in fully integrated, moderately integrated and non-integrated program areas. Women in fully integrated sites had the greatest awareness of declines in mortality over the last 30 years. Also, a higher proportion of women in fully integrated villages than in other villages said that greater child survival would influence their decisions about the desired number of children. While this represented only a very crude test of the hypothesis, it did demonstrate that clients' attitudes and perceptions were somewhat modified in the fully integrated sites.
The Narangwal study was a pioneering one in its attempt to measure performance and output of different forms of integration. With the advantage of hindsight, however, it is possible to recognize three limitations in the operationalization of the independent variable:

(a) Firstly, the categorization of the experimental sites into different sets of services was not a realistic one. In most clinics, it would not be reasonable to provide child care without maternal care or vice versa.

(b) Secondly, there was not a clear differentiation amongst the experimental sites in terms of services provided. For example, maternal care was not limited to programs with women's services (i.e., FP plus WS plus CC or FP plus WS). Certain elements of maternal care were also provided in FP plus CC (e.g., prenatal care). Similarly, family planning education was provided intensively in FP plus Ed, but was also provided in a more limited way in FP plus WS plus CC and FP plus WS.

(c) Thirdly, the degree of integration was measured solely in terms of the structure of integration, particularly with respect to the number of services which were designed to be integrated. There was no assessment of the process of integration, i.e. whether the single-purpose workers actually worked together as they were instructed to. There may well have been variations in this respect from clinic to clinic within the same experimental site. However, the analysis did not endeavour to measure such differences, but treated the various clinics in each group as if they exhibited a constant degree of integration.
60. In summary, what is known on the basis of the above three pilot programs, and what research gaps remain?

61. The three studies endeavoured to test the hypothesis that integrated programs are more efficient, more effective and have greater impact than single-purpose delivery programs. Due to the lack of adequate controls in the IPP and MCH/FP (Bohol) project, it was not possible to assert that better performance was due to integration per se. Narangwal was able to go further in this respect, but the findings were mixed and were not conclusive. A related problem is that the studies did not systematically differentiate between the structure and process of integration.

62. Superimposed on these problems of research design and measurement of the independent variables was the more general limitation of research based on experimental, pilot projects. Demonstration projects, such as the MCH/FP and Narangwal, are characterized by significant inflows of international finance, expertise and prestige. As such, it is reasonable to expect that the findings might, to some extent, reflect the "Hawthorne effect", i.e., the tendency of a group to perform better because it is the subject of attention. This is not to suggest that pilot projects are not extremely useful, but findings should be interpreted with care.

Natural Programs

63. Based on the findings and methodological inroads developed in previous studies of integration, ESCAP (with UNFPA support) initiated two studies in Malaysia and Korea in the late seventies. These studies differed from the prior pilot projects in several fundamental ways: (a) the studies did not involve the establishment of experimental, pilot projects. Rather, evaluations were undertaken of existing national integrated programs (these were considered "natural" programs as they existed in normal settings rather than in experimental sites). (b) the
evaluations were based on cross-sectional surveys rather than prospective case studies; (c) the unit of analysis was the clinic, not the client; (d) there was an effort to measure specific indicators of the process of integration and to relate these to program performance; (e) analysis was limited to the relationship between integration and performance, and did not consider impact of the programs on fertility and health; and (f) integration was treated as an intervening rather than an independent variable.

64. For illustrative purposes, the following discussion will focus on the Malaysian study. In Malaysia, 97 operating units in 18 districts were selected for study. The structure of integration consisted of family planning and MCH services delivered by multi-purpose MCH workers in rural clinics. While the clinics were under the general responsibility of the Ministry of Health (MOH), family planning activities were the specific concern of the National Family Planning Board (NFPB).

65. The process of integration was measured in terms of "integrative linkages", or the quantity and quality of interactions/contacts between clinic staff and specialized agencies. Integrative linkages were hypothesized to be influenced by organizational factors at the clinic level, including clinic goals, structure, authority, leadership style, resources, and personal characteristics of clinic staff. The extent of integration, as measured by the intensity of integrative linkages, was, in turn, presumed to influence program performance. Thus, organizational factors constituted the independent variables, integration the intervening variable, and program performance with respect to family planning and health services the dependent variable.

