

Researching the utilization of research for Health Policy Development : A case study in Bangladesh

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INTRODUCTION

It is often the case that research conducted outside of public sector programmes produces insights which could contribute to public policy, but that results are rejected, or, if accepted, are only partially incorporated into policy. Since this is a global problem affecting the utility of operations research in both developed and developing countries, much scientific literature has addressed the identification of barriers to research utilization.¹ Researching the utilization of research for policy development is a recent activity of the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B). The Centre has learned through its experience with health technologies that technology alone does not solve health problems. Moreover, service system strategies successfully developed in pilot projects to address cultural and operational barriers to the delivery of technology, are not automatically accepted as model strategies for dissemination.

This problem of utilization of community research for policy development is central to the discipline of community epidemiology. In the community epidemiology field, "diagnosis" concerns not only the assessment of disease patterns and the evaluation of the efficacy of health care technologies, but also diagnosis of broader social and programmatic barriers to health systems development. In this paper we present a case study of an effort to assist the Government of Bangladesh in developing its health and family planning service programmes. We present the experi-

ence of the ICDDR,B with two rural health and family planning service experiments designed to inform policy on MCH-FP service strategic planning. The two projects are (i) a project in Matlab subdistrict (upazila) known as the Family Planning Health Services Project (FPHSP),² and (ii) a project located in two other upazilas, known as the MCH - FP Extension Project, that is designed to test the replicability of Matlab service strategy.³

Our strategy for policy development is adapted from a paradigm for organizational change referred to in the organization research literature as "organization development". French and Bell have noted that organization development typically includes the following elements :

1. External organization development consultants are invited to assist an organization in improving its functioning
2. Social science research techniques are used to identify problems. Research results are fed back to program managers.
3. Joint action teams involving managers and consultants are formed at various levels to take action and feed relevant information to superiors who initiate the consultancy. In this way joint "ownership" of research and decision-making is cultivated in order to foster utilization of results.
4. Change agents are affiliated with the consultant organization and have no

formal authority in the host agency. They facilitate change through counter-part support and close liaison with implementation committees.”(4)

The Extension Project builds upon the Matlab experience and incorporates each of these features into its study design. In the organization development system presented in this case study a three component strategy is described: Component I is the special project in Matlab. Component II is a replication experiment in other areas of Bangladesh where service work in the experimental areas conducted by Government workers with Government resources and Component III is a proposed modification of the Bangladesh Ministry of Health Plan which links the research of special projects like the ICDDR,B project to central Government units for general dissemination. This 3 component approach has been developed in response to the needs of a programme that is known to face severe resource, structural, and administrative constraints. This paradigm may be relevant to other situations where a commitment to improve operations exists but a pervasive breakdown in basic service activities hamper progress. In this case study, we first review the three components of an organization development strategy. Next we discuss four types of research activities employed in this effort and their respective contributions to policy development. We conclude by reviewing the implications of the ICDDR,B experience for future work.

A THREE COMPONENT STRATEGY FOR ORGANIZATION DEVELOPMENT

The ICDDR,B experience suggests that a research paradigm that contributes to policy development best builds upon the advantages of working outside of the public sector and working inside the public sector on collaborative replication studies: First, it has been useful to create a service model and demonstrate that it works in the controlled

confines of a special research station. Next, it has been important to replicate that model in the MOHPC system. Finally, while the replication project is proceeding, it is useful to develop capabilities to absorb proposed changes by assisting planning units and service directorates in understanding the proposed changes and incorporating them into the national health scheme. We shall discuss each of these components of a policy development system, in turn.

Component I: A Research Station with a Special Project

For service research to have policy impact it is important to establish solid evidence that services can have their intended impact. This requires a special pilot area where research is well developed and operational problems that could hamper implementation are held to a minimum.

In 1977, the ICDDR,B launched a study known as the Family Planning Health Services Project (FPHSP) to address the question of whether MCH or family planning services can have an impact in poor rural traditional societies in the absence of prior changes in social norms, values, and reproductive motives.⁵ Resolving this issue was a necessary prerequisite to undertaking systematic operations research in the public sector programme: Government officers have traditionally attributed problems with their programme to societal rather than operational problems: owing to low levels of motivation to adopt services that arise from illiteracy, high child mortality, low levels of development and other factors, low levels of performance were expected and explained away as unsolvable. When poor performance of the public sector programme is viewed as determined by societal barriers rather than operational problems, interest in undertaking systematic change in the service programme is limited. Instead, discussion

focuses on "beyond family planning" strategies or "multisectoral approaches" rather than systematic diagnosis of deficiencies in the service system and the need to plan corrective action. In this respect the FPHSP has played an important role in legitimizing the need for operations research capabilities in Bangladesh.

THE POLICY IMPACT OF THE FPHSP

The FPHSP is in its eight year of operation and has produced a continuous flow of reports for seminars and publications. As such, its policy impact is likely to have been subtle, and will never be fully known. However, five areas of impact are most apparent :

(a) The underlying rationale for the national service system is supported. The FPHSP has provided strong scientific support for the premise that service intensity and quality matters : once contraceptive services are provided to rural couples, contraceptive adoption increases, fertility declines, and effects can be sustained over a period of years.⁶ Similarly, once health services are implemented morbidity changes, child survival improves, and the feasibility of health development is demonstrated.⁷ Compared to five years ago senior Government officials less frequently express the theme that weak motivation of villagers to contracept explains the failure of the programme to achieve targets. Officials now understand that a well implemented programme can have major effects, and are seeking operational changes in their programme to pursue that goal.

