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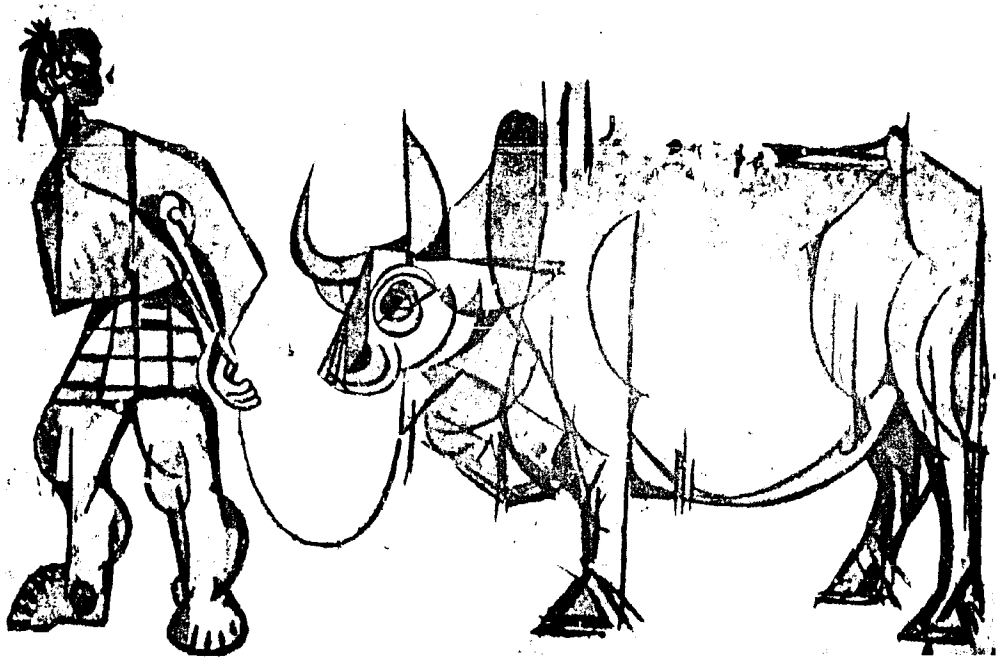

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**Milton J. Esman, Royal Colle,
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With the assistance of:

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FOREWORD

This publication is part of a larger research activity of the Rural Development Committee of the Center for International Studies dealing with strategies of rural development that enhance the participation of rural people in activities affecting their economic productivity and the quality of their lives. Methods by which rural people can gain greater access to needed services such as those related to health, agriculture and nutrition are an important aspect of this problem. In recent years, many governments with the help of development assistance agencies have attempted to extend public services through the use of "paraprofessionals."

The purpose of this report is to assess the state-of-the-art in the use of paraprofessionals as an instrument of rural development. Our intention is to provide insights and practical assistance to officials of governments, voluntary agencies and development assistance organizations responsible for designing and implementing activities that make use of paraprofessional personnel. Because of the great variety of conditions and of available resources in rural areas, standard formulas are not possible. By our analysis of relevant experience, we do however provide guidelines which should increase the probability that programs will succeed and avoid the waste and frustration of trial and error approaches.

We have focused on paraprofessionals in health, in agriculture, and in community development programs, as these represent the range and greatest concentration of paraprofessionals. Because of the greater availability of data, many of the examples that follow are drawn from health-related activities. However, we consider that paraprofessionals have great potential utility in agriculture and in the conservation and management of natural resources--more than has been realized to date. Accordingly, we have included a special appendix (pages 107-128) dealing in more detail with those dimensions of rural development.

The information in this report was drawn from (1) an extensive review of the literature, most of which is listed in the bibliography (pages 139-149); (2) six field studies which are summarized in an appendix (pages 129-138); and (3) numerous discussions and exchanges of correspondence with knowledgeable participants and observers, many of whom are associated with development assistance organizations.

The authors are especially indebted to the members of the working group who participated over a period of nine months in the initial design and in the analyses of the field studies. In addition to Ellen Taylor and Norman Uphoff, these included Lin Compton, Forrest Colburn, Douglas Gritzinger, Robert Hall, Cynthia Moore and Margaret Savino. Colburn made an important contribution to Chapter V and to the polishing of the draft, while Gritzinger was the main author of the appendix on agriculture. The field studies were undertaken by Colburn, Gritzinger, Hall, Moore, Savino and Taylor.

Milton J. Esman
Royal D. Colle

Ithaca, New York
November 1980

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Chapter I

PARAPROFESSIONALS IN RURAL DEVELOPMENT: THE RATIONALE

The recent surge of interest in paraprofessionals stems from the need to extend basic public services to the rural majority. Most developing countries have succeeded in providing only fragmentary services to most persons who live and work in rural areas; there is little likelihood that they will increase that capacity in the near future if they continue to rely on conventional methods. The recent emphasis by foreign assistance agencies on meeting basic needs and orienting services to the poor majority has confronted program designers and project managers with a new challenge: how to reach the poor majority with services that are essential to the implementation of broadly based development efforts, given the limited professional manpower and financial resources likely to be available to most Third World nations in the near future?

Beginning with Point IV in 1949 and for the next quarter century, students of economic development and public administration, officials of developing countries, and managers of development assistance agencies shared a common expectation: that gradually increasing budgetary resources combined with the expansion of professional and technical manpower would enable governments steadily to extend public services, including those in health and agriculture, to the residents of rural areas. Since the extension of tried and tested Western-style services was regarded as a realizable goal, it was considered a mistake to compromise internationally-established professional standards in order to gain a few years. Indeed it was thought unfair to the publics to give them substandard services provided by less than fully trained personnel, who then would form a vested interest difficult to displace when professionals became available.

Experience, however, has belied this expectation. While government budgets have gradually increased in real terms, so have the claims on these resources, especially from burgeoning urban centers. At the same time, populations in the rural areas continue to grow in absolute numbers. Governments have been unable, for the most part, to afford to train and employ professional and technical personnel in sufficient numbers or to establish sufficient facilities through which they could provide rural publics with conventional services. Professionally qualified people, even when available, resist placement in rural areas; and when they are drafted into such assignments they often are so alienated from the majority of their rural publics and so ill-equipped to work in a resource-poor situation that they are unable to provide effective or responsive services.

Most governments cannot afford to finance basic services to their growing rural publics so long as these services are organized and staffed along currently conventional Western lines; even when health, agricultural and other services are made available in rural areas, they are frequently inappropriate to local needs, or the services are preempted by better situated rural dwellers who live near large cities or who come from more prosperous socio-economic backgrounds. And where services are provided by governments using conventional methods, the result may be an excessive dependency which undermines local initiative while eliminating any influence by local publics on the high cost and often inappropriate services that are made available.

The original expectations about the extension of services to the rural areas of developing countries along conventional professional lines have not been and are not likely to be realized. If appropriate and needed health and agricultural services are to be extended widely to rural areas, new forms of organization and innovations in public administration will be required. One of the most promising ideas has been the systematic use of paraprofessionals.

What Paraprofessionals Are and What They Are Not

The paraprofessional concept cannot be precisely outlined; there is no standard definition. The core of the concept denotes a person indigenous to the service area who has very limited technical or specialized training. Paraprofessionals offer a means of providing needed services at low cost to underserved publics, but the specific arrangements vary with circumstances. The concrete manifestation of the paraprofessional concept depends very much on (1) the kinds of services being provided, (2) the character of the local community, and (3) the expectations and preferences of those who design and direct the program. The operational variations on the paraprofessional theme will be treated in some detail in the next chapter on "the paraprofessional role."

For purposes of introduction, however, the following characteristics are usually associated with paraprofessional services:

1) Limited formal schooling: Paraprofessionals are unlikely to have more than elementary school education and may even be illiterate, but this may vary with the general level of education in the society.

2) Limited pre-service training: Paraprofessionals are likely to have no more than a few months of technical training before taking up their responsibilities.

3) Indigenous to the service areas: Paraprofessionals originate and have their roots in the region--though not necessarily in the particular community they are

serving. They speak the local dialect, understand local customs, and share local conditions and life styles, and thus should understand and empathize with the publics being served.

4) Maintain direct contact with publics: Paraprofessionals are in direct contact with the public. They may be the last link in the organizational chain that provides services; or alternatively, the first intermediary between the public and official bureaucratic networks.

5) Part of an organized private or public agency: Paraprofessionals are not autonomous actors. They are associated with a public or private agency that links their activity to sources of information, supplies, finance and other extra-community resources. It is responsible, in turn, for guiding, supporting and supervising their activities.

