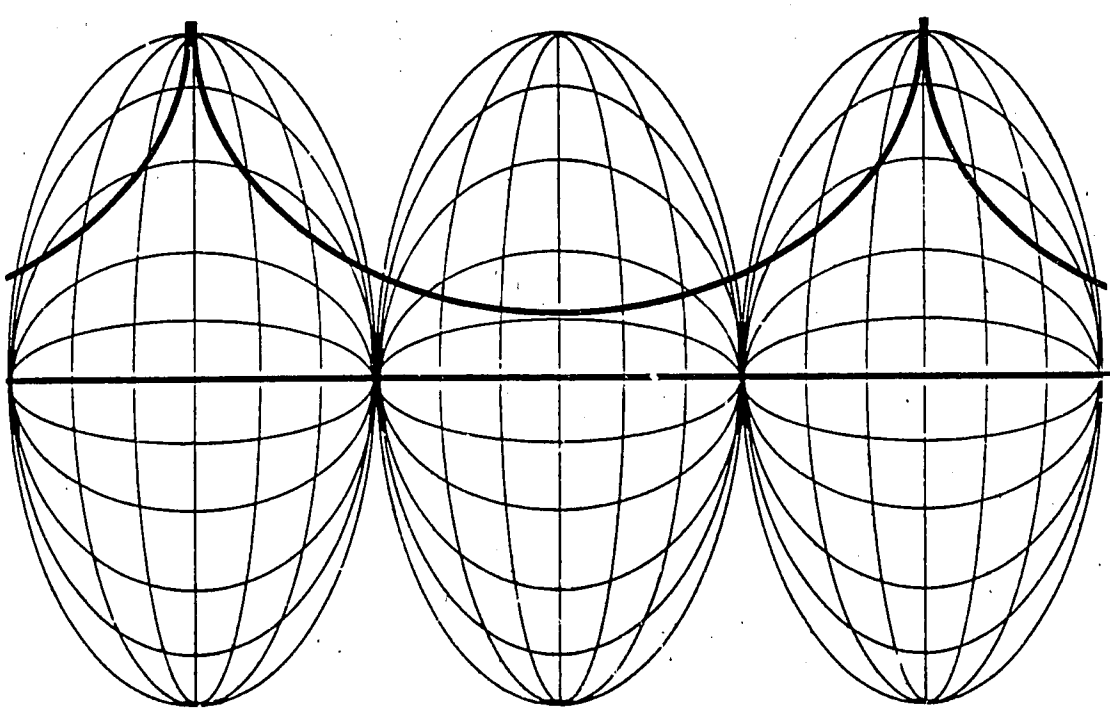
PN-ABF-126



B • R • I • D • G • E • S

Basic Research and Implementation in DevelopinG Education Systems

CASUAL PAPERS

The Basic Research and Implementation in DevelopinG Education Systems Project (BRIDGES) is directed by the Harvard Institute for International Development and the Harvard Graduate School of Education, under Cooperative Agreement No. LDP-5824-A-5076 with the Office of Education, Bureau for Science and Technology, United States Agency for International Development. Also participating in the Project are the Institute for International Research, Michigan State University, the Research Triangle Institute, and Texas Southern University.

The BRIDGES Project includes educators, researchers, planners, and policy makers committed to improving opportunity and quality in Third World Schools. The goal of their collaborative effort is to identify policy options that will increase children's access to schooling, reduce the frequency of early school leaving and repetition, improve the amount and quality of what is learned, and optimize the use of fiscal and educational resources.

The Casual Papers are a collection of research reviews and original research papers written by BRIDGES researchers. These papers are prepared for dissemination to educational policy makers, planners, managers, and researchers in BRIDGES' participating countries.

For more information on this or other BRIDGES documents, please contact:

BRIDGES Publications
Gutman 442
Harvard University
Cambridge, MA 02138
USA
617/495-9720

or

Office of Education
Bureau for Science
and Technology
Department of State
USAID
Washington, D.C. 20523
703/235-8980

PN-ABE-726
ISN 67401

THE IMPLEMENTATION OF EDUCATIONAL INNOVATIONS IN PRIMARY EDUCATION IN PAKISTAN

Donald P. Warwick, Fernando Reimers, and Noel McGinn
Harvard Institute for International Development

Papers on Primary Education in Pakistan. Report # 1. 1989.

THE IMPLEMENTATION OF EDUCATIONAL INNOVATIONS IN PRIMARY EDUCATION IN PAKISTAN

Donald P. Warwick, Fernando Reimers, and Noel McGinn[1]
Harvard Institute for International Development

Since its founding Pakistan has undertaken numerous reforms of its primary schools, but most did not succeed in raising enrollment to the level desired by the government and in making substantial improvements in the quality of schooling. In 1979 the government announced its National Educational Policy which suggested the universal enrollment of boys by 1986 and of girls by 1992. While those targets were unattainable, they showed a new desire to strengthen primary education. Additional support came with Pakistan's Sixth Plan (1983/84-1987/88). This document urged greater educational opportunities for girls and rural people as well as increased adult literacy.

Faced with new evidence that the goals of the Sixth Plan could not be achieved, the Prime Minister in 1986 introduced a Five-Point Program for Economic and Social Development. It called for opening 20,316 mosque schools and 26,687 new primary schools; additional enrollment in primary schools of 2.06 million children; expansion of school supervisory staff and other changes.

This paper addresses the implementation of five innovations in primary education over the past decade: (1) the introduction

of Learning Coordinators to improve the supervision of schools and the quality of teaching; (2) the use of teaching kits to improve the teaching of mathematics, science, social studies, and Urdu; (3) mosque schools, an innovation through which primary schooling, usually between Classes I and III, was added to existing mosques; (4) the construction of residences for women teaching in rural schools; and (5) the Nai Roshni Schools, a project of Drop-In schools for children who had never attended or left school. The paper begins with a discussion of the requirements for successful implementation, reviews each of the five cases of innovation, and then applies the framework of implementation issues to those cases to see what lessons might be learned.

The information presented comes mainly from interviews with over 100 public officials working on education in Pakistan. The interviews were conducted by teams from Project BRIDGES at The Harvard Institute for International Development (HIID) and the Academy of Educational Planning and Management in Islamabad (AEPAM). Respondents included key figures involved in the planning and implementation of education programs in Islamabad, provincial officials, District Education Officers and members of their staff, Learning Coordinators, faculty members of universities, researchers in Pakistan, and others.

CRITICAL ISSUES IN IMPLEMENTATION

Implementation involves a series of transactions among program representatives and others whose cooperation is necessary for field action (Warwick, 1982). It is not a linear process in which directives from above, such as the Ministry of Education, bring compliance from all others necessary to create the desired action. This machine model of implementation does not account for the way in which programs are carried out in the field. The laws, policies, executive orders and instructions from the top often lack the force necessary to produce obedience, much less enthusiasm, in local sites of action, such as schools. The main impetus for carrying out a program can also begin at the local level and later be approved by higher authorities. In some educational reforms (Schorr, 1988) top-level officials, such as school superintendents in the United States, have encouraged locally-devised educational experiments, and provided the political and bureaucratic protection for them to implement the changes. The relationships among different levels of organizations during implementation are often complex and difficult to capture with phrases such as "top down" and "bottom up" initiatives. Although there are patterns cutting across attempts at educational reform, the starting point is usually the single case in its own context.