(b) Targets and goals of the Government programme continue to be ambitious, although the Matlab experience has contributed evidence in support of the view

that plans should be less ambitious in the future. It is likely that Government plans and projections will be more realistic as a result of the FPHSP results. While the cost and intensity of services in Matlab is sometimes viewed as being nonreplicable, the level of demographic achievement accords well with what the Government wants to achieve for Bangladesh as a whole over the forthcoming five year period. If the intensive and expensive programme in Matlab is unrealistic, the outputs already attained are viewed as being essential to achieve on a national scale, then something in the national plan must change : national goals are either overly ambitious, or efforts to replicate Matlab implementation capabilities must be accelerated.

(c) Certain aspects of research operations are contributing to a growing interest in operations research. Since demographic change is occurring in Matlab, it is increasingly common for Government officers to ask why this is the case. Recent work on the 1978-79 Matlab situation addressed the question of why some villages had high contraceptive prevalence and others low prevalence. The major factor explaining this was differential worker performance. Trained effective female field workers visiting households frequently are the key operational feature of the Matlab success, and variation in worker quality has been shown to explain much of the inter-village areal variation.⁸ When the Matlab supervisors improved worker capabilities through training and terminated ineffective workers, this variation declined : prevalence in the low prevalence villages increased, overall performance improved, and inter-village variation declined. This finding has been a key element in the current discussions of the merits of contractual arrangements for health and family planning workers

and in Government interest in developing improved criteria for worker selection.

(d) **The Matlab findings have been useful in suggesting strategies for improving integration and in depolarizing the debate over integration policy.** When FPHSP services were implemented, family planning was the first services offered; each subsequent MCH strategy was implemented in stages in order to ensure that one component worked before the others were started. Matlab experience suggests that some MCH may contribute to family planning, but that a comprehensive MCH programme need not be in place before family planning can succeed.⁵ Our experience with integration suggests that the debate over this issue has been overly polarized and is best resolved with minor operational changes focusing on the most effective roles of male and female domiciliary workers rather than standardizing job descriptions of all domiciliary workers into a common set of duties in the name of "integration."

(e) **Pilot projects by producing results, permit greater flexibility in fielding "high risk" experiments for achieving change,** when public sector service systems are in a state of virtual collapse, any collaborative effort to develop services runs a high risk of failure even if operational research successfully diagnoses problems and contributes to policy development. A successful pilot project has the practical advantage of dissipating external pressure on operation research efforts to achieve outputs, when the appropriate focus of work is diagnosis of processual barriers to performance. Two audiences for research account for the premature pressure on operations researchers to demonstrate impact :

i) Donors expect to observe impact early in a project to justify the continued commitment of funds. This creates pressures on project staff to maximize prospects of "success" even if the operational strategy developed is non-replicable. Process research, collaborative research, and systems diagnosis, aimed at questions of replication suffer as a consequence. It is vital for researchers to respond to donor concerns, in the interest of their own survival, and thus get services working early without dealing with the confounding effects of public sector operational problems. Designs which address public sector organizational problems, and simultaneously address the complex research issues on impact assessment are typically doomed from the outset because interventions focusing on organization processes, in the absence of direct input and control of external resources, are slow to have impact. Complex field demonstration projects must therefore be implemented in limited areas and isolated from the public sector organizational problems that research efforts are intended to resolve. Interventions must be carefully introduced by researchers, and project personnel must be equipped with special resources and operational structures to insure that implementation succeeds. In this way research addresses the question of whether impact occurs if implementation is complete.

While donors are often pleased with such an approach, even if the prospects for replication are remote, they argue that such special projects are best viewed as components of a broader research system in which transferability and replicability of findings are the focus of inquiry.

ii) Public sector administrators are typically unimpressed by recommendations for operational changes unless prospects for impact are assured. Nothing succeeds in the utilization of research results so much as

success itself. Much of the official interest in the FPHSP is derived from its success, and the desire to replicate this success on a wider scale. While the Matlab project is often criticized as non-replicable, it would have been fatal to the goal of policy development to have it criticized as a failure.¹⁰

Component II: A Replication Experiment for Problem Solving :

The central dilemma in setting up special projects is that the autonomy that is required to permit implementation produces isolation and administrative barriers to the ultimate utilization of results for policy. The MCH-FP Extension Project is designed to bridge the gap between the autonomous Matlab project and the MOHPC programme. In this new project the successful service strategies developed by the ICDDR,B in its Matlab research station are now being tested by Government workers, using Government resources only, and guided by Government regulations and policies. In Matlab new MCH modalities continue to be introduced, tested and refined for possible dissemination in the future. In the Extension Project, however, work is organized by Government-ICDDR,B joint activities committees (Project Implementation Committees, PIC) constituted to test the feasibility of Ministry of Health and Population Control (MOHPC) replication of components of the FPHSP. While the ICDDR,B is assessing the impact of transfer of ICDDR,B—MOHPC collaborative approaches to the MOHPC system, the primary focus of research activities is on operations research on the transfer of innovation with the aim of assessing how the national programme can be improved. Such work is more relevant to policy than work from Matlab because it focuses directly on Government operations.

The Organization Development Paradigm

The Extension Project strategy is best described as an effort to create operational "cohesion" among Government health and family planning staff at four levels: i) the union, a level corresponding to the primary unit of formal Government in Bangladesh with a population of approximately 25,000, ii) the subdistrict or "upazila," a unit of government with a police station, health complex and an administrative office typically comprised from 8 to 10 unions, iii) the district, of which there are 64 in Bangladesh, each with 5 to 10 upazila, and iv) the central offices of the MOHPC. By "cohesion" we mean a capacity for key individuals to work together to achieve an understanding of the major operation problems, the requisite steps needed to resolve them, to effect coordinated interventions through a pooling of available resources, and hence progress towards introducing change. Of the four levels mentioned, the upazila and union mechanisms presently function, although the quality of union level project activities is variable. The central mechanisms for organization development work are only beginning to function, although the MOHPC has recently endorsed the creation of mechanisms which, if instituted, will complete the four areal levels of the system envisioned. These central mechanisms are detailed in Component III.