6) Semi-autonomous role in day-to-day operations: Paraprofessionals do not ordinarily perform strictly routine functions under close supervision. Though their scope is limited, they have some discretion and freedom of action in the way they deal with members of the public.

In concrete situations, a paraprofessional is likely to manifest most, but not necessarily all of these properties. It is more clear what paraprofessionals are not. They are not full-time subprofessionals or technicians and not graduates of technical institutes, like laboratory technicians or agricultural assistants. Nor are they likely to have civil service status with its attendent job security, welfare and retirement benefits. Below the level of the fully qualified and credentialized professionals are usually one or more layers of qualified and credentialized subprofessionals. A paraprofessional is frequently considered to be any person providing public services below the level of a fully qualified professional. This is a gross and misleading classification. There is really nothing new about subprofessionals; indeed every conventional professionalized service has always included and indeed required subprofessional staffs.

Nor are paraprofessionals entirely new; a number of countries have introduced programs using various types of auxiliary workers, primarily in rural areas.[1] Village health aides were introduced in 1947 in Alaska and the early U.S. agricultural extension system used farmer-demonstrators. What is new, however, is the upsurge in interest

[1]For the historical development of the use of auxiliaries in the health sector, see N.R.E. Fendall, "Forerunner," World Health Magazine, June 1972, and K. Elliot, "Using Medical Auxiliaries: Some Ideas and Examples," Contact, II, October 1972.

and the proliferation of programs using paraprofessionals. These front-line workers are now being widely advocated as a more appropriate method for meeting the challenge of providing services to the poor majority. Rather than isolated experiments, paraprofessionals are emerging world-wide, in small-scale efforts and in national programs.

Rationale for the Paraprofessional Role

Recent interest in paraprofessionals is a consequence both of necessity and opportunity. It has been found that local people with limited training can provide many needed services to low income publics at a price which governments and local publics can afford. For example, properly trained and supervised paraprofessionals can handle 90-95 percent of the health problems in rural areas at a fraction of the cost of providing them by conventional methods and organizations--even if the latter were available.[2] Services can be tailored and adapted to the capabilities of paraprofessionals—not the same services as would be provided by fully qualified professionals or even subprofessionals, but services which are needed and useful to low income publics and which can supplement those available from the limited number of conventionally trained and qualified staff members.

Aside from the vital cost advantage--which may often mean the difference between some services and none at all—paraprofessionals can claim a cultural affinity with their publics which is often unavailable from urbanized professionals. This enables them to appreciate the needs of their publics, adapt simple services to the latter's needs and preferences, and interpret these needs to officials who are likely to be socially, physically, and cognitively remote from small farmers, tenants, landless workers and rural women. Paraprofessionals, moreover, are able to provide and maintain stable and continuous staffing in remote and isolated rural communities where more formally qualified persons would not serve even if funds were available to pay them.

Providing services to rural communities usually requires contribution of some local resources—labor, information, management, and often financial inputs. Community-based paraprofessionals can help local publics mobilize these resources and combine them with external resources, and they can assist local publics in taking

---

[2] N.R.E. Fendall states that less than five percent of health problems require referral or hospital care. In Auxiliaries in Health Care: Programs in Developing Countries (Baltimore: John Hopkins Press, 1972).

advantage of the services being provided. Paraprofessionals can promote the organization and activation of local publics to help provide their own services. While not becoming self-sufficient, they can develop greater capacity to satisfy their needs by their collective efforts and can link more productively to the bureaucratic servicing networks of government. Paraprofessionals are not merely low-cost substitutes for conventional services; they can also performfunctions which are not forthcoming from the conventional providers of public services; and these services may be more appropriate to the needs and circumstances of rural publics than those provided by conventional methods.

Background of the Paraprofessional Study

The paraprofessional "solution" to the problem of public services for the poor has been controversial from the beginning. The medical establishment especially has mobilized strong opposition based on fears that health paraprofessionals would degrade the quality of service at great risk to the public, while producing a new, costly and ineffective bureaucracy. Advocates, on the other hand, argued that the paraprofessional approach is the only one that can effectively reach the poor, that it is more appropriate to many of their needs than conventional services, and that the risks of substandard services can be controlled by training, supervision, and appropriate supporting structures. As with most innovations, the skeptics were matched by the enthusiasts, the denigrators by those with unrealistic expectations.

Beginning in the mid-1960s, individual experiments increasingly began to surface in many countries, first in the field of health, then in community development, and more recently in agriculture and nutrition. Each experiment tended to be guided by trial and error, for there was no systematic evaluation of experience, no body of knowledge to guide program managers. Early in 1979 when the Cornell working group began to examine the literature on paraprofessionals, there was already a substantial and growing body of project descriptions, supplemented by a literature of advocacy. The village health worker was becoming a standard feature of rural health programs and important experiments in agriculture were underway.[3] While impressionistic assessments and generalizations from these experiences by knowledgeable observers and

[3]The Alma Alta Conference in 1978 confirmed the role of village health workers and of community participation as standard features of primary health care programs. There is no similar consensus in agriculture, though the number of well publicized experiments is increasing, e.g. the World Bank sponsored Training and Visit System.

participants had begun to appear, there were virtually no data-based analyses and evaluations of these experiments. The need for and potential utility of empirical analysis was evident--given the rapid spread of the paraprofessional phenomenon.[4] Given the lack of reliable guidance, projects involving paraprofessionals were being launched without adequate attention to the management factors that might determine their successes, and without consideration of the social context in which they were expected to function.

The Cornell group decided originally to focus on the role of paraprofessionals in two major sectors, health and agriculture. Health was selected because it was the most advanced and best documented sector with paraprofessional experience. Agriculture was selected because the economic base of rural areas is usually farming, yet small farms are notoriously underserved by conventional public services, and interesting experiments in the use of paraprofessionals had begun to emerge. While the project attempted to limit itself to these two sectors, unavoidably it was drawn to some experience with paraprofessionals in community development.

Having completed the literature survey and its analysis, the Cornell group arranged through AID funding to investigate six experiences on the ground. These cases were not intended to provide a "representative sample" but rather a selection of diverse and informative on-going experiences. Access to recent experiences was provided jointly by host governments and local AID missions, and the need to secure such cooperation directly influenced the selection of these six cases. Data from these field cases, supplemented by the more scattered data in existing literature, would illuminate the paraprofessional experience in a systematic way, provide some preliminary guidance to practitioners, and identify problems and propositions for further investigation.

The six field studies were conducted by Cornell graduate students who had participated in a semester-long seminar on the role of paraprofessionals in the spring of 1979 and had been part of an intensive month-long workshop in September 1979 in which they elaborated common research strategies and developed common research instruments designed to facilitate comparative analysis. Their field research was

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[4]Royal D. Colle, Milton J. Esman, Ellen Taylor and Peter Berman, Concept Paper: Paraprofessionals in Rural Development (Ithaca, New York, Cornell University, Center for International Studies, Rural Development Committee, March 1979). Subsequent to this publication there appeared a monograph by Doris M. Storms, Training and Use of Auxiliary Health Workers: Lessons from Developing Countries (Washington, D.C.: American Public Health Association, 1979). This monograph carefully describes and evaluates the state-of-the-art on the use of auxiliaries in community health activities.

completed in late 1979. The resulting reports are being published as case study monographs by the Rural Development Committee. The six projects are: the Community Development Service in Bolivia, the Sine Saloum Health Care Project in Senegal, the Sarvodaya Shramadana Movement in Sri Lanka, the Rural Health Care Program in Guatemala, the Samahong Nayon and Farmer Scholar Programs in the Philippines, and the Project of Equal Access to Education for Women and Girls in Upper Volta. The cases cover six countries in three continents; they include activities sponsored both by governments and voluntary agencies; and they deal with projects in health, agriculture and community development.[5]

Orienting Propositions

From the review of the literature and discussions with knowledgeable and experienced persons, the following orienting propositions emerged:

1) The communication and adoption of improved agricultural and health practices can be facilitated at reasonable cost through the use of paraprofessionals.

2) The effectiveness of paraprofessional programs depends upon the adoption of appropriate management practices particularly related to selection, training, compensation, supervision, and support.

3) The effectiveness, efficiency and responsiveness of paraprofessionals will vary directly with their success in encouraging local participation, particularly through local organizations.