Research based on this transactional view of implementation suggests ten areas critical to the execution of social programs:

1. The <u>process</u> by which policies are set and programs are

developed should create a sense of ownership among those critical to field action and not alienate public officials, politicians, other opinion leaders, and others who count during implementation. Programs are most likely to be implemented when key figures in the environment participate in their formulation and design, the resulting actions are adapted to the country as a whole and its varying regions, and the process of policy development does not touch off political conflicts. A reform that is seen as foreign or extraneous to a country's education system may be resisted even if its elements are sound. The most delicate transaction during policy development is in having critical figures participate to the point where they feel they have adequate influence but not to the point of sabotaging, paralyzing, or corrupting the process through such means as patronage in hiring.

2. Successful implementation requires a set of tasks to be performed, or a process for coming to agreement on those tasks, and adequate technologies for carrying out the necessary actions. Managers and implementers, such as school heads and teachers, should know what they are expected to do and have the means available to act in their locations. Tasks must be more specific than goals. It is not enough to tell district officers that they should improve the quality of instruction or have better supervision. A task is some specific way of achieving those goals. Technologies become crucial when the performance of a task requires a body of materials, such as laboratory equipment for

the teaching of science, calculators or computers, or a blackboard and chalk. While implementers should have a clear sense of direction, they should also have the freedom to change tasks and technologies, or develop them over a period of time so that what is done and the way in which it done makes sense in the particular context of implementation (see McLaughlin, 1976). The challenge is to avoid the rigidities of overspecifying tasks during planning and the ambiguities of broad goals tied to no specific actions.

3. A program has the greatest chance of being carried out when there is an effective system of management and organization. In Pakistan the setting for reforms in primary education includes the federal Ministry of Education, the provincial office of education, the District Officers and their staff, Learning Coordinators, and school personnel. Reforms are most likely to be implemented if (a) they are or can be integrated into the administrative structures and routines of the organizations involved; (b) one agency or level, such as the District Officer, has the responsibility and the will to carry out the reforms; (c) the reforms do not give rise to bureaucratic competition or hostilities. The more a reform is seen as alien to the organizational setting, the less its chances of being taken seriously by those within that setting.

4. A reform stands the best chance of implementation when it is seen as growing out of or compatible with the cultural context of the region. Educational reforms in Pakistan will be helped

when parents see schooling in general and the schooling of girls as compatible with Islam; when local interpreters of culture, particularly leaders of religious factions, encourage or at least do not oppose attendance at public schools; when the school itself is perceived by parents as culturally acceptable; and administrators make arrangements for the transportation and housing of school staff that prevent objections on religious or cultural grounds. A serious barrier to educational reforms is the perception that education in general or the education of women violates the traditions of Islam.

5. The chances of implementation are greatest when national, provincial, or local <u>politics</u> support educational reform or take no position on that subject. One of the most critical effects of politics is decisions on how much national funding to allocate to education and on the kinds of support accepted from international donors such as the World Bank and UNICEF. Since independence Pakistan has shown a low commitment to primary education by spending far less in that area than was specified in the government's national plans. In the past decade both the political priority of primary education and the amounts actually spent on that sector have risen. Politics can harm educational reforms when positions in administration or schools are allocated on the basis of patronage. Implementation can also be harmed by local political disputes creating allegiances that prevent children from attending school. Politics cuts both ways in implementation. It can be a driving force for educational reform

or a source of inaction, hostilities, and boundary wars affecting school attendance.

6. Implementation is most likely when field implementers, including school heads and teachers, understand the purposes and methods of the reform; are able to carry it out; are motivated to perform the necessary tasks; and do what is necessary for program success. Field personnel can carry out instructions or suggestions from above or propose and develop their own ways of achieving reform. Implementation is least likely when field implementers do not understand what they are expected to do; they are hostile to, ambivalent about, or uninterested in the reform; they find that the reform conflicts with their religion or other aspects of their culture; they are concerned that adoption of the reform will create some risk or cause them harm; and they have such low identification with their jobs that they want no change that will bring more work. Field implementers are vital to the implementation of reforms in schools, for without their cooperation little or nothing will happen.

7. The chances of implementation rise when clients, here mainly students and their parents, either desire the reform or are willing to support the actions needed to carry it out. Examples of parental support would be parents who are willing to send their children to school, provide the funds necessary to purchase textbooks and other instructional materials, insist that homework be done, and otherwise encourage cooperation with the school.

8. The possibilities for implementation increase when the facilities required for the reform are present. One of the greatest problems in Pakistan is the 29,000 "shelterless schools". These have no building or buildings in such poor condition that they were abandoned. The absence of a school building or the availability of schools operating in cramped quarters has caused difficulties for using the teaching kit, which requires storage space. Other common problems are the lack of transportation for supervisors; a shortage of chairs, desks, blackboards, and other school equipment; and the lack of toilets in the schools. These conditions create a physical environment in which implementation is difficult, if not impossible, and often demoralization among school personnel.

9. Implementation is helped by three aspects of costs: efficiency in the funds needed to begin the innovation; the provision of funds to support ongoing field activities, such as maintenance expenses for buildings or transportation facilities for staff who must travel; and the perception among those who count for the program that the expenditures made are worthwhile and justified.

10. Implementation depends on the quantity and quality of services provided by a given program. A popular misconception in the field of education is that qualitative and quantitative improvement are incompatible. A more recent view is that quality and quantity are complementary conditions. For the present innovations the most important indicator of quantity is

enrollment in primary schools. Quality refers to the effectiveness with which schools help children to learn critical knowledge, skills and attitudes, including literacy and numeracy. Implementation of educational change is helped when the quality of services is high and harmed by perceptions that the innovation is not providing adequate education.

This framework of implementation issues can now be applied to the five innovations described earlier. The next section gives a brief history of each innovation and makes some judgments about its success in the field

LEARNING COORDINATORS

In 1979 the World Bank and the Government of Pakistan began their Fourth Education Project , more commonly known as the Primary Education Project (PEP). Its objectives were to increase access to primary education; reduce dropouts and repetition; improve educational quality; and to reduce costs and otherwise improve the efficiency of the government's primary education system. With an original estimated cost of US$ 17.2 million, the project financed the construction of over 1000 classrooms; the salaries of a new category of assistant teachers; a program of in-service teacher training; the salaries of persons holding two new supervisory posts; textbooks, teachers guides, library books, and the development of other instructional aids; furniture for classrooms; residences for female teachers; and other initiatives. The project was conceived as a set of experiments

aimed at discovering the best ways of improving quality and access in education. The project officially closed in June, 1985. When the last expenditures were made in January, 1986, the total amount spent was US$ 11.7, 32% less than the initial estimate. Pakistan and the World Bank have built on the lessons learned in the first PEP for later projects.

A critical element in PEP was the addition of Learning Coordinators, a tier of officials who would supervise and work with teachers in 10 to 20 schools (in contrast to the traditional supervisor with a span of supervision often ten times as large). Within the Union Council, the smallest administrative unit of government, they would visit the schools at least once a month, observe teachers in the classroom, inspect their lesson plans, and take various steps to improve the quality of teaching. Learning Coordinators are now found in all four provinces, though not in every district within those provinces.

In late 1988 and early 1989 Project BRIDGES and the Academy for Educational Planning and Management (AEPAM) conducted a survey of 487 school in the four provinces and the federal district of Pakistan. The study was based on a probability (random) sample of all primary schools including Classes 1 through 5. Interviews were carried out with over 900 teachers and headmasters (hereafter called teachers) appointed at these schools. The survey covered their personal and professional background, teaching practices, living conditions, the supervision of their schools, and other issues. The section on

supervision contained questions about visits by several officials, including the District Education Officer and the Learning Coordinator.