66. Evaluation of program performance was measured in terms of family planning and MCH service utilization. Unlike prior pilot projects, other indicators included the clinic supervisor's perception of the adequacy of the clinic's provision of MCH and FP services, and the supervisor's perception of improvement in such provision over the past year. In addition, performance measures included assessment of actual
number of hours/week spent by clinic staff in the provision of family planning and MCH (it should be noted that it would also have been reasonable to consider the time allocation of workers as an indicator of integration, rather than of program performance).

67. The indicators of the variables, and the relationships among them, can be summarized diagrammatically as follows:

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Intervening Variable</th>
<th>Dependent Variable</th>
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<tr>
<td><strong>Organizational Factors at Clinic Level</strong></td>
<td><strong>Integration, as measured by Integrative Linkages</strong></td>
<td><strong>Program Performance</strong></td>
</tr>
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- a) goals of clinic
- b) structure of clinic
- c) authority for carrying out clinic functions
- d) leadership style of clinic supervisor
- e) resources (personnel, money and materials)
- f) personal characteristics of clinic staff (educational background, previous training)

- a) frequency of contacts between clinic staff and directly concerned agencies (e.g. MOH, NFPB)
- b) perception of clinic supervisor regarding adequacy of information transfer between clinic and directly concerned agencies
- c) perception of clinic supervisor regarding degree of cooperation between clinic and directly concerned agencies on work matters
- d-f) same as a-c above, but with agencies only indirectly involved (e.g. local agricultural offices)

- a) Recruitment Efficiency Measures
  - FP acceptors as ratio of staff
  - MCH antenatal cases as ratio of staff
- b) Clinic Staff Work Load (hours/week)
  - MCH
  - FP
- c) Clinic Supervisor's Perceptions
  - adequacy of clinic coverage with respect to family planning and MCH
  - improvements in family planning and MCH coverage over past year.
68. The study demonstrated that, while all the Ministry of Health integrated clinics in the sample were characterized by a similar structure of integration, the actual process of integration was not constant. There was a high degree of variance in terms of the quantity and quality of integrative linkages between clinic staff and other agencies.

69. It was shown that organizational factors, especially the availability of financial resources for travelling, accounted for between 10% to 20% of the variance of each of the interaction linkage indicators. Also, interaction linkage indicators were responsible for about 20% of the variance in the family planning and MCH recruitment efficiency measures of performance. Finally, the study revealed that there is a strong direct causal relationship between certain organizational factors (particularly the existence and nature of the group structure, and staff background) and clinic performance. The direct effects of the organizational factors together with effects of the interaction variable explained a substantial 38% and 40% of variance in the MCH and family planning recruitment indicators respectively.

70. The Malaysian study made an important contribution in measuring organizational and integration indicators, and relating these to program performance in a sample large enough to permit statistical analysis. However, it should be pointed out that the measurement of integration was limited to integrative linkages between clinic staff and concerned agencies. Presumably, if single-purpose rather than multi-purpose workers had been involved, it would also have been necessary to measure interactive linkages among workers within the clinic. In any case, the analysis was limited to integration as practiced and perceived by clinic staff only. No consideration was given to such other possible aspects of integration as interaction and trust between clinic staff and clientele, clientele's perception of the nature and extent of integration, extent of community participation in integrated activities, and so on. In short, the unit of analysis was the clinic, and the clientele perspective was limited to service utilization only.
71. On the basis of the conceptual and methodological lessons learned in previous research, a framework for evaluating integrated family planning programs can now be proposed. This framework is presented schematically in Figure 1.

72. The proposed framework is designed to evaluate the performance of integrated family planning programs at the service delivery rather than at the administrative level. Overall administrative factors such as the national network for delivering services, interrelations among ministries, the existence of a national umbrella organization for integration, the depth of political will for integration and the overall budget for the provision of family planning and other social services naturally would greatly affect the structure of service delivery at the clinic level. However, in terms of the evaluation framework, they are considered exogenous variables.

73. The framework includes both the structure and process of service delivery. An analysis of both sets of indicators should permit an assessment of whether certain types of structure lend themselves more readily to the actual process of integration than others. However, the main relationship to be assessed is that between the process of service delivery and program performance and impact. Thus, the process of integration is considered the independent variable, program performance the intervening variable and impact the dependent variable.