This paradigm is adapted from organization development work elsewhere which suggests that prospects for introducing change are assured if there is involvement of all key levels of the organization; that is, if the intervention is **systemic** and not merely focused on the problems of the service system in one or two localities. Several stages in the OD process have been noted :

CENTRAL LEVEL COMMITMENT AND SOCIETAL CONSTRAINTS.

The need to improve the management of the public sector programme in Bangladesh has long been acknowledged by the Government, although strategies for developing the programme tend to focus on components of the problems, rather than plans for major structural changes. The GOB assessed limitations of the programme operations in the course of a 1980 formulation of the Bangladesh Second Five Year Plan :

"Although the level of family planning practice increased from 9.6 percent of eligible couples in 1975 to about 14 percent during 1979/80, the Two Year Plan target of achieving 22 percent users could not be reached owing to the following limitations :

- i. Lack of cooperation between the Health and Family Planning workers, particularly at the lower level;
- ii. Inadequate training of field workers and lack of proper reporting, monitoring and supervision at different functional levels of the programme;
- iii. Lack of community support;
- iv. Ineffective functioning of Co-ordination Committees set up at different operational levels, and
- v. Low worker-population ratio and absence of male workers at the village level (11)."

Although the Government recognizes the general problem of operational breakdown, specific operational solutions are lacking. Moreover, most of the operational problems noted have underlying societal determinants which greatly complicate organizational development efforts. Lack of cooperation among peers, inadequate training monitor-

ing and supervision and lack of community support effects line functions at all levels. Lack of community support derives from weak traditions of community organization which leads to a failure to hold any public sector programme locally accountable for performance. This is which, in turn, affected by weak "coordination" within all public sector programmes exacerbated by weak community leadership, political fragmentation and uncertainty, and public administrative problems at all levels. Thus efforts to marshal community, political support for the programme inflicts societal problems on the programme rather than enrolling resources in the national population planning effort. Eliciting broader institutional support faces formidable obstacles. Each problem, noted in the Second Plan, has underlying social, historical, and economical determinants which create a system of constraints to programme development.¹²

1. Strengthening commitment.

Recognition of these problems is among the factors that led the Government of Bangladesh to request the ICDDR,B to extend the Matlab project to Government areas. While not explicitly stated in this request there was an implicit recognition of the general problems of the public sector and the possibility that transfer could be achieved only through careful diagnosis of problems. This request arose from the Planning Commission as a condition for Government of Bangladesh for external funding of ICDDR,B project in Matlab. Neither the MOHPC nor the ICDDR,B was involved in the early period of project formulation. Neither institution viewed its role as a collaborator in a process of organizational change. In this sense the organization development paradigm was initially weak because institutional commitment to the concept was external to key participants and

had to evolve within the ICDDR,B and the MOHPC with Planning Commission prodding

Although the ICDDR,B project staff became committed to the process of organization through planning and implementation of the project, the development of MOHPC commitment to organization development continues to be ad hoc, possibly temporary, and dependent on interpersonal relations. A major factor contributing to project credibility and usefulness to the MOHPC has been the concomitance of project activities with Government of Bangladesh planning for the Third Five Year Development Plan. The planning process began in the spring of 1984 in anticipation of launching the third plan in July, 1985. This heralded a period of relative openness to change on the part of policy makers and planners in the Ministry. Although restructuring of the Ministry has not been consideration changes in specific programmes, new cadres of workers, and alternative logistics plans, have been open for discussion and all of these operational issues have been themes of Extension Project research. Donor influence and pressure are obvious during this period, as the population Control Programme of Bangladesh is largely supported by donor-funds.

These two factors, the openness of the Ministry to change, and donor pressure, have created an atmosphere in which Ministry officials are listening to lessons of special project. As a project specifically focused on diagnosing operational problems of the MOHPC delivery system at the field level, the Extension Project brought insights to officials developed from systematic research. Ministry officials, at first reluctant to take the time to hear project reports, are now requesting project staff to present findings on specific issues.

Organization Development as a problem solving process, was developed in the field with upazila MOHPC Project Implementation Committees (PIC). This was a necessary fallback position from the usual organization development strategy pattern of forming a joint problem solving teams at the top of the organization – since a top level committee would probably have become a dysfunctional obstacle in the diagnosis of operational problems in the early stages of project development. First, it seemed necessary to form a collaborative entity at a level where officers are considered influential, yet approachable. After considerable discussion regarding which level, in our judgement, could be worked with and would have authority to act, if an agenda for action were jointly developed, we selected the upazila as our first site for forming PICs.