The results show that during the school year in which the survey was completed almost all schools in the provinces, but none in the federal district, had been visited by Learning Coordinators (LC) or supervisors[2]. In Sind 98% of the teachers reported that they had been observed by this group, while the lowest figure, other than the federal district, was Baluchistan with 80%. The average (mean) number of visits for that school year reported by all teachers was 7.14. Baluchistan averaged almost 10 visits, Sind 8.4, Punjab 6.6, and NWFP only about 5. In contrast, the District Education Officers averaged 1.3 visits during that school year, the SDEO 1.9 visits, and the AEO 2.5 visits. Almost all those interviewed mentioned that during the visits the LCs and supervisors observed their teaching. The average amount of time spent in such observation was about one and a half hours, but the figures ranged from 2.9 hours in Baluchistan to 1.2 hours in Sind. On average the entire sample of teachers reported that their last visit with the LC was two months before the interview. The time since that visit ranged from about 5.5 weeks in Sind to 10.8 weeks in Baluchistan and 11.4 weeks in NWFP.

The survey also tried to determine what effects the visits by LCs and supervisors had on teachers and specifically whether they had helped their teaching. In the total sample 52% reported,

in response to an open question about effects, that the LCs or supervisors had helped them to learn new methods of teaching. In N.W.F.P. 84% of the teachers mentioned this influence compared to 63% in Sind, 44% in Baluchistan, and 43% in Punjab. In addition, 13% of the teachers mentioned that they learned about weaknesses in their teaching from the LCs or supervisors and 3% said that they received help in preparing better examinations for their students. When asked if the LCs or other supervisors caused difficulties for them or wasted their time, almost all the teachers (87%) said that these officials were no problem while only about 1% said that they were of no help. In sum, the survey data show that LCs and supervisors visit teachers more often than other supervisors and stay longer on each visit, observe teaching, on the average, between one and a half to three hours, for help over half of those observed to learn new methods of teaching. Information on the last visit by LCs or supervisors suggests that their contacts with schools are less frequent than contemplated in the original design for this position but more frequent and more helpful than under the previous system of supervision.

Interviews with federal, provincial and district officials carried out before the survey of schools provide further detail on the work of LCs. First, the tasks they perform vary from place to place and person to person. A coordinator in Sind reported a set of tasks close to those envisioned in the plan for this supervisory position:

> The Learning Coordinator visits classes and supervises the teacher, once a month. If the teacher is not doing well, I tell the teacher how to do it better. I also help in preparing audio-visual aids. I sit in the classroom, and when the teacher is not doing well I give a demonstration. I teach one hour in each class in the school, and stay all day in the school....The teachers come to class more now. I don't announce my visits, so they have to be there.

When HIID/AEPAM staff visited a primary school in Punjab they found a different conception of the work to be done. A coordinator came to the school every day to observe its construction and to ensure that he would obtain an office there. When asked what he did when he visited other schools, he said that he inspected the building and the school records but didn't bother to observe teachers because his work had little to do with the academic aspects of teaching. During the interview another coordinator came in. Although this school was not part of his responsibility, he stated that he visited it often to be sure that he, too, would have an office there.

The early interviews and other reports showed benefits as well as problems in the work of the LCs. The main benefits are: (1) a significant reduction in teacher absenteeism; (2) improvements in the quality of teaching; (3) increased enrollment and better attendance by students; (4) an opportunity for teachers to discuss their problems with persons not primarily concerned with administration; (5) a greater sense of professionalism among teachers; (6) the use of coordinators as substitutes for missing teachers; and (7) better communication from district management to the schools. When asked about the

single most important innovation in primary education during the last 10 years, a provincial Secretary of Education said: "The learning coordinator."

The main problems with this innovation arose from the process through which Learning Coordinators were brought into the district educational offices. The World Bank developed a system in which the LCs would begin working under the Provincial Implementation Units (PIUs) and gradually become part of the mainstream district administration. In theory, this arrangement gave the PIUs control over critical aspects of the hiring and payment of LCs in the early stages of implementation, and yet made provision for the gradual integration of the LCs into the district offices. The project wanted to have separate control but avoid the long-term liabilities of a dual personnel system.

One immediate effect of this arrangement was to leave district officials with the feeling that LCs were not under their authority or control. These comments from a District Education Officer (DEO) in Sind show the resentment that can be produced by that situation:

> The Learning Coordinators really don't do anything. They are supposed to teach in class but they aren't teaching anything. They are just dictators. They are not under the control of the District Education Officer, so they can do what they want.

Another DEO in Sind claimed that the supervisors to whom LCs had to send their reports felt that any negative comments in those reports made them, the supervisors, look bad to their superiors. An LC in Sind also reported a lack of cooperation between the

schools funded by PEP and the regular schools.

Supervisors and others in the regular administration likewise resented what they saw as special privileges given to the LCs, such as motorbikes and special allowances. A PIU official in Sind remarked:

> The supervisor has so many demands on his time, so many meetings, and gets only Rs. 100 per day as a travel allowance, while the Learning Coordinator gets a full allowance.

A Sub-District Education Officer in Sind made a similar point:

> There used to be problems of absenteeism, but now that there are more Learning Coordinators and supervisors the problem has been resolved. But we lack transport for supervisors. The Learning Coordinators have motorbikes but the supervisors do not.

The provincial director for the second PEP project also complained that even when motorcycles were available, there were no funds to repair them. Over 40% of the motorcycles in his project could not be used for that reason.

The greatest strength of the system of Learning Coordinators is that meets a widely recognized need for better supervision in the districts. If the government and the World Bank are able to merge the LCs into the mainstream provincial administration, provide the funds to pay their salaries and other expenses, and eliminate the resentments and jealousies seen thus far, this innovation may become a permanent source of improvements in primary education. The greatest risks are that LCs will continue to be seen as a foreign element in district administration or that, even if they are fully integrated, they will become administrative inspectors at the expense of working with teachers

to improve the quality of instruction. On this last point the World Bank comments: "The sparse documentation available suggests that LCs are being used more to monitor teacher attendance and for record keeping than to assess pupil achievement or to introduce qualitative reforms... (1988, p. 27)." The challenge is not only to become part of the bureaucracy, but to avoid the formalistic administration often associated with that term

TEACHING KITS

In 1974 the Ministry of Education, following a recommendation from UNESCO, decided to provide a teaching kit to each school in Pakistan. The aim was to improve the quality of teaching in mathematics, science, social studies, and Urdu through a set of about 100 low-cost aids for teachers. The resulting box of items contained charts, cutouts, a flannel board, chemicals, test tubes, beakers, a magnet, and pictures of famous personalities. After some pilot-testing of the items the project went into effect in 1976 with funding from UNICEF. The National Education Equipment Centre (NEEC) in Lahore was asked to produce the 60,000 kits required for the initial project.

Most officials interviewed by HIID/AEPAM considered the experiment with teaching kits a failure Their most frequent comment was that these kits are not being used at all in Pakistani classrooms. Some school officials had never seen a teaching kit and did not know what it was. These comments were typical:

> The concept is very good, but it is not being used.... A survey of 10% of the best schools in Islamabad shows that it is not being used. These are the most highly qualified teachers we have. What do you expect of the lesser trained teachers (Education official, Islamabad)?
> There was an all-Pakistan assessment. The majority of the schools proved to be not using the kit (Education official, Islamabad).
> We have only one kit. There are 5-6 sections of the juniormost classes. It is not possible (to use it). We have simply put it away safely (Headmistress).