74. The process of service delivery is operationalized in terms of two sets of variables: organizational factors and integration factors. It is hypothesized that the organizational factors affect the integration factors, and that the organizational and integration variables, separately and together, affect program performance. In the ESCAP Malaysia study described above, organizational factors were considered independent
FIGURE 1 / PROPOSED FRAMEWORK FOR EVALUATION OF INTEGRATED FAMILY PLANNING PROGRAMS

INDEPENDENT VARIABLE

Process of Service Delivery at Clinic and Community Level

(a) Organizational Factors
- goals, structure and authority of individual clinics
- clinic management style (i.e. participative, consultative, authoritative)
- resources (personnel, money, materials) of individual clinics
- personal characteristics of clinic staff (educational background and training)

(b) Integration Factors
Integrative linkages (quantity of contacts)
- among staff within clinic
- between clinic staff and concerned agencies
- between clinic staff and clientele (includes degree of staff outreach and community participation)
Time allocation of multi-purpose and/or single-purpose workers in terms of actual information and services provided

Intervening Variable
Program Performance
- efficiency and effectiveness of service provision and utilization with respect to:
  - family planning
  - health
  - mortality
  - other

Dependent Variable
Impact
- fertility
- health
- mortality
- other

Socio-economic and Environmental Variables

Structure of Service Delivery at Clinic and Community Level
Program structure as designed by national/regional/local administrative agencies. Includes the following elements:
- specific services to be delivered
- system for supervision and training of staff
- system for facilitating interaction among clinic staff
- system for delivery of services, including type of workers (multi-purpose or single-purpose) and nature/extent of outreach

Staff and client perceptions of extent of integration
variables and integration factors intervening. In this proposed framework, although organizational factors are assumed to influence integration factors, both organizational and integration factors are assumed to influence program performance, both together and separately. Thus, both sets of variables are considered independent variables within the overall process of integration.

75. The integration factors represent a pioneering area of methodological development. As shown in Figure 1, integrative linkages have been broadened to include contacts among clinic staff, between clinic staff and concerned agencies, and between clinic staff and clientele. *Contacts among clinic staff are particularly important measures of integration in cases where single-purpose workers are directed to work together in groups. Interaction between clinic staff and clients includes measures of staff outreach (e.g., number of home visits, number of referrals) and extent of community participation (e.g., client attendance at program meetings, number of village volunteers involved in service delivery).

76. A second major indicator of integration is the time allocation of workers in terms of specific information and services provided. This is particularly relevant with respect to multi-purpose workers who are directed to provide services in more than one activity. (It should be recalled that in the ESCAP Malaysia study described above, time allocation of workers was considered an indicator of program performance, not an indicator of the process of integration.

* A series of studies evaluating integrated approaches to family planning is being supported by IDRC in Malaysia, Indonesia, Thailand and Korea. Investigators are experimenting with the measurement of several indicators of integration, as listed in Figure 1.
77. The integrative linkages and time allocation indicators are measures of behaviour with respect to integration. Also important are the perceptions of staff and clients regarding the extent of integration. From the staff perspective, are some services delivered more efficiently than others; is there sufficient interaction amongst staff; and is there sufficient outreach to the community and other agencies? From the viewpoint of the clients, are some services more readily available than others; are program staff equally committed to all services provided; and are some services better than others? It is hypothesized that there is a two-way relationship between these staff and client perceptions and other integration as well as organizational factors. Perceptions - both negative and positive - will influence and be influenced by other factors of the process of service delivery.

78. As indicated above, it is not the purpose of this paper to evaluate or describe indicators of program performance and impact, since much effort has already been devoted elsewhere to development of appropriate indicators. However, some general comments might be useful in the context of the proposed evaluation framework. Firstly, Figure 1 assumes that performance and impact will be measured not only for family planning/fertility, but for all other program elements such as health, nutrition, and other development inputs. Secondly, there is considerable evidence to suggest that changes in performance variables (such as family planning acceptance) and impact variables (such as fertility) are influenced not only by program efforts but by economic, social, cultural and environmental variables. Thus, in evaluating the impact of service delivery on program performance and impact, it is essential to control for these variables, both at the household and at the community levels.