UPAZILA COMMITMENT :—

The PIC Committees are constituted in each of the two project upazilas, Abhoynagar of Jessore district and Sirajgonj of Sirajgonj district. The two MOHPC officials who hold authority over the health and family planning programmes in the upazila, the Upazila Health and Family Planning Officer, and the Family Planning Officer are the Chairman and Member Secretary; the MOHPC Medical Officer for MCH and the Health Inspector are Members along with two technical officers assigned to the project upazila by the ICDDR,B

Although the PIC mechanism has ultimately become a vital resource in the organization development process, these committees were initially weak: orders in the form of letters from the highest level of the MOHPC were drafted and promulgated which instructed officers to convene committees and to cooperate with the ICDDR,B but no one was clear as to what cooperation

meant and what specifically was to be done. Moreover, it soon became obvious to MOHPC officers that, as change agents, the ICDDR,B scientists had no formal authority. Hence, it is understandable that the upazila officials first response was "you may do anything you like, and we will cooperate". PICs were established in each of the project upazilas to set overall objectives, diagnose operational difficulties, make specific intervention plans, and to take action on project activities. These activities, however, were unfamiliar to Government officers. Not surprisingly, no such meetings existed prior to Extension project intervention: meetings were previously ad hoc, unfocused, and addressed to vetting disputes or responding to orders rather than to planning, problem solving, or taking initiatives. Resources needed for such meetings, though small, did not exist, and the tea and snacks provided by the ICDDR,B for PIC meetings were perhaps more significant to motivating participants to attend meetings aimed at fostering cooperation with the project in the initial stages than the orders from Dhaka.

This passive stage of PIC turned to hostility, even at times of aggression, when the upazila officials perceived that project staff had direct contact with their superiors through visits made by higher MOHPC officials to project sites. This perception was accurate in that project staff in Dhaka could discuss project findings and invite senior officials to the field, but the threat perceived in this mode of operation was more perceived than actual. At that time officials were interested more in coping with visits and impressing senior officers than in creating change in their programmes. However, these visits did have another effect, and that was to motivate upazila officials to take pride in their work and to have something concrete to demonstrate as an accomplishment. This precipitated a new period – active involvement.

2. Active Involvement :

A new energized atmosphere surrounded PIC meetings when discussions focused on concrete activities. Diagnosis of field problems pointed initially to the inadequate technical training of field staff. This is a well recognized problem within the MOHPC as training programmes intended to solve problems have been poorly designed, didactic and remove workers from the job site to district centres where practical demonstrations are not possible. Practical problems are therefore often ignored and training is typically diffusive focusing on too many topics and technologies, rather than on creating a system of work. PIC decided that their first collaborative activity would be a training programme for all field staff and their immediate field supervisors focused on developing skills in those areas relevant for their scope of work: all family planning methods, diarrhoeal disease management and EPI, specifically tetanus toxoid immunization.

TRAINING PARTNERSHIP WITH UPAZILA OFFICIALS :

Training was jointly organized and conducted by ICDDR,B staff and upazila officials. Only on exceptional occasions in the Government are upazila officials given the responsibility to conduct training courses for field staff. The decision to engage in a collaborative training programme with Government officials at the upazila level had several distinct advantages. First and most importantly, it provided upazila officials with the necessary motivation to participate in the training programme. The quality of the lectures and training sessions for which upazila staff assumed responsibility varied. The technical quality of the training programme might have been slightly superior if

only ICDDR,B trainers, who relied heavily upon the experience and participation of Matlab personnel, had been in charge. However, this would have been at the expense of what became an intense involvement and interest of upazila officials in this training programme and thereby indirectly in the overall project.

Each session was jointly conducted by an ICDDR,B trainer and upazila staff. As a consequence, upazila officials were exposed to their field staff for a longer period of time than they ever had to deal with them prior to this activity. Moreover, since ICDDR,B trainers set the tone and insisted upon group discussion, upazila officials were obliged to work with trainees in a guiding, directing role, and not in the disciplinary mode which they normally adopt. Indirectly then the training programme contributed towards improving the supervisory skills and field orientation of upazila officials.

Although the training programme was a major step forward in developing the active involvement of upazila officials in the project and in their own field programme, it required more than a full year of continuing intensive organizational endeavor to train all field workers in a batchwise fashion. A somewhat condensed training programme would have made it possible to focus more clearly on field implementation.

An option sought by the ICDDR,B, but rejected by the MOHPC officers was a two stage procedure whereby coursework would train supervisors to be trainers of field staff, and field staff training courses would be conducted simultaneously in several unions at once. This approach, successfully used in Matlab, was rejected because Upazila officers would not receive honoraria for training unless they conducted sessions personally.

3. Assuming ownership :

Assuming ownership of the project has meant that upazila officials recognize and utilize the flexibility within their limited authority as heads of the upazila health and family planning programme. This is a large step from "active involvement" which presumes that leadership and direction for the project resides outside the MOHPC. It requires an attitudinal change ; no longer are the upazila officials just recipient and implementors of orders made at the central level, they can determine how to use their available resources to effect better programme implementation according to the priorities and conditions in their own area. Learning to view operational problems as something that they as managers of resources could attend to was a first step. Working together to strategize on how best to use their available resources, both human and material was a second step. Officials began their newly acquired flexibility during the planning and implementation of the training course. This was augmented by a collaborative attempt to set up field demonstration areas. And they began to see its benefit when field workers were successful to control the effects at a diarrhoeal epidemic.

Officials started to receive external recognition from working in the project :

- They had trips to Matlab to view the FPHSP programme and participated as instructors of a course for the Matlab paramedics.

- They prepared and presented papers for a national fertility research conference describing their work on the project. This brought them into direct contact with Ministry officials who discussed their work following their presentations. And ...

The MOHPC officials asked them to carry out a feasible study of a worker award scheme. Although ICDDR,B staff were initially involved as liaison between the Ministry and upazila officials, the final report was discussed directly between the two.

The receptiveness of Ministry officials to the new role the upazila officials were playing in project sites was a necessary condition for legitimizing their exploration of the limits of their authority. They now see PIC as an institution through which to diagnose problems, strategize to overcome them, and take decisions. PIC's authority is also recognized by their subordinates, of whom the field supervisors in one area are now petitioning for membership.