Visits to schools by HIID/AEPAM staff showed that the kit was available in about half of them, was rarely used when it was available, and had many items missing from the boxes. Charts from the kits were sometimes used as decorations for walls in the classroom.

In late 1988 and early 1989 Project BRIDGES, in collaboration with the Academy for Educational Planning and Management, carried out a survey of 487 schools in Pakistan's four provinces as well as the federal district. The study was based on a probability (random) sample of schools in these areas. Interviews were carried out with over 900 teachers in these schools and with headmasters who taught classes. These interviews provided an opportunity to obtain systematic information on teaching kits.

When asked if they had a teaching kit about 60% of the teachers and headmasters replied that they did. The lowest report (35%) was for Baluchistan, the highest (70%) for North West Frontier Province (NWFP). Those who said that they had a teaching kit were then asked if it was in the school. About 80% reported that it was, with NWFP again showing the highest figure (92%) and

Baluchistan the lowest (67%). Only about half of the teachers have teaching kits available for use in the school.

A critical question was whether teachers had ever used the teaching kit in their instruction and, if so, how often this year. Among the teachers with access to a kit about half (53%) stated that they had used it. Across the provinces and the federal district the average (mean) number of lessons in which it had been used ranged from 7 in Punjab to over 11 in Baluchistan, with a national average of 8 for that school year.

When asked if they had ever received training in how to use a teaching kit, about three-fourths of the teachers with access to a kit stated that they had received no training in its use. 78% said that the kits had parts broken or missing and only 12% that the government repaired or replaced those parts. Among those saying that they had a kit 66% mentioned that it still contained the training manuals for its use.

The findings from the survey of teachers suggest that the teaching kit is physically present in about half of Pakistan's schools but used by teachers in only a few lessons a year. Parts are missing and the government provides few funds to replace them. Although the Ministry of Education is making efforts to improve it, the teaching kit is rarely cited as an innovation that has taken hold in schools.

Pakistan's experience with teaching kits brings out several lessons about the implementation of educational policy. The first is that for an innovation to succeed the necessary materials must

reach the field implementers. With the teaching kits there were problems in moving the boxes of items from NEEC to the District Education Officers (DEO) and from there to the schools. In July, 1979, the Director of NEEC wrote to the government of Punjab that 4337 kits for that province had not been claimed. By June, 1980, only 5 of the 13 DEOs in Punjab had picked up their kits. Similar problems arose in other provinces. And even when they reached the district offices many kits stayed there for months or years. As a result items in the kits were stolen or suffered damage from rust and insects. DEOs and their assistants lacked funds to transport the kits to the schools and saw this task as onerous. The assumption of Ministry staff that district officials would follow orders to pick up and deliver the kits was often mistaken.

Another requirement for the successful implementation of an innovation is that those who are supposed to use it should feel that it is theirs. They must feel some ownership in what is to be done. That feeling of ownership was missing among the teachers and school heads who were expected to use the items in their schools. The kits were developed by the central government with the help of UNICEF rather than with active participation by school personnel. When the kits arrived at the schools teachers and school heads often saw them as yet another bright idea imposed from above by the central government.

A second requirement for success in carrying out an innovation is that field implementers should understand the material that they are given. The teaching kits were often not

understood at all or regarded as a treasure to be preserv d intact. Each box contained manuals of instruction, but t ey were not enough to show teachers how to apply the items in the classroom. Interviews with education officials suggest th t many teachers received inadequate or no training about the kit

> We got 3300 teaching kits from UNICEF. We distr buted those, but the teachers were not oriented to th teaching kit; we provided them boxes which were never opened.... There was no supervision, no trainin provided on how to use the kits (Senior Officia in Education, Province of Baluchistan).
> The teaching kits started in collaboration with UNICEF....A sham of training was arranged....Th training of teachers was not good and it got di uted (Senior official in Education, Islamabad).
> Almost all the schools have kits.... The teache s are not properly trained to use them. But then, nei her are the supervisors, nor the Sub-District Education Officers or the District Education Officer! I v sit the schools and have seen that the kits are not bei g used (District Education Officer).

The survey of teachers showed that among teachers who hac kits only about one quarter had received training in how to us them.

The chances of implementation also increase when fie d implementers, such as teachers and head teachers, are mot vated to use the innovation. Given the way in which the teachir kits were developed, there was little demand for this innovati on among field staff. It was not designed to accommodate their ne ls in the school, but to satisfy concepts of educational refor in the Ministry of Education. In line with standard accounting practices in the Ministry, teachers also feared that if an item in the kit was lost, stolen, broken, or worn out, they would have t replace it.

> Any innovation faces a lot of opposition....If the teacher is fully reassured that breaking an item is all right and he will not be penalized for using it, he would use it. If the concept of safeguarding the kit in a religious manner is removed, it will be used. Thus teacher accountability should be reduced (Senior educational advisor, Islamabad)
> Audit proves that when an item of the kit was missing the Head of the School was penalized. This affected the head's salary so he or she locked it up (Educational research officer, Islamabad).
> There are a number of reasons why (teaching kits) didn't work too well.... Teachers were afraid that if they damaged the kit or lost an article they would be held responsible. That has to be the fate of any centralized project (Provincial Secretary of Education).

Successful implementation further requires that conditions in the environment--here the school--are consistent with what must be done in the innovation. One difficulty with the teaching kit was that schools in many areas either had no buildings or no space for storing the material. A senior official in the Ministry of Education commented:

> Our education system is poverty stricken. We have 29,000 shelterless schools. Sixteen thousand schools have only one room. Seventy percent of these impoverished schools have no place to keep the kit. One cannot expect teachers to carry the box back and forth from home to school every day. So if there is a place to keep the kit within the school vicinity, only then you can expect it to be used.

School staff likewise complained that the teaching kit could not be used when classes were large. According to a Headmistress the kit does not work when there are more than 45 children in a class. "By the time the teacher makes the children bring out their books and the lesson is initiated it's time for the next class." Another Headmistress felt that the atmosphere of village schools works against the use of teaching kits.

> There is no light, no fan. It is very depressing and dreary and suffocating....There is no toilet, no sweeper in any of the schools. When they need a latrine, the girls have to go home during school hours, wasting a considerable amount of time.

Some teachers also found that the teaching kits did not fit their teaching style, which emphasizes lecturing and rote memory rather than illustrations and experimentation. Others said they were so exhausted by the demands of their work that they had no time for innovations of any kind.

The teaching kit was an innovation driven more by technology than by the interest of teachers and school heads. Because it was developed by the Ministry of Education with aid from an international donor, it left the impression of a top-down experiment being force-fed into a system that was not ready for it. Provincial officials found it burdensome to implement while teachers often did not know what it was or how it should be used. Fears about having to pay for missing parts, inadequate storage space, large class sizes, and difficult working conditions further dampened the enthusiasm of many for the kit. Given the initial hopes for the teaching kits and the large amount of money spent in producing them, this experiment is widely considered disappointing in its results.