The purpose of this research is not so much to "test" these broad ideas, but rather (1) to disaggregate them into more specific statements which relate to choices facing practitioners of rural development; (2) to elaborate the practical implications of different choices by careful and objective analysis of data from these six field studies and from other experiences that have been reported; and (3) to identify specific modes of action that might strengthen paraprofessional performance and which can be tested by real life experiments in development projects.

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[5]The disciplines represented by the researchers were Political Science, Rural Sociology, Regional Planning, Education, and Human Service Studies. The participating faculty represented Communication Arts, Education, Political Science, Public Administration and Anthropology. The field studies were conducted by Forrest Colburn (Guatemala), Douglas Gritzinger (Philippines), Robert Hall (Senegal), Cynthia Moore (Sri Lanka), Margaret Savino (Bolivia), and Ellen Taylor (Upper Volta). Case study monographs will be available in Spring 1981 from the Rural Development Committee, Center for International Studies, Cornell University.

Chapter II
PARAPROFESSIONAL ROLES

What Do Paraprofessionals Do? Functions and Tasks

Our research has identified eight functions commonly performed by persons who fit our definition of "paraprofessional." Within each category of functions are a great variety of specific tasks, depending on the structure and content of the program. An individual paraprofessional is likely to be involved in several functions and to perform combinations of tasks, the most common of which are suggested in Figure 1 (see p. 13). All of them involve the paraprofessional as an intermediary between local publics and a service agency, transmitting information in both directions and assisting local publics to claim and use resources which are available through the paraprofessional's efforts.

1) Service Delivery: Paraprofessionals frequently provide specific services for a community or a group within a community. These range from the provision of basic first aid, drugs, food supplements or immunizations to the certification of credit-worthiness for small farmers, the distribution of agricultural inputs such as seeds and fertilizers, and the operation of day care centers for children. There are two contrasting styles of service delivery: (a) the promotional style, where paraprofessionals actively reach out to their publics to "sell" their services; and (b) the passive style, where paraprofessionals make services available primarily when requested by members of the public. The contrast is between house-to-house or field visits, and waiting for members of the public to visit the health post or otherwise personally contact the paraprofessional.

2) Education: Paraprofessionals are frequently involved in spreading information about improved practices or new technologies. Baumslag's review of 39 low-cost AID health projects showed that 79 percent were involved with community education.[1] What has come to be known as "non-formal" education may include a wide range of activities, from imparting improved nutritional practices to training in environmental sanitation and the demonstration of innovations in farming and livestock management. In effect, paraprofessionals are frequently involved in frontline extension work. As frontline extensionists they may interact with individuals and single households, work with organized groups, or even guide the participation of local publics

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[1] N. Baumslag et al., AID Integrated Low Cost Health Projects: Volume II, Analysis. Report prepared for USAID by the Office of International Health, U.S. Department of Health, Education and Welfare, Rockville, Md., 1978.

in radio listening forums. Teaching and persuading are considered by some observers to be the most important paraprofessional functions.

3) Community Organization: Closely allied with the educational and service delivery functions is the role of animator, promoter, or community organizer. This involves the activation of publics, either an entire village or particular groups (mothers, youth, small farmers), so that they may take advantage of newly available services, participate in their management, or mobilize labor, information and local skills that constitute the community's contribution to the program. Community organization is perhaps the most difficult, sophisticated and proactive of all the paraprofessional roles. It involves the most delicate process of intervention in community life, including the difficult and subtle choice between tapping existing, often informal networks, and sponsoring new organizations. Some programs like the community development program in Bolivia are predicated on local organization as a precondition to paraprofessional services; others, particularly in curative health, may minimize this dimension once the approval of local authorities and influentials has been gained. The specific tasks may range from motivating a village to build a feeder road or health post, to inviting women to gather for a well-baby clinic as part of a child health program, or organizing radio discussion groups.

4) Acquisition of Goods and Services External to the Community or to the Service Agency: The paraprofessional, in this role, is an advocate or expeditor, helping a rural community to tap sources of finance, information, or supplies which are not locally available. The village health worker may facilitate local access to equipment and technical assistance for a water supply system; the agricultural paraprofessional may speed up the flow of credit to small farmers. The effectiveness of paraprofessionals in tapping outside resources and in linking with other agencies may depend on the support they can expect from their supervising agencies, as well as their success in organizing the community to mobilize counterpart resources as a basis for making an effective claim on external resources. Often programs do not have fully functioning supply lines so paraprofessionals themselves may have to arrange for resupplying the medicine chest or for the provision of food supplements or fertilizers.

5) Referral: A standard function of the paraprofessional is referring persons whose needs cannot be met locally to installations or facilities that can provide more complex or sophisticated services. This is particularly common in curative health programs where the village health worker or midwife is instructed to refer difficult cases to regional clinics, or severely malnourished children are sent to rehabilitation

facilities. Associated with this function is frequently the task of following up and checking on discharged patients. Success in this function depends mostly on the structure and capabilities of the larger organization within which the paraprofessional works.

6) Record Keeping and Equipment Maintenance: When programs provide valuable resources to communities or special publics through paraprofessionals, the latter are often required to maintain strict control over these resources. This may include the maintenance of facilities (e.g., health posts) or of equipment (e.g., pumps or threshers). It usually involves meticulous and detailed record keeping and reporting, for example, of visits to clinics, drugs dispensed, funds collected, or incidence of diseases. Record keeping and reporting are necessary to the maintenance of accountability in all administrative operations. Health paraprofessionals, however, may be required to maintain such detailed controls over pharmaceuticals and financial payments and to keep such elaborate records as to displace their main functions of service delivery, education and community organization.[2] When paraprofessionals participate in the administration of agricultural credit, much of their time may be consumed in policing the uses of credit, an activity that may in the minds of their clients compromise their role as providers of services. They may thus become seen as disciplinarians, as agents of officialdom, rather than as representatives of the community.

7) Collection and Analysis of Data: Because they are conveniently located in rural settlements and are in direct contact with rural publics, paraprofessionals are frequently used as data collectors. They may conduct baseline surveys, record births and deaths, or document changes in behavior. The may also perform the initial processing of information of many kinds. Nutritional surveillance programs call on paraprofessionals to take, record and report periodic measurements of food consumption and physical development of children. Agricultural paraprofessionals may observe, measure and report on a variety of subjects ranging from routine crop reporting to early warning of plant diseases and the results of innovations in farming and livestock practices. This role is vital for monitoring and evaluating programs, but program managers are often tempted to use paraprofessionals to help collect data for

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[2] Regulatory, record keeping, and reporting tasks frequently prevent agricultural extension workers from providing services to farmers. This has been noted in India by S. Heginbotham, Cultures in Conflict: The Four Faces of Indian Bureaucracy (N.Y.: Columbia University Press, 1975); and in East Africa by D. Leonard, Reaching the Peasant Farmer: Organization Theory and Practice in Kenya (Chicago: University of Chicago Press, 1977).

any number of unrelated activities, thus infringing on time available for their main tasks.

8) Demonstrating and Testing Innovations: Model farmers, contact farmers, and farmer-scholars represent a paraprofessional role that selects local people to test and/or demonstrate innovative practices. Underlying most such examples, as in the World Bank's Training and Visit (T&V) System,[3] is the premise that many useful innovations are exogenous to the local society, that the objective is to secure new "adoptions" by local farmers. Needed modifications, as identified through paraprofessionals' reports and other means, can best be achieved by professionals in their offices or experiment stations and then transmitted to the field for subsequent demonstration and field testing by paraprofessionals. One of the risks of this system is that those selected to be model farmers will be the principal beneficiaries of the innovations. A more recent approach is to look at innovations as syntheses of local experience and exogenous science, in which local farmers, with the help of paraprofessionals who are accountable to them, participate actively in the selection, testing, and evaluation of innovations.[4]

Combinations and How They Emerge

The life of a paraprofessional is seldom confined to a single function or a single task. In the health sector, for example, there appear to be two common situations: the village health worker who provides services (diagnoses illness, dispenses drugs, cares for individual patients), makes referrals when indicated, provides health and nutrition education, and keeps records; and the sanitationist or hygienist who organizes the public for environmental control, educates them to the need for improved practices, demonstrates improvements, and helps to secure technical assistance and equipment from outside sources. In agriculture, where experience is more limited, the combinations appear to involve service delivery and control, as in the case of paraprofessionals working in supervised credit programs; and non-formal education,

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[3] Daniel Benor and James G. Harrison, Agricultural Extension, The Training and Visit System (Washington: The World Bank, 1977).