However, there is still much room for improvement. Diagnosing and strategizing over operational problems are only part of the skills required; actual field assessment of the interventions through observation, worker or client interviews or even data collection and analysis, is a step still led by ICDDR,B staff. And only continued recognition and reward from Ministry officials for these activities will provide the impetus to the upazila officials to sustain even their present sense of leadership and authority.

4. Large Scale Implementation :

With the maturation of collaborative relationships it has been possible to begin major changes in the content of health and family planning services. Selective MCH and family planning service components have been introduced which included domiciliary injectable contraceptives, tetanus toxoid, and ORS. The objective has been to focus workers on implementing a few services well than on introducing an unmanageably complex programme. This approach of step

by step service development was used in Matlab, and differs markedly from official Government guidelines which call for a 27 component MCH programme.

Female field workers, are replicating the Matlab practice of administering injectables to women in their homes, and paramedics have launched a domiciliary tetanus immunization programme. This immunization strategy is found superior to the usual MOHPC programme run by a single technician at the upazila health complex, but the Upazila officials have decided that a broad spectrum immunization programme utilizing the health field workers will increase coverage within a shorter period of time.

The officials also discussed the need for widespread ORS distribution among themselves at PIC meetings, and instructed field workers on diarrhoeal management during their training. They ensured that each field worker had a supply of ORS to carry with them. Early detection and treatment of diarrhoea in 1984 resulted in fewer case fatalities than previously experienced.

Component III: Mechanisms for Research. Utilization: Linkage with Planning Units

The organization development paradigm represented by the Extension Project is aimed at assisting a fundamentally troubled administrative system to change dysfunctional procedures and remove barriers to progress that permeate the MOHPC system. However, this weak operational capability also impairs the institutional capacity to absorb and understand project recommendations arising from project research. Efforts to change this situation initially involved interchanges with senior officers to communicate

research findings or to request letters and orders to resolve particular problems.

More recently this pattern of active communication by project staff to a passive MOHPC bureaucracy has changed so that requests for the Extension Project staff to conduct field work are being raised by senior MOHPC officers. With this change there is also a growing commitment to create mechanisms for MOHPC diagnosis and problem solving, and to build a standing unit which can assist senior officials in problem solving activities. The objective is to institutionalize the process of identifying problems seeking solutions and to foster mechanisms for coordination of special projects with the planning units of the implementing agencies of the Government. Weak mechanisms for interpreting research and formulating plans on the basis of research outcomes, are to be addressed in forthcoming technical assistance projects. It is likely that a system of field research and implementation will be created involving a partnership between the MOHPC and several non-governmental organizations. If successful the new unit will build upon the special implementation capabilities of projects in small areas and serve the need of the Government for a means of testing new strategies and orders, of observing over time operational problems and alternative solutions, and of receiving systematic feedback from the field on operational problems.

While it is early in the formulation stage, it seems timely that a management development unit in the public sector will be created and staffed by officers who are to be the primary audience for special project research and Government counterparts in research execution. Plans, currently under discussion, are to establish a small standing unit for research utilization and planning within the

MOHPC and a management development committee in Dhaka comprised of key implementers and representatives of field projects. Special research organizations, such as the ICDDR,B will retain their autonomy but efforts to improve collaboration with the Government on projects, such as the Extension Project, will be undertaken. In a few selected districts there will be committees constituted with a mandate to protest Government orders, conduct feasibility studies of proposed changes, and feed results up to the national management development unit. These special implementation districts will include the districts where the Extension Project upazilas are currently located. In this way, a vertical linkage system will be in place involving MOHPC structures that run parallel to the ICDDR,B organizational development effort. The goal is to institutionalize the commitment to undertake change, the process of problem solving within the Government, and the requisite levels of the MOHPC hierarchy to insure that interventions are systematic and not merely aimed at creating more special projects in more localities.

RESEARCH STRATEGIES

TYPE OF RESEARCH :

We have outlined an organization development strategy with three components, all of which depend upon operations research. The research activities of the Extension project fall into four general categories, each of which has had contributions to policy :

1. MOHPC Initiated Research :

The Extension Project is conducting research or undertaking activities initiated by senior Government officials and implemented by upazila level officers with the ICDDR,B playing a facilitating and coordina-

ting role. Examples of this type of research include a recent study on implementation of a domiciliary injectable programme¹³ by family welfare assistants (FWA), a study of a proposed worker award scheme,¹⁴ and a forthcoming study on targets and referral fees.

A major project activity in recent months has been in collaboration with the Management Information System (MIS) unit on developing field monitoring systems for the FWA programme. Field systems have been tested, modified, and developed according to MOHPC specifications but using the special ICDDR,B research system in 18 unions to gauge system accuracy and reliability.¹⁵

Collaborative system development also involves strategic planning for health services improvement: experimental field training programmes are being designed and a pretest of the expansion of the FWA cadre is expected to begin by mid-1985.¹⁶

2. Research conducted by MOHPC officers :

The second type of research fielded by the MCH-FP Extension Project are Government officer directed studies on specific operational problems. These concern barriers to implementing programme services, barriers to the transfer of innovations from Matlab to the Government sector programme, case studies of project strategies, and other issues of direct interest to Government officers in the upazilas of the project. Some of these studies are ICDDR,B initiated, but all are informed by the administrative experience and expertise of MOHPC district or upazila level officers.¹⁷