MOSQUE SCHOOLS

The third innovation is the addition of the curriculum for the government primary school to about 30,000 mosques. The essential features of the mosque school program were described in

a statement from the federal Ministry of Education on National Education Policy:

> The mosque will be used as a place of learning for children, for out of school youth and for adults. In addition to Islamiyat, the children will study the modern curricula for primary school....In order to teach modern subjects, a primary school teacher will be appointed in such school who in cooperation with the Pesh Imam will teach children and adults at hours convenient to the community. Free books and teaching aids would be supplied to children going to mosque schools. This will ensure rational utilization of the mosque and re-establish its traditional role of spreading the light of knowledge in the community (Government of Pakistan, 1978).

Interviews with the founders and administrators of the mosque school program bring out three specific reasons for its introduction. First, the use of existing mosque facilities meant that opportunities for primary education could be rapidly increased at low unit cost per student. A District Education Officer in Punjab commented:

> The imam sits in the mosque from morning to afternoon, but the mosque is used for a school other than at prayer times. I think this is a good project because it didn't require any buildings. The objective is to make primary education widespread, to make more children educated, at little expense. We don't have to pay for mats, a chowkidar (watchman), water--it's all there.

The program did require funds for an additional teacher and the construction of classrooms in some mosques, for textbooks and uniforms, and for a small stipend to the imam. But in comparison with the construction of new schools or the addition of classrooms to existing schools the costs were low. During our visits to schools we found many Mosque schools in Sind located in a specially constructed building not near the Mosque.

A second reason was the belief that parents would agree to send their children, including their daughters, to study the primary school curriculum at the mosque. Because mosques have long given religious education to boys and girls, the program was building on an existing cultural tradition rather than trying to create a new one. The imam is usually a respected figure in the community who can allay the fears of some parents about sending their daughters to government schools.

A third reason was the conviction that parents would find the physical facilities of the mosques, which were clean and had fresh water, acceptable, and the nearness of the buildings to their homes a convenience. A person involved in the development of these schools stated:

> Any accommodation is better than no accommodation. What the mosque offered was far better than what we had. At times children had to walk 4 kilometers to get to school, It is unrealistic that all parents would be willing to send their children so far. The mosque in the community offered easy walking distance.

This point applies especially to the distance travelled by girls. As a federal official involved in this program pointed out, "people do not want to send their girls very far." The mosque school program thus tried to combine in one innovation costefficiency, cultural acceptability, and convenience to clients.

Mosque schools were to be opened in areas where there were no government primary schools, cover Classes I to III, and provide free textbooks, notebooks, and uniforms to students. The free supplies were a financial incentive to parents who would

have to cover the expense of such items in a government school.

What has been the success of this program? The answer depends on the specific criterion of success used and on the region of Pakistan considered. General comments on mosque schools from federal and provincial officials ranged from enthusiastic to negative. The following individuals were among those giving a positive assessment:

> This is a good project to increase male and female access to primary schools. It intends to relate primary education with traditional culture and religion. In rural communities people send their children to mosques for religious education. When at that spot education is also available then the children get educated (District Education Officer, Punjab).
> They are doing a good job. We started this project because we felt that we couldn't provide enough buildings. The mosques were available. Originally we started with Classes 1 to 3. We provided a teacher, and asked the imam to teach also. We feel that the number of children is increasing. In some cases we have added classrooms to the mosques, and now have some mosque schools with all 5 classes (Provincial Secretary of Education).
> The results have been successful. Previously we had shelterless schools, now they have shelter (Deputy District Education Officer, Punjab).

Other observers had mixed or negative opinions:

> It is not successful. It is nobody's fault. The District Education Officer cannot control normal schools. How can they supervise mosque schools? They don't even consider the mosque schools proper primary schools (Faculty member, College of Education).
> Those are wasted money. Parents prefer regular primary school (Assistant Education Officer, Punjab).
> Mosque schools are not good because they are not real schools (District Education Officer, Punjab).
> They're not proper schools. They only have one, two, or three classes....As soon as their parents can get them into a government school they do so (Deputy District Education Officer, Punjab).

One major benefit of mosque schools is increased enrollment

opportunities for all primary school students. According to one estimate by June, 1986, the mosque schools had enrolled over 630,000 pupils. Some of these students may have transferred from government schools to receive such benefits as free textbooks and uniforms. An evaluation study in Sind (Government of Sind, 1984) showed that 9% of the pupils in a sample of 282 schools had previously been in government primary schools. But the data for that province and interview comments from officials in other provinces suggest that the great majority of the enrollment is new.

Another commonly-cited benefit of mosque schools is the encouragement they give parents to enroll their daughters. The evaluation in Sind concluded that the participating communities had a positive attitude toward the education of their children and that "the mosque schools motivated the Parents to send their girls to the schools" (ibid., p. 17). Similar statements were made during the HIID/AEPAM interviews:

> People in general have a positive attitude toward sending children to mosques, especially to sending girls to mosques (Educational planner, Islamabad).
> ...parents feel easy about sending their daughters to mosques (District Education Officer, Punjab).
> The leadership of the mosque school project was very enthusiastic and active. The success of the project also belied the belief that parents were not willing to let their girls go to school with boys--about 30% of the enrollment in the mosque schools are girls (Education official, Sind).
> We have done an experiment with mosque schools which showed a very interesting thing: 30% of the enrollment was girls. The man involved as a teacher was a local man in the same village....When the teachers are known to everyone, parents have confidence in sending girls to school (Education official, Sind).

While the benefits of enrollment and increased education of girls are found everywhere, education officials agree that in the two largest provinces the mosque school program has been more successful in Sind than in Punjab. The advantage of the mosque school in Sind is that it can serve scattered rural settlements with populations of under 200 and sometimes under 100. In 1984 there were 68,434 settlements of this kind, 60 % of which had fewer than 200 inhabitants (Government of Sind, 1984, p. 3). Given the financial and logistical difficulties of building government primary schools in such communities, the use of existing mosques for schooling was a convenient solution. In Punjab there are few small settlements of that kind. An experienced observer of mosque schools also criticized the rigidity of the administrative system in Punjab:

> Punjab is rigid to innovation. It has a very large administrative system. So promotions are very slow. People wait a long time in the pipeline. No new blood is injected into the system. Any new program given to them is sure not to succeed.

The most frequent criticism of teaching in mosque schools is that many of the imams do not have the training necessary for the modern curriculum. A senior education official in Islamabad had this to say of the imam in the mosque school:

> As a teacher he must be phased out....I had earlier advocated that he should be trained to take on more load of teaching. This is not feasible since his formal schooling is highly doubtful.

A district Education Officer in Punjab argued that the imams are poor teachers because they are illiterate. Others noted the advantages of having a respected figure in the classroom, but

claimed that poorly trained imams led to inferior schooling for participating children. Regular teachers assigned to the schools help to raise the quality of education, but they must operate under the rules set by the imam for a given mosque. If the imam is opposed to or uninterested in secular education, the teacher has little independence to act alone.

The most basic question about the effectiveness of mosque schools concerns the impact of their education on students. Are their results similar to those of government primary schools covering the same classes, or are they a low quality substitute for regular schooling? Is three years of education, the most common number with mosque schools, enough to make students literate when they leave and later? There is little information available to answer these questions, but comments from a wide range of officials suggest strong reasons for doubts about the quality of education in mosque schools.

Mosque schools can be rated high on financial efficiency, cultural acceptability, and quantitative success, low on the capability of implementers and doubtful on the quality of schooling provided. Thousands of children who would not otherwise have attended school have done so through this program. The difficult policy questions are whether the investment made in mosque schools is worthwhile overall and whether the next step should be to replace them with regular government primary schools or add classes 4 and 5 to the existing facilities.