[4] An instance of a participatory approach to agricultural research is reported by Lynn Gostyla and William F. Whyte, "Agricultural Research and Development: The Evolving Honduran Model," unpublished paper, Cornell University, Ithaca, N.Y., 1979. A state-of-the-art paper on innovative, participatory approaches to agricultural research and extension is being written for the Cornell Rural Development Participation Project by Professor Whyte and will be available in early 1981.

demonstration and the acquisition of information and resources for those engaged in extension-type operations. In community development the most frequent combination is community organization, education, and facilitating access to externally available resources. As the use of paraprofessionals increases, other concrete combinations of functions are likely to emerge. In the nutrition field, for example, nutrition education and local demonstration of innovations have been combined with the collection and processing of information required for nutritional surveillance activities. It has been suggested that paraprofessionals may be useful in the emerging field of community forestry, combining community organization with self-help activities that would incorporate strict discipline in the protection of reforested areas.[5] Figure I indicates the proportion of time spent on various activities by paraprofessionals in the six field cases investigated in this study.

The definition of the paraprofessional role and of the specific tasks they will carry out can be determined by the administrative agency, by the publics that are being served, by local influentials, by combinations of the three, or in some cases by the paraprofessionals themselves. These decisions will be affected by the nature of the program, the training and logistical support provided to the paraprofessional, the economic resources available, the time commitment of the paraprofessional, and the social structures and preferences of the local community. The most important factor, however, appears to be the administrative agency. Thus David Werner, after visiting 40 rural health projects in nine Latin American countries, concluded that

> (T)he great variation in range and types of skills performed by village health workers in different programs has less to do with the personal potential, local conditions, or availability of funding than it has to do with the preconceived attitudes and biases of health program planners, consultants and instructions....Seldom do the villagers have much, if any say, in what their health worker is taught and told to do.[6]

Scope of the Paraprofessional Role

Range of Activities. Paraprofessionals may work in a single sector, such as health, agriculture or nutrition. Or their range may be multisectoral, as is the case of

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[5] E. Eckholm, Planting for the Future: Forestry for Human Needs, (Washington: Worldwatch Institute, Paper No. 26, 1979).

[6] D. Werner, "The Village Health Worker: Lackey or Liberator?" in M. Skeet and K. Elliott, ed., Health Auxiliaries and the Health Team (London: International Hospital Federation, 1978), p. 180.

FIGURE 1

	Samahong Nayon Philippines	Equal Access Midwives Upper Volta	Equal Access Animatrice Upper Volta	Health Promoters Guatamala	C.D. Promoters Bolivia	Sarvodaya Community Leaders Sri Lanka	Sarvodaya Health Workers Sri Lanka	Sarvodaya Day Care Workers Sri Lanka	Sine Saloum First Aid Workers Senegal	Sine Saloum Hygienist Senegal	Sine Saloum Midwives Senegal
Service Delivery		95%		50%	15%		25%	75%	80%	10%	85%
Non-Formal Education	50%		5%	15	10		15		10	90	5
Community Organization			90	25	50	25%	25	5			
Acquisition of Resources	20				15	25					
Referral		5		5		10			5		5
Control & Record Keeping	20				5	10	5	10	5		5
Collection of Data	10				5	5	10				
Local Demonstration			5	5							
Other						25	10	10			
Part time (P) Full time (F)	F	F	P	P	F	P	P	P	P	P	P
Paid (p) Unpaid (u)	p	u	u	u	p	p	u	p	p	p	p
Single village (1) Several villages (S)	1	1	1	1	S	1	1	1	1	1	1
Single Sector (1) Multi sector (M)	1	1	M	1	M	M	1	1	1	1	1
Accountability: Agency (A) Local (L) Combination (C)	A	C	C	A	C	C	C	C	C	C	C

community development workers or those heavily engaged in non-formal education. Paraprofessionals may be limited to only one task (monovalent) in a single program, such as being mid-wives or smallpox vaccinators; or they may perform several tasks (polyvalent), as do village health workers, contact farmers, or community development workers. While the range is considerable and generalization is difficult, most paraprofessionals work in a single sector and are trained initially to perform a limited range of tasks. Thus, they are polyvalent within a limited programmatic sphere.

Given their limited education and training and the limited supervision usually available to paraprofessionals, program designers usually feel that paraprofessionals will be more effective if they are confined to a small number of specific tasks. There are, however, fewer and fewer monovalent workers because such specification is usually impractical at the village level. It is a poor use of staff resources and such limitations compromise the utility and the credibility of paraprofessionals when they cannot respond to closely related needs, even in a single sector such as curative health—especially in areas where no other trained personnel are available to provide needed services. The validity of a monovalent strategy is raised "when a trained family planning visitor visits a village home to advise the mother on contraceptives, but fails to notice her child with marasmus, her husband with pneumonia, and the latrine situated six feet from the family well."[7] Thus, we find today that health programs are introducing polyvalent workers and that private voluntary organizations especially are active in integrated rural development approaches with polyvalent workers providing other basic services as well as health care. Unfortunately, functional divisions between line agencies and ministries often make it difficult to program polyvalent roles across sectors.

But paraprofessionals' credibility is also at risk if they attempt to provide services that are clearly beyond their capabilities, given their limited education, training, and supervision, of which their publics are acutely aware. The compromise is usually to limit the tasks for which the paraprofessional is responsible to a few related activities which seem to be within what can reasonably be expected of a modestly educated and relatively untrained person, often working part-time and with meager compensation.

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[7] F.M. Shattock, "Placement and Career Prospects of Paramedicals," in H. Diesfeld and E. Kroger, ed., Community Health and Health Motivation in South East Asia, Proceedings of an International Seminar organized by the German Foundation for International Development and the Institute of Tropical Hygiene and Public Health, South Asia Institute, University of Heidelberg, 22 October-10 November, 1973, (Berlin/Wiesbaden: Franz Steiner Verlag, 1974), p. 43.

An alert and sensitive agency, however, can use its in-service training programs to expand the range of their paraprofessionals' capabilities in response to changing needs and demands. Unless this is done, the credibility and effectiveness of paraprofessionals may erode as they fail to respond to changing needs and emergent expectations. Though the data revealed no such cases, there are opportunities for paraprofessionals representing different specialized agencies (e.g., health, agriculture, veterinary) in the same area to cooperate and share the responsibilities of providing services in order to maximize their joint responsiveness to local needs.

Time Commitment. Paraprofessionals can serve on a full-time or part-time basis. Part-time can mean as little as one hour a day (e.g., the village health workers in our Guatemala case), or on demand (e.g., mid-wives in small communities in our Senegal case), or several hours a week in more concentrated periods (e.g., contact farmers). The critical factor is compensation. Unpaid volunteers earning meager incomes can afford only a limited commitment to their paraprofessional duties, while paraprofessionals receiving regular stipends, even though modest by civil service standards, may be expected to devote full-time to their work. Exceptions to this pattern have been recorded in highly altruistic or ideological programs where paraprofessionals are reported to devote their energies to full-time service on an entirely voluntary basis. However, in these instances, it is obvious that the paraprofessional has other means of support, perhaps from family members, and is not the sole or major provider of a family. The vast majority of paraprofessionals are part-time since they are either unpaid or are given only minor stipends.

Geographic Coverage. Paraprofessionals may serve a single village or a set of neighboring communities. Where there are pronounced inter-group tensions within villages, it may be necessary to have more than one paraprofessional providing the same services but to different publics. Unpaid paraprofessionals usually serve only their own community because of their limited time commitment and the difficulty of transportation in most rural areas. Full-time staff may serve two or more communities (e.g., the community promoters in our Bolivia case), but not all paid or full-time paraprofessionals work in more than one community. The geographic range even of full-time paraprofessionals will depend on transportation facilities, size of clientele population, and the intensity of service required. Thus, where very intensive service is desired and seems feasible, it may be necessary to have part-time volunteers working under the paraprofessional, introducing in effect a second stratum of paraprofessionals. For example, the Klampok project in Indonesia assigns one village health worker to each

15 families; the VHWs are volunteers, supervised by a paid and better trained paraprofessional.[8]

Though geographic coverage is a variable, most paraprofessionals work in a single community. They may serve the general population, as is usually the case with village health workers, or they may provide services to members of a single category of persons, e.g., mothers or small farmers.

Accountability. It is seldom clear in the design of paraprofessional programs who is accountable to whom for what activities and by what procedures this accountability can be exercised. The paraprofessional may be accountable to the community as a member of that constituency and/or to the service agency as a peripheral person in that system. In fact, accountability for most paraprofessionals is shared by agency and community, though in the latter case it may be exercised on their behalf by local elites.