3. ICDDR,B designed and implemented research on MOHPC operations :

A third area of research concerns special

studies designed and implemented by ICDDR,B scientists to diagnose operational problems of the public sector programme. Examples of this type of study are : a regression analysis of the relationship between the density of female service providers and the contraceptive prevalence rate,¹⁸ the relationship between the implementation of the Health and Family Welfare centers and patterns of health care provision,¹⁹ and studies of the determinants of worker performance.²⁰

4. ICDDR,B Research on ICDDR,B Operations :

A fourth area of research concerns issues of general policy significance regarding strategies for MCH and family planning services and are best pursued in Matlab where services are known to be well implemented and research can directly address the questions related to impact of particular strategies or technologies without the potentially confounding effects of operational limitations of the service system.²¹

THE UTILIZATION OF RESEARCH :

All four areas of research are potentially useful for policy development, the first because research initiatives from the Government are central to strategic planning, the second because the insights of Government officers in the upazila can provide a form of communication from the field to central authorities that is otherwise lacking, the third because key operational issues not readily identified by administrators can be articulated and communicated to policy makers, and the fourth because certain assumptions that underlie general policy are often untested by systematic research on the determinants of demographic dynamics. Such research, investigated in the context of rural Bangladesh, is more readily utilized for

policy than research conducted elsewhere where social and institutional conditions differ.

While all four types of research are potentially relevant to decision making, their relative impact upon policy has differed. The first type of research, because it is initiated by senior officials, is most directly relevant to their current interests, and has had the most immediate impact on decision making. Such research requires careful implementation and prompt communication of results to administrators for action. Easy to read reports with clearly defined action implications are crucial to this work.

The second type of research also has impact on official policy because the work is perceived as Government owned and initiated and therefore questions concerning the relevance and appropriateness of the work do not arise. The credibility of Government officers in the field is based on their practical experience with the programme which scientists lack. The questions that they formulate and answer with scientific support thus have a particular relevance to policy planning. This second type of research has had a limited impact on operational policy, however, as the questions and answers that arise are not yet on the agenda for administrative action.

The third type of research has an impact on policy because it focuses on **Government** operations and concerns variables that are within the control of policy makers to manipulate. Studies of female Government worker density suggest, for example, that hiring more female workers would produce better results. Similar work on non-government workers would be dismissed as irrelevant to MOHPC decision making. For this reason studies of the use effectiveness of

family planning in Matlab may have limited policy impact because the special resources in Matlab and unusual administrative conditions there detract from the substance of what is being learned. While this third type of research is potentially useful for policy making it requires careful communication to administrators in language that is readily understood and efforts to develop MOHPC ownership of the research design and outcomes should occur at the outset of the study.

The fourth type of research can have major impact on general policy development. The Matlab findings, for example, suggest that family planning services can affect fertility despite the lack of any evidence of prior sustained social and economic change in that locality. However, since the Government is neither the owner of the research design nor directs the service operations in the field the impact of much of what is learned about the specific operational lessons of the service system in Matlab is not accepted at face value. Service operations are not accepted as realistic and therefore the research conducted on that system is not considered relevant to operational decision making.

CONCLUSION

There is much discussion in the health and population policy literature on alternative policies, community service strategies, and the efficacy of alternative technologies. Relatively little attention is addressed to the question of how health service strategies, once developed can best be incorporated into policy. Demonstrating that something works is critically important. Having done so, however, is no guarantee that the health service strategy will be adopted as policy. This issue of the need for appropriate paradigms for policy development is particularly important in settings, such as Bangladesh, where institutional capabilities to absorb,

interpret and translate research into action are extremely limited. The limited capacity to utilize research is a reflection of the very operational problems that research is intended to solve.

The ICDDR,B experience suggests that a complex service and research strategy is appropriate :

1. Special projects are needed, such as Matlab, where services can be developed and impact assessed without the operational barriers to success that hampers progress in the public sector programme. In our view, a special and somewhat isolated service system is vital because it permits identification of strategies that work. Nothing contributes more to the message that an idea should be used than evidence demonstrating that it has impact.

2. Special projects, however, are especially isolated from the programmes that are to be influenced by their outcomes. Administrative isolation permits flexibility and fosters special project implementation, but brings into question the replicability of results. Costs are relatively high, small autonomous administrative systems cannot be replicated, and the isolation of decision makers from project design and operation weakens the notion that special projects are useful for wider application. Therefore, just as special projects are needed for strategy development, collaborative projects are needed for testing replicability. The ICDDR,B and the Ministry of Health and Population Control (MOHPC) have therefore fielded a joint project in areas far removed from Matlab where Government workers provide services, Government rules and procedures apply, and the ICDDR,B provides counterpart support in the introduction of new strategies and operations research support on barriers to implementation.

The pattern of utilization of the MCH-FP Extension Project research for policy has been instructive in suggesting a general framework for management development.

It has been valuable to have a project that focuses on MOHPC operations but is not formally a part of the public sector system. The ICDDR,B flexibility to hire, terminate, and direct temporary field workers gives that institution flexibility that the public sector lacks.

Despite the need for project autonomy it is instructive that the utilization of Extension Project research is more readily obtained when the research design and research outcomes are perceived as government initiated and operated. Yet, the performance of public sector research institutions around the world suggests that conducting research in semi-autonomous institutions is preferable to placing research agencies inside service bureaucracies: Subsuming operations research units into service organization on the research system that is intended to solve such problem: Therefore special linkage units are needed for creating productive interchange between planning units of the Government and operations research projects in the field.

The principal lesson from the MCH-FP projects is that no one type of research suits the general needs of policy makers. Special projects are both important advantages and disadvantages. Replication studies are relatively difficult to implement, but results are more generally utilized than findings from special projects. Intraorganizational research units are needed to maximize the contribution of special projects, but such units typically fail to produce results if isolated from special field activities. However, a system of research, building upon the

advantages of each type of research paradigm, can make important contributions to policy.