RESIDENCES FOR RURAL FEMALE TEACHERS

One of the greatest difficulties for government schools in rural areas is a shortage of female teachers. One reason for this shortage is the lack of suitable accommodation for teachers near rural schools. To deal with this problem the World Bank and the Government of Pakistan, under the first Primary Education Project, built 320 residences for single teachers in the provinces of Punjab, Sind, and Northwest Frontier Provinces and 10 "cluster school hostels" for married teachers in Baluchistan.

Reports on PEP-I by the World Bank and the HIID/AEPAM interviews indicate that this experiment worked well only with the 10 hostels in Baluchistan. Most of the other residences were never occupied at all or were occupied and abandoned not long afterward.

> The idea of female residences was not successful, so we did not repeat the mistake. Not even married women would put up in such residences (Education official, Islamabad).
> They are underutilized, sometimes totally abandoned (Education official, Islamabad)
>
> There is the project of construction of residences for female teachers. This did not work well.... (Senior education official, Sind).

The hostels in Baluchistan were more successful. They were occupied by married couples, often both teachers, who felt secure in the environment.

The main reason for the failure of this program was cultural. Single women in Pakistan usually do not live alone, especially in isolated rural areas. An education official in Islamabad mentioned social taboos against women staying away from

home. A senior official in Sind stated: "The teachers cannot live alone and like to be with their families." In addition to concern about acceptable behavior for single women, teachers often felt insecure in residences located outside the village, especially when there were no boundary walls and security guards.

> Some rural schools are in far-flung areas. There have been unpleasant incidents of threat or harassment....We have 7 or 8 hostels in this area but the social conditions are not conducive (Education official for Islamabad and Federal Area).
> There is no chowkidar (guard), no sweeper. Two teachers spent two nights in one such hostel. They were horrified. There are no boundary walls (Senior education official, Islamabad).
> ...Residences were constructed at schools located outside of the village, and the teachers did not feel secure outside the village (Senior education official, Sind).

The attractiveness of residences for rural female teachers is also related to their financial allowances. A senior official in the Ministry of Education reported that teachers were uninterested in rural hostels because the allowance made for house rent--45% of their salary--would be deducted once they moved in. Others pointed out that the salary for rural teachers is less than that of urban teachers in any event.

The construction of residences for female teachers was an innovation with a clear task and a manageable technology. In fact, under PEP-I 50 more residences were constructed than had been proposed in the World Bank's initial appraisal of this project. Yet overall it was not successful because the use of the residences clashed with cultural expectations for single women, teachers' perceptions that the facilities provided were unsafe,

and the belief that moving into a rural residence would mean a lower salary than if the teacher lived in a city. The project had greater success in Baluchistan because those using the hostels were married couples who were less concerned about security and more able to adapt the facilities to their own tastes.

NAI ROSHNI SCHOOLS

Another innovation, launched in 1986, is the Nai Roshni (New Light) schools. These are drop-in schools for children aged 10-14 who had never attended or had left school. To save the cost of building new schools the Nai Roshni classes are given in the afternoon or evening at existing government schools. Each school is expected to offer three hours of instruction per day during the entire year for two years. After completing their studies and taking an examination students receive a primary school learning certificate. The program provides free books to students. It is operated by the federal government as part of the Literacy and Mass Education Commission (LAMEC). By May, 1988 there were 151441 Nai Roshni schools with an enrollment of over 390,000 students.

The rationale for these schools was stated by a senior official of LAMEC:

> Our program is for those who have missed the bus. Our concentration is an improvement of the rate of literacy. When you consider that including the dropouts from primary education the total number of those deprived of literacy belonging to the age range of 14 plus is more than 70%, you have to pay attention to their problems. They are too many to be ignored Interview, 1988).

This same official claimed that the program has been successful

and that international agencies wanted to follow its example to India and China.

His view was not shared by most other officials interviewed in Islamabad and the provinces. The greatest problem faced by the Nai Roshni program is the feeling among education authorities that it provides inadequate education, is used for political patronage, has incompetent teachers, and is a waste of the public's money. Those reactions grow out of the process by which the program was developed, the deliberate introduction of political criteria into the appointment of staff, the leadership in Islamabad, and the methods used to evaluate program success.

The first discussions about this scheme were held in 1984 and 1985. The first proposal was a two-year training course to be run as an experiment under the Education Section of the Planning Commission. The project was to be tried in 9 schools in 9 districts. Before the experiment started there was a new head of LAMEC and the Prime Minister had proposed a policy of full employment for graduates. The head of LAMEC decided to use the Nai Roshni program as one means of promoting that employment. He and his staff came up with the following quotas: 30% of the teachers would be appointed by Members of the National Assembly (MNAs) and Senators; 30% by Members of the Provincial Assembly (MPAs); 10% under the Prime Minister's quota for the disabled; and 30% by LAMEC itself.

This decision put a political cloud over the program and caused other troubles. Because of doubts in the government about

the wisdom of political appointees, the Executive Committee of the National Economic Council approved the project for only one year. Teachers wanting appointments not only had to have recommendations from politicians, but faced a short lifespan in their jobs. The result was the recruitment of staff with doubtful qualifications and a fast turnover of teachers on the job.

The program was not helped by the rapid changes in the heads of LAMEC and the sense that being appointed as director of that organization was a punishment for poor performance elsewhere, a prelude to retirement, or both.

> Ever since LAMEC was formed there has been a chain of changing heads. First there was Ali Khan, then Inayatullah, then Dr. Rahim, followed by Sultan Daud and now General Majeeb.
> Nobody really wants to come here. It is like a punishment imposed on those who have not pleased the government. It is usually their last job before retirement.... While they are here they want to drag on and postpone retirement (Official, LAMEC).

According to the same observer, the directors may be good administrators, but are not technical or professional people who know the roots of the literacy problem. Hence they promote superficial projects and statistical reports putting LAMEC in a favorable light.

The net result, according the the BRIDGES/AEPAM interviews, was a program that left confusion about whether its purposes were to provide education or to create employment for school graduates. These objectives would be compatible if those given employment were also those most qualified to create literacy or offer instruction in primary education, but that has often not

been the case in LAMEC. The general opinion among officials interviewed is that its performance on literacy has been weak, its accomplishments in primary education weaker, and the presence of politics in its operations considerable. An official in Islamabad gave this example:

> Quite often the school is held in the house of an MNA (Member of the National Assembly). He receives the rent for the room as well as declaring his daughter or niece a teacher, receiving her salary (Interview, 1988).

That example may not be typical, but it illustrates a common view of the Nai Roshni program.

A much more favorable picture of this program comes from an evaluation of 704 Nai Roshni schools completed by the federal government in late 1987. It took place 8 or 9 months after the program's opening in March, 1987. The National Evaluation Committee included the Federal Secretary of Education, the Director of the Primary and Non-Formal Education Wing of the federal Ministry of Education, and the head of LAMEC. Liason officers were appointed for each province and area in the country. Teams in the districts, where the research was carried out, were made up of the District Education Officer and other local officials. The District Project Manager for LAMEC was to help the team but not be a formal member. Information was collected at the Nai Roshni schools as well as from five community reppresentativesd and five Nai Roshni students in each area (Academy for Educational Planning and Management, 1988). The results were as follows:

1. 98.2% of the schools visited physically existed. 87% were

housed in government schools and had facilities such as a blackboard and a teacher's chair.