Three kinds of power can be used to indicate accountability, including the powers (1) to define the concrete task, (2) to hold the paraprofessionals responsible for their performance, and (3) to impose discipline, including the termination of employment. Generally, the agency defines the formal role and specific tasks, provides training, makes certain benefits and resources available (e.g., drugs, supplies, information and sometimes salary and transport), provides supervision, and may be able to terminate employment. The community usually furnishes the facilities, sometimes pays for service in the form of stipends or fees for services, provides the social approval and support that are essential to the activity, and influences the concrete interpretation of the paraprofessional's role and the specific activities to be performed. Paraprofessionals must adapt their performance to what the community demands and is willing to accept--often fitting new services into familiar role sets.

"Effective", as compared to "formal" accountability is a pervasive problem in paraprofessional operations. Because of their remote and isolated location, the fact that many paraprofessionals are part-time, unpaid or only modestly paid, and the weakness of supervisory structures, paraprofessionals frequently are not effectively accountable to the sponsoring agency. Neither are local publics sure of their responsibilities or how to exercise them, even when they are supposed to be in charge. As a result, paraprofessionals often float in an indeterminate zone between the sponsoring agency and local publics, not effectively responsible to either. This

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[8] L. Hendrata, "Model for Community Health Care in Rural Java," Contact, 31, February 1976.

uncertainty may result in autonomous innovation, and/or in self-determination by the paraprofessionals of the tasks they actually perform. More often, however, it results in a resort to formalism, the ritualistic performance of specified tasks, or very considerable inactivity and poor use of time.

We found some cases where local publics enforced accountability by positive efforts to influence the performance of paraprofessionals and even by securing their dismissal and replacement. In general, however, since local groups do not tend to participate actively in the management of paraprofessional programs, the control that they exercise is more passive than active. Most paraprofessional activities require responsive action on the part of publics--to accept services, provide information, contribute time, labor and funds, or simply to be educated. Therefore, the publics can and frequently do enforce some de facto control since a paraprofessional must be able to get their cooperation if the job is to be done. Yet even when paraprofessionals fail to elicit cooperation, they may not be corrected or replaced either by local publics or by the sponsoring agency. In Upper Volta, for example, though a paraprofessional was known to be ineffective, the agency refused to intervene in what was considered a community affair and the village failed to take initiative. An ambiguous accountability system meant, in effect, no accountability at all.

This raises the question of how much local publics care. For the most part they apply the pragmatic test: what fresh skills, what additional resources, what incremental benefits do paraprofessionals bring to the community? Where the benefits are marginal, the costs of maintaining accountability are seldom worth the effort and the strain to local publics. Where the benefits might be substantial, and especially where the community is making significant contributions, there is an incentive to demand performance from the paraprofessional according to local expectations.

Performance may also be demanded of the sponsoring agency of a paraprofessional whom local publics respect, though how to get government action may be a problem in many rural areas. Who is responsible for what aspects of the paraprofessional's performance and how these responsibilities are exercised remain ambiguous in most paraprofessional programs. The doctrine of local involvement and local participation which is one of the strengths of the paraprofessional strategy tends to compromise accountability because it must be divided between the local public and the sponsoring agency. The mechanisms for shared accountability have not been adequately developed in most paraprofessional programs even though such an approach appears most likely to maximize program effectiveness.

Chapter III

ISSUES IN EMPLOYING PARAPROFESSIONALS

Although paraprofessionals are being used widely throughout the less developed countries in a variety of roles, there has been little analysis done on the management factors which confront policy and decision-makers when incorporating paraprofessionals in their rural development programs. Yet, in reviewing the literature on paraprofessionals, the importance of appropriate policy decisions was clear. Consequently, one of the general propositions guiding our study was that correct decisions by program designers and implementors concerning a series of personnel management variables can significantly affect the value of paraprofessional services. Our preliminary investigations indicated that these administrative variables fall into three areas: (1) selection: who is to select the paraprofessional and by what criteria; (2) training: when, how often, and what should the content include; and (3) compensation: should the paraprofessional be compensated and if so, how much and who should bear the responsibility.

There are no clear-cut formulas. As might be expected, our research showed that paraprofessional programs must be planned according to local needs. Not only is it impossible to transport a model from one country to another context, but regional variations within a country demand that the program be flexible to respond to differences among communities and among paraprofessional tasks.

While the three areas are discussed separately for analytical purposes, they overlap considerably. Any one decision may determine the subsequent range of alternatives available to the program planner. For example, deciding upon a literacy requirement may mean that the paraprofessional has to be recruited from outside the community since the available pool of literate residents is limited; this, in turn, may mean that the sponsoring agency must pay the paraprofessional a salary since there may be no other livelihood source to rely on in the village, and the community may be too poor or unwilling to compensate the worker.

Selection

Process. There is no single or "right" method for selecting paraprofessionals. The tested alternatives range across a spectrum falling under three general categories: (1) community selection, with complete control by the community; (2) joint selection, including community participation and agency input; (3) agency selection, with

no community involvement. Proponents advocating complete responsibility to the community feel that "local people know best" and that input from administrators or professionals would mar the choice, allowing outsiders' views to prevail.[1]

To assure the paraprofessional's acceptability to the community while screening for work performance potential, a number of programs combine community participation with program officials' input. Such an alternative may take the form of (1) representatives from the agency and community jointly interviewing candidates but with the community retaining the final decision; (2) community or local leaders being requested to nominate candidates from among whom the agency makes the final choice; (3) community approval being sought for agency-selected candidates.

Which option is chosen depends upon the objectives of the program, the role envisioned for the paraprofessional, and the political environment. A program with the strict intention of increasing agricultural productivity may be required to screen for a technically competent paraprofessional, compared to the community health program which seeks to develop local responsibility for health care requiring that the community select its own paraprofessional. The local and national political contexts ultimately determine the feasibility of any selection process and how it will be implemented. For example, a government worried about rural insurgency is unlikely to encourage entirely autonomous local selection.

Community Control. With the growing realization that local people's participation is necessary to build appropriate and self-sustaining development efforts, more and more programs are turning complete responsibility for the selection of paraprofessionals to the community. This is seen as a way to enlist popular support and to assure that the worker will have the characteristics valued by villagers. Control may be given to the population as a whole, or this responsibility may be confined to local leaders or to a local committee. In the first approach, the local population may be left to select its paraprofessional according to established method of decision-making. Frequently no specifications are set. It is apparently assumed that the community members will collectively participate in the decision-making resulting in the selection of the most suitable candidate. One problem which arises is that rural villages may be "communities" only in the sense that inhabitants can be identified as living in and

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[1]See especially Susan Rifkin, Community Health In Asia: A Report on Two Workshops (Christian Conference on Asian Health Concerns, Singapore, June 1977); and Carroll Behrhorst, "The Chimaltenango Development Project, Guatemala," Journal of Tropical Pediatrics and Environmental Child Health, 20:6, December 1974.

belonging to a particular geographical area. Persons living in a collection of houses or working adjacent fields may have few common goals and values or little collective capability to determine priorities, make decisions, and allocate resources. What to the outsider appears to be a process of community decision, in fact, may be only a mask for elite control. Or the community may be riddled with factional interest groups so a single acceptable decision is impossible to achieve. To declare broadly that the community will select its own paraprofessional may be overlooking a complex social structure where a popular selection process is impossible. (Community factors affecting paraprofessional programs are discussed in more detail in Chapter V.)

Experience, in fact, shows that often when the community is left to select the paraprofessional in its own fashion, the decision rests with the local elites or influentials and is not based on broad community participation. This may be due to the fact that program officials have communicated only with local leaders; it cannot be assumed that these leaders will necessarily inform the public at large or elicit their opinions in the selection process. Watts, writing about village health worker selection in India, suggests that "in less conscious communities with a greater feudal element, the chief will probably suggest his brother, his nephew, or his son."[2]

Of our six case studies, Guatemala, Upper Volta, Sri Lanka and Senegal were examples of programs seeking general community involvement in the selection process. All four introduced the concepts of the programs and the paraprofessional's role during open community meetings, inviting the populations to choose candidates for training. It was found, however, that in Guatemala the health technician supervising the program or a village influential often selects the paraprofessional. In Upper Volta this decision generally rests with the village chief. While the Senegal health project sets no formal selection strategy, it attempts to decentralize the selection process by identifying separate segments of the population to nominate candidates for the three different health worker positions; for example, village women are to select the midwife. With several paraprofessional roles assigned to different indigenous groupings, it may be possible to encourage broader participation in the selection process. The village's ability to support several paraprofessionals, however, needs to be considered.