FOOTNOTES

1. A use overview of the literature on research utilization appears in Glaser, et al., 1983. This literature focuses primarily on private sector organizations in developed countries, however Research on public bureaucracies and utilization of research for change is rare. To one knowledge, no other systematic effort to research barriers to research utilization in third world health and family planning programmes is in progress other than the present case study.
2. The design of the FPHSP is presented in Bhatia, et al., 1980.
3. The design of the Extension Project is presented in Phillips, et al. 1984.
4. See French and Bell, 1978.
5. Both the health and population policy literatures have parallel controversies on the importance of social change and economic development as key determinants of health development or demographic change. The development versus health service controversy is discussed in Bell (1980) and in de kadt and segall (1981) and Illitch (1975). Proponents of the view that programs can only serve as an adjunct to societal change have published extensively in the population policy literature. See, for example, Blake and Das Gupta (1975), Davis (1969) and Hernandez (1981)
6. Phillips, et al., (1982) showed that the FPHSP has had substantial fertility effects. Chowdhury, et al., (1984a) updated this analysis and showed that effects have been sustained with time.
7. Mortality effects are also noted. See Chen et al., (1983) and Chowdhury, et al., (1984b).
8. The recent doctoral dissertation of Makhlesure Rahman examined determinants of areal variation of contraceptive prevalence in Matlab (Rahman, 1984)
9. See phillips, et al., (1984a)
10. See phillips and koblinsky (1984).
11. This theme appears frequently in the organization development literature. See, for example, Souder, and Ziegler (1977).
12. See the Second Five Year Plan Published by the Ministry of planning (1980). A useful discussion of structural and operational problems also appears in a WHO-MOHPC joint health planning document (MOHPC, 1977a and 1977b). A more recent review, focusing on the population sector is also instructive (see Chauls, et al., 1984).
13. Ali, et al., (1984) described the methodology of a domiciliary injectable contraceptive administration, its follow-up problems encountered and its success since its introduction by a request from the MOHPC. The study was conducted to feed-back to policy makers of MOHPC ABOUT back to policy makers of MOHPC about the new strategy of implementing domiciliary injectables by FWA, a female family planning field worker with one having any para-medical background. Conventionally the injectables were administered at clinics by paramedical staff. However, an unmet demand for the method does exist as revealed by a recent survey data and the upazila level officials responded to a request from the MOHPC to test the feasibility of administering injectables at door step. See also, Huque et al., 1984.

14. The MOHPC requested the project Implementation Committee (PIC) on September 14, 1984 to conduct a feasibility study of a draft circular on the worker Incentive Scheme, a proposed award for higher achieving field workers of the health and population wing of the MOHPC. The PICs met several times in the two study upazilas of the Extension project in order to implement the draft circular, identify areas where the final recommendations are now being considered by the MOHPC for implementation in the national award scheme (Project Implementation Committee, 1984).
15. Collaboration between MIS and the Extension Project has already begun with the designing of new FWA record keeping form for trial in the experimental upazilas in 1985. Modules for training FWAs and their supervisors to maximize record use for doing management of clients and programme supervision are now underway.
16. ICDDR,B research on service operations consistently demonstrates the need for a larger female village based work force than is now mandated by the MOHPC. Research shows that contact by outreach workers has had a greater impact on family planning use than services in fixed locations. For details see phillips and koblinsky (1984).
17. Several studies related to service implementation have been documented and presented by the upazila and district officers to the conferences attended by high level policy makers. Examples may be cited to the paper written by Zaman et al., (1984) on a case study of factors contributing to a rapid increase in contraceptive prevalence in a low prevalence union; paper by Khan et al., (1984) on a case study of the Government's IUD programme a paper by koblinsky et al., on implementation of Bangladesh national program for diarrhoeal management at the village level. See also, Simmons et al., (1984).
18. See phillips and koblinsky, 1984.
19. See phillips and koblinsky, 1984.
20. A forthcoming series of studies of workers is under preparation.
21. See phillips et al., 1984b and koblinsky et al., 1984.

REFERENCES

- Ali, M.L., M.A. Rahman and M. Aminur Rahman
1984 "Doorstep administration of injectable contraceptives by the family welfare assistants in Abhoynagar Upazila: A domiciliary injectable contraceptive programme," paper presented at the 9th Annual Conference of the Bangladesh Fertility Research Programme. Dhaka: November 14-15.
- Bell, D.E.
1980 "Introduction," **Special Issue: Health and Population in Developing Countries, Social Science in Medicine**, 14c(2): 63-65.
- Bhatia, S., W.H. Mosley, A.S.G. Faruque, and J. Chakraborty
1980 "Reproductive motivation versus contraceptive technology: Is recent American experience an exception?" **Population and Development Review**, 1: 229-250.
- Blake, J. and P. Das Gupta
1975 "Reproductive motivation versus contraceptive technology: Is recent American experience an exception?" **Population and Development Review**, 1: 229-250.