2. 93.5% of the appointed teachers were physically present on the school premises at the time of the interview. 60% of the teachers reported that they spent their mornings in data collection activities for the school; 95% said that they had no other job in the morning or after school.

3. 88% of the enrolled students were present at the school during the inspection visit. Most had never been to school before and--for the 22% who answered this question-- were in the age group of 10-14 years.

4. The schools had been visited by supervisors, but not as often as required in the rules for the Nai Roshni project.

5. Across all provinces and areas community representatives and students gave high ratings to the Nai Roshni schools.

The design and execution of this evaluation prompted sharp criticism from officials in education familiar with the study. The strongest objections came from a senior official in Islamabad:

> On the ground there is nothing. It was a masquerade. The whole show was put on. People were told to report to schools on certain days and show themselves as teachers. Enrollment was fictitious in many places (Interview, 1988).

Another observer said that the evaluation was based on fraudulent records. A third claimed that most of the evaluators never visited schools. Instead they sent questionnaires to those

responsible and compiled the data sent back.

The close ties between the evaluation team and LAMEC, for which the Nai Roshni schools were its most visible program, also raised doubts about whether the survey procedures were properly followed. In principle the random sample of schools to be evaluated was to remain secret until just before the interviews. In practice there were opportunities for local LAMEC administrators to alert the schools and teachers that the research team was coming. Even the final report raises this possibility:

> These schools were not supposed to know about the arrival of the inspection teams in advance. We cannot say for sure whether the schools were informed about the visit of the team or not (ibid., 41).

In the end, to judge from the BRIDGES/AEPAM interviews, few education officials without ties to LAMEC believed the results that were reported. The speed with which the study was done, the possibilitu of local influence by LAMEC staff, and the lack of independent observers to observe the quality of data collection all undercut the credibility of the data.

The program likewise suffered from having its central administration in Islamabad and from disputes between the federal and provincial offices of education. In Pakistan most schools are run by the provinces and are the specific responsibility of the District Education Officers. To obtain classrooms LAMEC must deal with local schools and handle such matters as payment for maintenance or damages and extra compensation for school guards. Such arrangements have been difficult when Nai Roshni

headquarters are in Islamabad. There have also been tensions between the federal Ministry of Education and LAMEC on such matters as the curriculum for Nai Roshni schools. And some of the work they did jointly caused problems of legitimacy in the provinces. A Learning Coordinator in Sind stated: "Books (for Nai Roshni schools) are prepared in Islamabad and lack local cultural and social references" (Interview, 1988).

Although some observers reported positive results from the Nai Roshni schools, the dominant reaction in the BRIDGES/AEPAM interviews was negative.

> Nai Roshni is not a successful program. The buildings they are using are under the provincial departments of education. The teachers of the nai Roshni program are employees of the federal government. The Headmasters of the schools being used keep complaining (Senior education official, Islamabad).
> This was not successful. People have not been honest; they only tried to get the money. Teachers in Nai Roshni schools were not interested in teaching. If teachers show good results, then people may be satisfied; if not they will not (Deputy District Education Officer, Punjab).
> All provinces gave their dissent (to the Nai Roshni program). We were against the scheme because there were many difficulties. We had doubts that people would be given the time to study.... We had doubts about the qualification of the teachers. We opposed the scheme in 1985 and still it was approved by the Prime Minister. We were concerned about materials. The major problem is how to motivate the teachers (Provincial education planning official).
> I don't like that scheme. The people don't want to read and they don't know what education is and what it is for. There are no trained teachers in Nai Roshni schools....They have distributed the posts through the MPAs. The scheme should be closed....(District Education Officer, Baluchistan).

In addition to the problems noted, four specific objections were raised to the Nai Roshni schools. The first was a belief

that the money devoted to this program should be used to expand and improve government schools.

> We should be concentrating on formal education alone. All the funds diverted to schemes like Nai Roshni could help create 37,000 primary schools (Senior education official, Islamabad).
> The funds should be channeled to formal primary school expansion. Money spent on accelerated literacy is misspent. For lack of further opportunity they are going to lapse into illiteracy. It is the five year period of organized schooling whichcan produce permanent literacy (Senior researcher on education, Islamabad).
> It does not fit in well with our national priorities. We have 71 million illiterates. But we also have 3.1 million children of primary school going age of whom 1.3 million every year go without a place in primary schools. We are woefully short in providing facilities. We should not be so lavish on other programs (Senior educational planner, Islamabad).

A second problem is that the cost of educating a student in the Nai Roshni school is too high in itself and much higher than in government primary schools. A third criticism is that the Nai Roshni program has fallen far short of its own performance targets. While it was supposed to cover 1.6 million students in two years, it actually reached .39 million, or 20% of the target. The fourth difficulty concerns the motivation of the intended clients, the students, to participate. Given the doubts about the accuracy of the numbers reported from the Nai Roshni schools and the close links between the schools and politicians, it is difficult to know the true rates of enrollment. But these comments indicate suspicions about student motivation and attendance:

> The female students who are 14 or over get married and leave in half session. Others are quite satisfied when they can read and write, so they too drop out (Senior

> official, LAMEC).
> I do have 20 Nai Roshni schools in my area. But these aren't successful. Parents are not sending their children to school, the teachers are not serious, and students are not learning. Parents want daughters to work at home, to join hands with the mother instead of the teacher. In urban areas parents are eager to send their girls, but in rural areas it is not so. There are empty classrooms, with teachers (Assistant Education Officer, Punjab).

The interviews also included reports of primary school students, nominally too young for the program, who transferred to the Nai Roshni sessions:

> The children in regular schools in my ara thought it was a wonderful opportunity to complete 5 classes in 2 years. They dropped out from regular school to join Nai Roshni schools. Then they dropped out of Nai Roshni as well. Some of them re-enrolled in the old schools. Now all 10 Nai Roshni schools in my area are closed (Education official, Islamabad).
> The problem is that morning students come to Nai Roshni; it is a total flaw (Assistant Education Officer, Punjab).

Other criticisms are that teachers use their political connections to avoid working; certain teachers are untrained for this type of education; the curriculum is of lower quality than the one used in primary schools; and some schools registered in the program are fictitious. Unlike the other cases discussed in this paper, the interviews on Nai Roshni schools contained many references to political corruption, lies, rigging of data, faked attendance, and other kinds of dishonesty. Even with the occasional pockets of success reported by teachers, district administrators, and others, it is a program with low credibility in the federal Ministry of Education and a poor reputation in the provinces.

CONCLUSIONS

The five innovations offer an opportunity for a more systematic understanding of the implementation of reforms in primary education. Table 1 shows a rating for each reform on the ten areas of implementation reviewed at the beginning of the chapter. Programs are rated High, Medium, and Low according to how well they meet the criteria indicated in the left column. A (?) indicates that there was not enough information to complete the rating. A (-) means that the category used for rating does not apply to that innovation.

One set of lessons can be drawn by a vertical comparison of the ratings for each of the five programs. No assumption is made that these characteristics count equally in the final assessment of a program nor that the ratings themselves have high mathematical precision. Nonetheless if one seeks a framework that can be used to make judgments about implementation success before a program begins, this post factum analysis offers a starting point.