Not only does the control by one or a few individuals compromise the potential for a self-sustaining development effort but it may undermine the acceptance of services and aggrevate existing inequities. The Kavar Health Project in Iran found that rather

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[2]Geoff Watts, "People's Health in People's Hands," World Medicine, 13:8, January 25, 1978, p. 21.

than solicit village participation in the paraprofessional selection, the village leader selected a close relative, representing a particular faction, so that community-wide acceptance of the paraprofessional and the services delivered was impossible.[3] A program in Botswana also cites problems when the village workers are chosen by local leaders.[4]

This is not to suggest that a representative community selection process cannot be instituted or that an individual chosen by the local leader necessarily will be ineffective. In cases where the local elites do not block popular expression and equitable community improvements, a truly participative selection process is possible; or where local leaders are widely respected, their designees can be highly successful. In fact, in many communities, support of the paraprofessional by the authority figure may contribute directly to the worker's ability to perform. Not only will this support establish the paraprofessional's credibility and legitimacy in the eyes of fellow villagers but new practices will be much more readily accepted if they are endorsed and used by village influentials. Depending upon the authority structure in the community and the deference patterns in that structure, the leader's support of the paraprofessional may make the difference between success and failure.

Rather than turning the selection process over to the community at large, a more widely used approach gives this responsibility to an existing organization such as the community council, peasant league or cooperative group. Especially prevalent in the health field is the creation of a program-related committee which is to select the paraprofessional and be responsible for health matters in the community. These committees provide a structure for decision-making. They are seen as a way to institutionalize people's support and participation and assure the worker's accountability to the community. As mentioned previously, however, these groups are often controlled by a local faction or local leaders who may not represent the interests of the broader population. Our research from Sri Lanka suggests that although Sarvodaya policy stipulates group consensus in paraprofessional selection, the tendency is for village notables and higher-level workers to nominate candidates and request concurrence of the group. Since concurrence usually is forthcoming, the selection of the paraprofessional is effectively predetermined.

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[3] Hossain Ronaghy et al., "The Front Line Health Worker: Selection, Training, and Performance," American Journal of Public Health, 66:3, March 1976.

[4] Marit Kromberg and N.N. Mashalaba, "La formation des monitrices en mieux-etre familial au Botswana," Assignment Children, 33:1, January-March 1976.

Combination Process. To guard against possible elite control or the provoking of factional rivalries, many paraprofessional program planners recommend that the agency reserve the final decision for selecting the paraprofessional. The community nominates candidates, so that the individuals considered for appointment have the desired socio-cultural traits and enjoy community support. Then, the agency officials screen the candidates according to some set of criteria generally including: age, sex, health, influence in community, potential for training, etc. The dominant objection to this selection method is that it can allow outsiders' views and biases to prevail and may result in shifting the paraprofessional's accountability from the community to the agency. Research from Ghana and elsewhere, however, suggests that villagers often base their decision on who should receive the benefits accruing from such a position rather than on who is the most qualified and suitable person.[5] Consequently, agency involvement in the screening process may be advisable. The point remains, though, that in every instance the "community" should be clearly identified and every effort should be made to develop a viable structure for popular decision-making.

A selection process by the National Community Development Service (Servicio) in Bolivia may be more costly in terms of training needs but it also may achieve greater success in identifying competent as well as community-acceptable persons. According to this process, villages elect individuals to attend a two-week leadership course. Out of this group, the Servicio identifies individuals with demonstrated leadership capabilities. A more complicated process but extremely successful in selecting suitable paraprofessionals is the sociometric technique which was recommended for use by the agricultural extension service throughout Thailand and employed specifically by the Lampang Project.[6] This method is being reassessed, however, in terms of its cost-effectiveness when compared to the more standard approach of relying upon community leaders' recommendations.

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[5]IDS Health Group, Health Needs and Health Services in Rural Ghana (Brighton: University of Sussex, Institute of Development Studies, June 1978).

[6]Research from Thailand shows clearly that "the greater the number of people consulted in choosing a village farmer leader, the better his leadership will be. The sociometric technique, despite the difficulties in its implementation (comparatively high costs and agents' unfamiliarity with the technique) in data collecting, editing and analysis, should be used by extension agents in the future for identifying leaders." Summary of the Doctoral Thesis "Effectiveness of Three Techniques of Identifying Leaders in Lam Pao Irrigation Project, Northeast Thailand" by Adisak Sreesumpagit, Ministry of Agriculture and Cooperatives, Bangkok (summary prepared by UNDP/DSCS, December 1976).

Summary. The literature and our field research suggest that paraprofessionals selected with broad community participation are more successful as indicated by the following results: community members in general feel that they have contributed effectively to the decision-making process; they are more knowledgeable about the program and the paraprofessional's role; and they demonstrate greater acceptance and support of the paraprofessional's activities. Gaining wide community involvement in the selection process, however, depends upon the local context and leadership structure. While the significance of a representative community selection process is clear, operationalizing such a process may be difficult in cultures accustomed to accepting leaders' decisions or where divisions in caste, class, family, ownership of assets, etc., foreclose popular expression and regulate the range of permissible action and institutional development.

Given these realities, an analysis should be conducted of how the selection process is likely to occur in a given setting before the paraprofessional selection is initiated. Factors to consider include: leadership structure, existing modes of participation--who participates in what, how and why--motivations of various interest groups, and incentives and rewards accorded the paraprofessional. Thus, potential problems may be identified and plans developed accordingly. Where elite control or factional interests appear likely to influence the selection process and adversely compromise program goals, program officials may be advised to retain the final decision, in which case a sociogram study would aid considerably in selecting the appropriate individual. However, our research and review of the literature lead us to conclude that the final decision of retaining or replacing the paraprofessional should rest with the community.

Criteria. The objectives of the program and the nature of the paraprofessional role should determine the selection criteria. Some programs set no requirements whatsoever, requesting merely that the community select the most acceptable person. Others ask the community to make their choice with reference to specific criteria which vary widely across programs. Some of the more commonly found criteria include: age, sex, marital status, residency, experience, financial resources, personal characteristics, and/or literacy. When the agency retains control over the selection process, interviews, written tests, and/or physical exams may be administered to assure that the paraprofessional has the necessary characteristics to accomplish the job. The crucial factor is, however, that the paraprofessional be acceptable to the community.

The following section discusses the eight most common criteria used in selecting paraprofessionals. Drawing upon the experiences of the six programs investigated

during our field studies and others for which we have information, a number of general lessons have emerged which should aid the program planner in setting appropriate selection criteria. There is no universal set of criteria since recruitment standards must be adapted to the cultural context and program goals.

1) Age: While some programs have used young men and women with success, the general consensus is that older paraprofessionals are more likely to be successful. Not only are respect and credibility a function of age in most cultures but younger persons are more likely to move, marry or have children—factors which may prompt her/him to leave the job, or infringe on the time available to work. The young person is also more likely to view the paraprofessional role as a stepping stone to a better job. Consequently, the attrition rate is higher among younger personnel and the program is faced with frequent and costly training of replacements. Experience from Jamaica suggests that young Community Health Aides, especially those under 21, had limited effectiveness and now married women over 30 are recommended for the posts.[7] Our research from Upper Volta, Bolivia and Guatemala suggests that selecting middle-aged women is founded on very reasonable premises: (a) their child-bearing years are past so they have more time to devote to extramural activities; (b) their years of experience accord them more respect; (c) they are sedentary, less likely to travel, and so are always available.

Some programs set an upper age limit since it is felt that someone old and feeble cannot do what is expected. Advanced age may obstruct some individuals' learning capacity or they may be too tradition-bound to practice new techniques. Their years of work are limited, raising concerns about reselection and training. On the other hand, short of physical or mental infirmity (which must be judged on a case by case basis) there seems no reason not to recruit older persons. The Sarvodaya Movement encourages the involvement and selection of youth who have the time and energy to devote to their tasks. A problem which emerged in this case, however, is that the Movement is often identified erroneously as a "Youth Program" since the majority of the paraprofessionals are themselves youths. The age of the paraprofessional may significantly influence who uses the program's services.