- Chauls, D., B. Ryder, and W. Zaman
1984 "An assessment of management of the Bangladesh population program," Boston: Management Sciences for Health (mimeographed).
- Chen, L.C., M. Rahman, S. D'Souza, J. Chakraborty, A.M. Sardar, Md. Yunus
1983 "Mortality impact of an MCH-FP program in Matlab, Bangladesh," *Studies in Family Planning*, 14: 199-209.
- Chowdhury, A.I., J.E. Phillips and J. Chakraborty.
1984a "Recent trends in contraceptive use prevalence and fertility in Matlab: possible implications of recent demographic dynamics for policy," paper presented at the Second Annual Conference of the Indian Society for Medical Statistics, Lucknow (November 23-24).
- Chowdhury, A.I., J.E. Phillips, A.K. Shaik
1984b "Trends in neonatal, infant, and child mortality over the baseline and project period of the Matlab Family Planning Health Services Project," paper presented at the Annual Meeting of the Bangladesh Population Association, Dhaka: August 22-24.
- Davis, Kingsley
1969 "Population Policy: Will current programs succeed?" *Science* 158 (380): 730-739.
- Dekadt E. and M. Segall (eds.)
1981 "Health needs and health services in rural Ghana," *Social Science and Medicine* 15A: 397-518.
- French, W.L. and C.H. Bell
1978 **Organization Development - Behavioral Science Interventions for Organization Improvement** Prentice Hall International Second Edition.
- Glaser, E.M., H.H. Abelson, K.N. Garrison
1983 **Putting Knowledge to Use**, San Francisco: Jossey Bass.
- Hernandez, D.J.
1981 "The impact of family planning programs on fertility in developing countries: A critical evaluation," *Journal of Social Research*, 10: 32-66.
- Huque, A.A.Z., M.A. Koblinsky and J.F. Phillips
1984 "Operational barriers to implementing a domiciliary injectable contraceptive programme in rural Bangladesh," paper presented at the Annual Conference of the Bangladesh Population Association, Dhaka (August).
- Ilitch, I.
1975 **Medical Nemesis. The Expropriation of Health of Health**. London: Marion Boyans.
- Khan, A.L., T. Islam, A. Rahman
1984 "A case study of the Government's IUD programme: Barriers to implementation," paper presented at the 9th Annual Conference of the Bangladesh Fertility Research Programme (BFRP), 14-15 November, Dhaka.
- Koblinsky, M.A., J.F. Phillips, Md. Yunus, and R. Simmons
1984 "Barriers to implementing an effective national MCH-FP programme," paper presented at the Annual Meeting of the National Council for International Health, Washington, D.C. (June 10-13).
- Koblinsky, M.A., A.A.Z. Huque, L. Baqee, T. Islam, A. Rahman and S. Ali
1984 "Implementing the Bangladesh national programme for diarrhoeal

- management at village level," a mimeographed paper of the International Centre for Diarrhoeal Disease Research, Bangladesh, Dhaka.
- Ministry of Planning
1980 **Draft Five Year Plan : 1980.** Dhaka : Planning Commission of the People's Republic of Bangladesh.
- Ministry of Health and Population Control
1977a **Country Health Programming Bangladesh : Programme Proposal,** Dhaka : Ministry of Health and Population Control and the World Health Organization.
- Ministry of Health and Population Control
1977b **Country Health Programming Bangladesh : The Information Document,** Dhaka : Ministry of Health and Population Control and the World Health Organization.
- Phillips, J.F. and M.A. Koblinsky
1984 "MCH - FP research for programme development. A briefing paper prepared by the International Centre for Diarrhoeal Disease Research, Bangladesh for the Bangladesh Ministry of Health and Population Control", (manuscript).
- Phillips, J.F., R. Simmons, J. Chakraborty, and A.I. Chowdhury
1984a "Integrating health services into an MCH-FP program : Lessons from Matlab, Bangladesh," **Studies in Family Planning**, 15(4) : 153-161.
- Phillips, J.F., W. Stinson, S. Bhatia, M. Rahman, and J. Chakraborty
1982 "The demographic impact of the family Planning Health Services Project in Matlab, Bangladesh," **Studies in Family Planning**, 13(5) : 131-140.
- Phillips, R.F., R. Simmons, G. Simmons and Md. Yunus
1984b "Transferring health and family planning service innovations to the public sector : An experiment in organization development in Bangladesh," **Studies in Family Planning**, 15(2) : 62-73.
- Project Implementation Committees
1984 "The worker incentive scheme : A feasibility study in two upazilas by the project implementation committees, Abhoynagar and sirajgonj, MCH-FP Extension Project," (unpublished manuscript).
- Rhman, Makhhsur
1984 **Determinants of areal varying in contraceptive practice in Bangladesh,** A thesis presented for the degree of Doctor of philosophy at the Research School of Social Sciences, Canberra : The Australian National University
- Rahman, Ali L., A. Rahman
1984 "Doorstep administration of injectable contraceptives by the Family Welfare Assistants in Abhoynagar Upazila : A domiciliary injectable contraceptive programme," paper presented at the 9th Annual Conference of Bangladesh Fertility Research Programme (BFRP), 14-15 November, 1984, Dhaka.
- Simmons, R. : M.A. Koblinsky and J.F. Phillips
1985 "The societal determinants of client relations", paper presented at the Seminar on Societal Influences on Family Planning program performance of the International union for the Scientific study of population. Jamaica (April 10-13).

- Simmons, R., J.F. Phillips, and Mizanur Rahman
1984 "Strengthening government health and family planning programs: Findings from an action research project in rural Bangladesh," **Studies in Family Planning**. 15(5): 212-221.
- Souder, W.E. and R.W. Zieler
1977 "A review of creativity and problem-solving techniques," **Research Management** 20(4): 34-42.
- Zaman, M.A., and S.M.S. Islam
1984 "A case study of factors contributing to a rapid increase in contraceptive prevalence in a low prevalence union," paper presented at the 9th Annual Conference of Bangladesh Fertility Research Programme (BFRP), 14-15 November, Dhaka.