A useful negative indicator is the number of "Low" ratings obtained by each program. The highest number is seen with the teaching kits (16), the second highest with the female residences (14), and the third highest with the Nai Roshni Schools. By contrast, the Learning Coordinators and the Mosque Schools have only two "Low" ratings. Both the Teaching Kits and the Female Residence program are weak on process, management and organization, the four characteristics of implementers, costs,

and the quantity and quality of services. The Nai Roshni Schools have low ratings on the process of decision making, management and organization, perceptions that the program is politically clean, funds to support field activities (for example, maintenance funds for the schools used), the perception that expenditures on the program are worthwhile, and judgments about the quality of services offered. Also noteworthy is the number of question marks in the ratings of the Nai Roshni program. These reflect the lack of trust by other education officials in the data reported by Nai Roshni administrators and the failure of that program to gather reliable data on its enrollments, the age of its students, and similar indicators of performance. The seven question marks are thus an indirect measure of the suspicions and doubts generated by the Nai Roshni schools.

The sources of success in the implementation of the Learning Coordinators and the Mosque Schools become clear when the ratings of High and Medium are combined. On this indicator Mosque Schools have a score of 21, Learning Coordinators 20, Female Residences 5, Nai Roshni Schools 5, and Teaching Kits 5. The High ratings for Mosque Schools are on the compatibility of the innovation with culture, specifically religion; initial government commitment to implement; the perception that the innovation was politically clean and acceptable; low start-up costs; and increased opportunities for enrollment. For Learning Coordinators the High ratings went to a clear definition of tasks; the availability of technologies, such as facilities for

transportation to schools; having the technologies reach the implementers, which happened with the Learning Coordinators but often did not with the Teaching Kits; and the perception that the innovation was politically acceptable. Both innovations had Medium ratings on the two dimensions of process and the four characteristics of implementers. The main difference is that the strengths of the Learning Coordinator concept were in the area of task definition, technology, and management while those of mosque schools were in cultural compatibility, low start-up costs, and rapid increases in enrollment.

It is also worth asking if any of the ten areas of implementation is of overriding importance as a source of success or difficulties. A review of the ratings, as well as the case studies reported earlier, suggests that no one area is much more critical than the others. The results further show that some aspects of implementation, such as compatibility with religion and culture, are helpful in understanding some innovations and not others. The mosque schools benefitted from their compatibility with culture and the female residence program faced difficulties because it clashed with cultural norms about where and how women teachers should live. But that same issue had little bearing on Learning Coordinators, Teaching Kits, and the Nai Roshni Schools. This point is critical in understanding the implementation of innovation, which is not an unfolding of change according to a pattern of inexorable laws, but a set of transactions with environments that vary from place to place and

change over time as implementation proceeds. Within that perspective it is more helpful to understand the particularities and relativities of a given program than to seek a mathematical formula for implementation applicable everywhere.

The principles of implementation discussed earlier and summarized in Table 1 can likewise be used for diagnosing settings for action during and for predicting sources of success and difficulties. With the present reforms they would have raised questions such as the following. How will the use of political criteria in selecting teachers affect the perception of the Nai Roshni school program? The decision to hand over appointments to politicians created the sense among public officials that the Nai Roshni initiative was suspect if not corrupt. Or how will the cultural traditions of Pakistan, specifically expectations about the living arrangements for single women, affect the response of unmarried teachers to female residences in rural areas? Again, what reason is there to believe that District Education Officers will distribute and teachers will use the teaching kits? Had these and related questions about implementation been raised, planners and managers might have prevented some of the problems that did arise and been in a better position to handle the difficulties that remained.

REFERENCES

Academy of Educational Planning and Management, in collaboration with Primary and Non-Formal Education Wing, Evaluation of Nai Roshni Schools in Pakistan. Islamabad, Pakistan: Ministry of Esucation, 1988.

Government of Sind, Education Department. Evaluation Report of Mosque Schools in Sind. Research Cell, Fourth Education Project, Hyderabad, October, 1984.

Lisbeth B. Schorr, with Daniel Schorr. Within Our Reach: Breaking the Cycle of Disadvantage. New York: Doubleday, 1988.

Donald P. Warwick, Bitter Pills: Population Policies and their Implementation in Eight Developing Countries. New York: Cambridge University Press, 1982.

World Bank, Pakistan: Education Sector Strategy Survey. Report No. 7110-PAK. Europe, Middle East and North Africa Region. Washington, D. C.: May, 1988.

1. The research reported in this paper was carried out as part of the BRIDGES Project, a Cooperative Agreement between the Harvard Institute for International Development and the Office of Education, Bureau of Science and Technology, United States Agency for International Development. Comments made in this paper are the responsibility of the authors and not of USAID.

This research could not have been carried out without the participation of a number of persons. The study is a joint project of BRIDGES and the Academy of Educational Planning and Management, Ministry of Education, Pakistan. Our deepest appreciation goes to our pakistani colleagues who collaborated carrying out the more than 100 interviews on which this paper is based. Huma Nauman, Professor of Public Administration at Quaid-I-Azam University conducted most of the interviews in the Federal Area. Dr. Sarfraz Khawaja, Aslam Bhatti, Habib Khan, Dawood Shah and Nasir Amin of the Academy helped conducting interviews in the provinces. Dr. Sarfraz Khawaja participated also in the identification of people to be interviewed and made all the arrangements so that the interviews could take place.

2. The survey questions asked about Learning Coordinators or supervisors. Data on the frequency of visits suggest that most of the visits were by Learning Coordinators.

Table 1.
IMPLEMENTATION OF EDUCATIONAL INNOVATIONS IN PAKISTAN

	Learning Coordinator	Teaching Kits	Mosque Schools	Female Residences	Nai Roshni
1. PROCESS					
Participation, sense of ownership by key figures	Medium	Low	Medium	Low	Low
Innovation adapted to local settings	Medium	Low	Medium	Low	Low
2. TASKS AND TECHNOLOGIES					
Clear definition of tasks	**High**	Low	Medium	**High**	Low
Technologies available	**High**	Medium	Medium	**High**	?
Technologies reach implementers	**High**	Medium	-	**High**	?
3. MANAGEMENT AND ORGANIZATION					
Innovation integrated into normal organization	Medium	Medium	Medium	Low	Low
Adequate supervision	Medium	Low	Low	Low	Low
Compatible relations among organizations involved	Medium	Low	Medium	?	Low
4. CULTURAL CONTEXT					
Innovation compatible with religion, culture			**High**	Low	
5. POLITICAL CONTEXT					
Initial government commitment to implement	Medium	Medium	**High**	**High**	Medium
Innovation seen as politically clean, acceptable	**High**	**High**	**High**	**High**	Low

	Learning Coordinator	Teaching Kits	Mosque Schools	Female Residences	Nai Roshni
6. FIELD IMPLEMENTERS					
Understand innovation	Medium	Low	Medium	Low	Medium
Capable of carrying out innovation	Medium	Low	Medium	-	Medium
Motivation to use innovation	Medium	Low	Medium	Low	?
Performance of required tasks	Medium	Low	Medium	Low	?
7. CLIENTS					
Cooperation from parents	Medium	-	**High**	-	?
Cooperation from students	?	-	**High**	-	?
8. SUPPORTING FACILITIES					
Presence of adequate buildings		Low	Medium	-	Medium
Other supporting conditions	Medium	Low	Medium	Low	Low
9. COSTS					
Efficiency in start-up costs	Low	Low	**High**	Low	Medium
Funds to support on-going field activities	Medium	Low	Medium	Low	Low
Perception that expenditures are worthwhile, justified	Medium	Low	Medium	Low	Low
10. QUANTITY AND QUALITY OF SERVICES					
Increased enrollment	Medium	Low	**High**	Low	?
Quality of services	Medium	Low	Low	Low	Low