79. The framework described above proposes a methodology for measuring the process of integration at the clinic/community level, and for evaluating integration in terms of program performance and impact. By its very nature, the framework can be used to evaluate a wide range
of integrated approaches in various contexts. Where, then, is the greatest need for further research? Should the emphasis be put on pilot projects or natural programs; case studies or large surveys; prospective or retrospective approaches?

80. It is the contention of this paper that the priority for further research in this area should be on evaluation of integrated programs in natural settings. While pilot studies have demonstrated the feasibility of integration and have generated a number of hypotheses, the time is now ripe to move away from strict attention to this approach. Furthermore, more useful than case studies of natural programs would be evaluation of a large universe of natural clinics/communities which would permit multivariate analysis of the role of various organizational and integration factors of the process of integration as they affect program performance.

81. There are several options for initiating research along these lines. Ideally, it would be illuminating to evaluate integrated approaches cross-nationally. Less complicated, of course, would be national studies of a large number of clinics/communities assumed to exhibit differences in the process of integration. Another approach might be a combination of survey data supplemented by one or more in-depth case studies of natural programs assumed to be representative of different approaches to integration. On the basis of such studies, it should be possible to develop specific hypotheses with respect to the most efficient and effective forms of integration and the relative importance of various organizational and integration factors which account for differences in program performance and impact. Such hypotheses could then be tested in other natural settings and in specially designed prospective pilot projects.

82. Finally, discussion in this paper has focussed on the integration of family planning and health, since this approach to integration is the most common. However, several countries are experimenting with the integration of family planning with other activities, such as income-
generating projects, education and agricultural extension. Future studies should include in their designs these variations to integration in order to increase understanding of the range of possibilities for integration, which might go beyond the traditional family planning and health approaches.
BIBLIOGRAPHY

I. Integration - General


K. KANAGARATNAM (IBRD), "Integrated Population Activities" - a paper based on material originally used for lectures by the author to the Economic Development Institute courses in Population and Development in 1978/1979. (STRICTLY CONFIDENTIAL)


PARKER MAULDIN and BERNARD BERELSON, "Conditions of Fertility Decline in Developing Countries, 1965-75" - Studies in Family Planning, Vol. 9, No. 5, May 1978 (this article is related to the determinants of fertility rather than to integration).


SHELDON J. SEGAL and BEVERLY WINIKOFF, Guest Editors, "Health and Population in Developing Countries" - Special Issue, Social Science and Medicine, Vol. 14 C, No. 2, Pergamon Press, Oxford, 1980. (Selected papers originally presented at the Bellagio Conference, April 18-21, 1979 held under the auspices of the Rockefeller Foundation.) Included in this article are several relevant articles:

JOHN H. KNOWLES: Health, population and development (page 67)

BERNARD BERELSON, W. PARKER MAULDIN and SHELDON J. SEGAL: Population: Current Status and Policy Options (page 71)

ROBERT N. GROSSE: Interrelation between health and population: observations derived from field experiences (page 99)

DAVIDSON R. GWATKIN, JANET R. WILCOX and JOE D. WRAY: The policy implications of field experiments in primary health and nutrition care (page 121)

BEVERLY WINIKOFF and GEORGE BROWN: Nutrition, population and health: theoretical and practical issues (page 171)

T. PAUL SCHULTZ, "Fertility Determinants: A Theory, Evidence and an Application to Policy Evaluation", Rand, Santa Monica, California 1974. (This article is related to the determinants of fertility rather than to integration.)

CARL E. TAYLOR, JEANNE S. NEWMAN and NARINDAR U. KELLY, "Interactions Between Health and Population" - Studies in Family Planning, April 1976, pp. 94-100. (a)


II. Integration - Methodologies for Evaluation


III. International Postpartum Family Planning Program (IPP)


IV. MCH/FP Program (Indonesia, Nigeria, Philippines, Turkey)


ROBERT J. LAPHAM, PETER C. MILLER, S. HARAJAYA, SEVINC KAVADARLI, PAT MARIANO, ANNA S. QUANDT, JEREMIAH M. SULLIVAN, and WILLIAM VAN WIE, A System for Research and Evaluation of an MCH Family Planning Program - The Population Council, 1975. (Also relevant to Section II, Integration - Methodologies for Evaluation.)


V. ESCAP Programs


VI. Narangwal Project (India)