2) Sex: Societal constraints are an important factor affecting sex as a selection criterion. Some cultures favor males, other females, for a given

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[7] Thomas J. Marchione, An Evaluation of the Nutrition and Family Planning Components of the Community Health Aide Programme in the Parish of St. James (Jamaica: Caribbean Food and Nutrition Institute, September 1973).

paraprofessional role. Generally, men are selected for tasks focusing on community development, sanitation, curative care, and agricultural extension, while women are recruited for maternal and child health care and household-related activities. Mixed village teams of two or three paraprofessonals may work together offering a range of service, though the above differentiation in tasks according to sex generally holds.

Since the majority of community-level health care falls within the female domain, some health programs require that a woman be selected as the health promoter. A rural health project in Mali, in fact, recommends that a two-woman team be recruited: a younger woman for her flexibility, adaptability, literacy skills plus personal relationships with young mothers, while the older woman is needed for her prestige, respect, knowledge, and experience.[8]

Unless clearly called for, however, women are generally not recruited for paraprofessional roles. The literacy requirements of many programs plus cultural constraints serve to limit their participation. Also, the customary division of labor in many countries gives women the greater work burden. Thus men have more time and are more likely to be able to serve as the paraprofessional. In a study conducted in Ghana, it was found that only 2 of 38 community clinic attendants were women.[9] Our case study from Guatemala shows that very few women serve as health promoters and in Senegal the first aid workers are men. Village men in Guatemala admit that it is difficult to talk with women about family planning, pregnancy and, to a lesser extent, child raising. Women also report difficulties in talking with men about certain subjects. To deal with this dilemma, some program administrators have proposed husband/wife teams, a tactic which has met with considerable enthusiasm at the village level. Other programs also have employed this strategy in an effort to reach a broader population with a range of curative and preventive health care services.

Although the major role of women agriculture has been well documented, little attention as yet has been given to the importance of training rural village women as agricultural and community development paraprofessionals. The head of the Farming Systems Development Corporation in the Philippines reported to us that among the 600 persons trained as institutional organizers for organizing farmers into Irrigation Service Associations, women on the average are more effective than men. The National Irrigation Administration has had similar experience in the Philippines with its water

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[8] A.I.D. Project Paper, Mali, Rural Health Services Development (#668-11-590-208, Washington, U.S.A.I.D., 1976).

[9] IDS, op. cit., p. 241.

user organization efforts, as has the Samahong Nayon Project. While the status of women in the Philippines may present an exceptional case, it seems clear that until women are recruited actively for paraprofessional positions, the diffusion of information and services which women need in order to contribute effectively to social and economic development will be impaired.

Assumptions about what characteristics are culturally acceptable and necessary should be verified before they are indiscriminately adopted; they may not be accurate. In rural Iran, for example, it was found that even in a strict Moslem culture no differences have been found between male and female VHWs' performance during training or in the field, or in villagers' attitudes toward and acceptance of the health workers.[10]

3) Marital Status: Some programs recommend that the paraprofessional be married, with children, to insure that the candidate is a stable community member, concerned with village affairs. The intent is to select a mature individual--one who is more likely to have the trust and confidence of fellow villagers. The skills and competencies learned by such paraprofessionals will more likely remain within the village.

On the other hand, being married implies family and social responsibilities which may cut into the paraprofessionals' available time to perform their jobs. Consequently, some programs prefer unmarried individuals who are flexible and can devote the necessary time to fulfill the work requirements. Members of the Sarvodaya Program in Sri Lanka consider "freedom from home responsibilities" a major criterion in paraprofessional selection, since it is recognized that a married person often cannot afford the time required. While unmarried persons certainly have more time to give to the paraprofessional position, the disadvantage is that their turnover rate is generally very high. In considering a criterion such as marital status, the trade-off appears to be the hours needed to perform the job versus the potential effectiveness of an older, more stable individual.

4) Residence: It is widely agreed that a person best suited to work in rural areas is someone who lives (or has lived) in a rural area. Thus, many programs include in their recruitment criteria such items as: cultivates land, resides in village, has rural family background. The Bolivian Community Development Service requires that the paraprofessionals be from rural areas. Taking this one step further, many programs

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[10] Hossain Ronaghy, "Kavar Village Health Worker Project," Monograph #2, Tropical Pediatrics and Environmental Child Health, 24:1, February 1978.

specify that paraprofessionals must be local residents, members of the community in which they will serve. Our case studies in Guatemala, Upper Volta, Sri Lanka and the Philippines all included this residency criterion. The rationale is given that indigenous persons share the same values and beliefs with the other community members, know how to talk with them and are more likely to get people to follow their advice than a stranger. The paraprofessionals' ties with the community may be more important than their technical know-how in stimulating participation and acceptance of new practices. For example, in the Jamkhed Health Project in India, a village woman worker was able to convince 75 women to have tubectomies while a nurse staying in the village could not persuade a single acceptor within the same period.[11]

Other programs have found, however, that by setting a residency requirement the pool of applicants is greatly limited in terms of sex and literacy. So, they turn to non-resident paraprofessionals. Initially, the Senegal health project intended to recruit locally but its literacy requirement pre-empted this decision. When selecting paraprofessionals external to the service area, it has been shown that adequate compensation must be provided since these persons have no other source of livelihood in the community. Problems with recruiting paraprofessionals locally have been noted in cases where (a) past reputations of paraprofessionals negatively affect their ability to work effectively (Jamaica); (b) involvement in local politics or spending too much time at home has eroded their sphere of influence (Bangladesh/Rahman); (c) paraprofessionals follow the line of least resistance and accept prevailing conditions (Ammar); (d) paraprofessionals represent a particular faction or interest group; (e) paraprofessionals may be overly identified with one village and not reach out to surrounding areas (Storms); and (f) traditional birth attendants may focus activities on former patients rather than all eligible clientele. The Samahong Nayon Project in the Philippines has changed its residency requirement, recommending that paraprofessionals be posted to neighboring barangays since they can command greater respect and work harder in less familiar areas.

Simply to assume that a locally recruited villager can be more effective than an outsider or that local capacity will be developed through training a community member may be an oversimplification. Given the local context, it may be better to recruit a non-resident who is free of political allegiance or to train several village

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[11] M. Arole, "The Village Level Worker," unpublished document, January 1973.

paraprofessionals representing different interest groups. Writing about the Kavar Project in Iran, Ronaghy states:

> (A)ttempts to find any measurable association between residency status of the VHW and performance or acceptance of the VHW have repeatedly shown that there are no differences between those health workers who have returned to their own village andthose who have not. In light of all these findings, it again seems desirable to maintain aflexible deployment policy. Where it is evident that the political or social situation in a VHW's home village is such as to impair his or her effectiveness that VHW should certainly be assigned elsewhere. Where such conditions do not exist, the VHW may return to and successfully serve his or her own community.[12]

This example once again suggests the importance of having flexible recruitment criteria which can respond to location-specific needs.

Another factor which came to light during our field studies is that while locally recruited paraprofessionals may be trusted more than an outsider, villagers expect little from someone from the same village who is perceived as having no special knowledge or resources but is "just like everyone else." "No one is a prophet in his own land", rural Guatemalans told our researcher; or as stated in Senegal, "A fish lives in water. All the other fish know this. He can do anything, go anywhere but he is always in water." This Wolof proverb underscores the local belief that paraprofesssionals may go away for several weeks of training but they are still persons of the village--could a few weeks outside have changed the individual? Being from the community is thus not adequate in and of itself. The paraprofessional needs resources and linkages to the outside to have credibility in the local context.

5) Experience: A less explicit but frequently used basis for selection is the candidate's experience or background in a particular field. Thus, we find programs which select a farmer who has proved himself to be progressive or a community member with demonstrated leadership capabilities. The individual may be a prospective paraprofessional only if he has attended certain training courses or owns and employs requisite material resources such as animal traction or chemical fertilizers. Many health programs require that the midwife, family planning promoter or village health educator be a traditional birth attendant. The purpose of setting such experience qualifications is to use existing knowledge and communication networks for developing a broader and better system of services.

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[12] Ronaghy, op. cit., p. 44.

Demonstrated ability is a good indicator of future capability. Such a criterion, however, may unduly limit the field of candidates. Potentially competent people may be overlooked because learning experiences and skills have been concentrated in the hands of a few.

6) Personal Characteristics: The individual's personality may be the most important determinant of future effectiveness as a paraprofessional. Our six case studies revealed that motivation and dedication to work for rural betterment were the common denominators among paraprofessionals who are working effectively. Regardless of the paraprofessional's age, sex, or previous experience, the interest and innovativeness the paraprofessional brings to the task makes the most difference. Our studies, supported by experience elsewhere, suggest that the paraprofessional needs to be an honest and willing worker, able to speak in front of others, sympathetic and supportive, and able to work well with other people.

While the significance of these personality traits is clear, screening for such qualities poses problems. Some programs employ written tests or interviews to clarify the candidate's motivations and capabilities. Others hold group interviews, workshops or training courses where individuals are observed interacting with others. Candidates may be requested to roleplay a situation, formulate a work plan, or demonstrate technical skills which serve as a basis for selection. While any of these screening techniques may be useful, predicting an individual's ability to work in a rural community through the use of such a formal assessment is often unsatisfactory. An individual may perform very well on a written test or during an interview but be unable to establish successful relations in the village. Likewise, a potentially effective paraprofessional may do poorly on such tests.

Perhaps a more realistic and appropriate screening process would be to institute a trial work period during which the candidate is observed under a real-life situation; or provide for a longer training workshop which would allow more time for the individual's true competencies and motivations to appear. Standardized tests, on the other hand, may be adequate to screen for technical skills such as reading, writing, and math or for manual dexterity skills such as the ability to use scissors or thread a needle.[13]

Fairly sophisticated techniques can be developed and employed to screen for certain other characteristics. First and foremost, the paraprofessional must be

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[13] See also Doris Storms, Training and Use of Auxiliary Health Workers: Lessons from Developing Countries, Monograph #3 (Washington: APHA, 1979), pp. 57-58.

acceptable to community members. It may be that a participatory community selection process is an automatic way to screen for those desirable characteristics. Experience from Upper Volta and elsewhere shows that villagers recognize each other's strengths and weaknesses. They tend to judge with discretion when their views are solicited and they have a stake in the outcome.

7) Literacy: Many programs cite literacy as a selection criterion, contending that the paraprofessional needs to be literate in order to assimilate training materials, keep records, read messages, instructions or labels, and order supplies. The emphasis is generally focused on the individual's having basic skills in reading, writing, and making simple calculations, rather than having completed a minimum number of years of formal schooling. Where no literate candidates are available, some programs have opted to recruit people from the outside, placing literacy above residency requirements.

A number of paraprofessional program planners suggest that a maximum educational level be set since formal education does not relate to effectiveness in working with rural villagers.[14] In fact, too much education may be a negative factor. Not only do the educated persons often lose their appreciation for rural living, but they may view the paraprofessional job as a temporary arrangement while searching for a better position. Education can, in fact, lead to less persuasiveness in the promotion of innovations: villagers feel that the learned person is unlike themselves and cannot relate to their problems.[15] Therefore, equating effectiveness with higher literacy standards may be misguided. A project in Botswana found that over-educated paraprofessionals wanted to become nurses and no longer identified with the village.[16] As found in Pakistan, "Pedagogic inquiries have revealed that six months after graduation, the Health Guards retained the same average information that was imparted to them during training, and that a higher level of literacy does not produce better informed Health Guards."[17]

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[14] In the Samahong Nayon Project in the Philippines, the annual report recommends that the college degree criterion be dropped since, "a qualified farmer member is far better than a college graduate in agriculture, sociology, or education in relation to solving farmers' real needs and problems."

[15] See especially David Leonard, "Organizational Structures for Productivity in Kenyan Agricultural Extension," David Leonard, ed., Rural Administration in Kenya, (Nairobi: East African Literature Bureau, 1973).

[16] Kromberg, op. cit.

[17] K.Z. Hasan, "Rural Health Guards in the Northern Areas of Pakistan: A Preliminary Evaluation," Assignment Children, 33:1, January-March 1976, p. 86.

Experience from around the world suggests that the illiteracy of traditional birth attendants and village health workers does not impede their effectiveness. Learning ability is not a function of literacy. In areas where the illiteracy rate is high, many planners prefer to abandon any thought of a literacy requirement since it would serve only to exclude a large portion of the population from being considered as paraprofessionals. A literacy criterion acts especially against selection of women, since the vast majority of the world's rural female population are illiterate. Often there is at least one literate person in the village who can help the paraprofessional with those tasks requiring literacy, and a number of innovative methods have been devised to overcome the literacy obstacle, such as: simple illustrated charts for recording information; illustrated booklets for giving instructions; color-coded medicines or seeds and fertilizers; and identification of drugs by color and smell.[18] Recruiting illiterate villagers calls for added attention to the development of innovative and appropriate training courses which use the indigenous ethnic language and employ materials readily used by the paraprofessional in the village setting.

8) Financial Resources: The criterion that the paraprofessional be either unemployed on the one hand or have sufficient economic resources to work as a volunteer on the other, depends upon whether the program plans direct compensation for the paraprofessional. The paraprofessional role in some programs calls for full-time work which requires that a regular salary be provided for the worker. These programs purposely seek someone with no other source of livelihood so that nothing infringes on the time needed to perform the job. At the other extreme are the programs which prefer volunteers, either because volunteers are seen as not upsetting the traditional trust relationships in the village or because the program cannot afford to pay village-level workers. These programs recruit individuals who either work part-time or have a permanent livelihood so that they can serve as the paraprofessional without being paid.

Setting this criterion again depends upon the goal of the program, the nature of the paraprofessional's role, and financial realities. Where, in fact, the paraprofessional is to work as a part-time volunteer it is important that this non-wage status be clearly understood and that persons selected have a viable means of support. Too often a candidate seeks the paraprofessional position thinking that a salary or special benefits will be forthcoming. This affects adversely the functioning of the paraprofessional vis-a-vis others in the community.

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[18] See Storms, op. cit., p. 55.

Training

For planners and administrators of programs involving the use of paraprofessionals, the numerous issues surrounding training are cause for concern. Decisions have to be made concerning the nature and the content of the training program: whether it will consist of an initial course or be a system of regular in-service sessions; what is the desired duration; where will the training take place; what should the training include; how the content can be most effectively presented; and who will be the instructors. Decisions will have to be made taking into consideration the objectives of the program, the tasks to be performed by the paraprofessional, the educational level of the students, and the resources available in terms of time, money, and personnel. Paraprofessional training programs consequently are highly varied. One cannot emphasize enough, however, the importance of an adequate and appropriate training program to the future effectiveness of the paraprofessional.

Pre-Service Training. There is no evidence available which distinguishes the effectiveness of a longer initial course versus a series of short training sessions spread over several months. Many programs opt for more intensive pre-service training ranging anywhere from three days to 12 months, although most fall within the one month range. Others like the Behrhorst clinic in Guatemala prefer to combine training with on-the-job work experience, holding weekly or bi-weekly sessions over a period of several months. In the national health program in Guatemala, both methods were tried. Those paraprofessionals who trained for one month at the regional center cited the positive aspects of their particular training: they could concentrate exclusively on their studies, and they had to travel to and from the training center only one time. Others who received three to four days of training every two weeks for several months preferred this method since they did not have to spend long periods away from their homes, and they could practice what they learned as they were being trained. Neither method was evaluated as being more successful than the other; each has its advantages and disadvantages. The salient factor appeared to be the scheduling or timing of training rather than its duration. For instance, when a longer, residential training is planned, it must coincide with slack periods in the agricultural cycle since the paraprofessional's major source of livelihood is often farming .

In-Service Training. More important than either duration or scheduling of the initial training is the existence of a continuous program of on-going in-service training sessions. Training cannot be viewed as a one-shot affair, ending with a single course. Continual in-service training courses become especially crucial for paraprofessionals

since most of the workers have limited educational backgrounds and serve in remote rural areas backed-up by only minimal supervision and support services. A system of regular in-service training appears essential also for maintaining the paraprofessionals' morale and building their competencies. However, in the literature and in the cases we observed, the major emphasis is placed on pre-service training efforts. These are fairly adequate in providing paraprofessionals with the initial skills to perform their jobs. Problems arise, however, when no continuing educational process has been planned and budgeted to reinforce the knowledge and skills gained at the initial training, or to introduce additional information and practices to match the increased experience of the paraprofessional and the demands of the program. The initial education is soon out-of-date or irrelevant to the changing needs of the situation.

In all six of the field studies, the lack of regular in-service training was considered a major weakness. Many paraprofessionals had received no additional training since assuming their jobs, others had received two training courses of identical content. Skills were outdated, but most important, morale suffered as paraprofessionals found themselves unable to answer the questions and meet the expanding needs of their communities. Paraprofessionals interviewed invariably stated that they believed they would be more effective if they knew more and had greater opportunities to practice techniques under the supervision of instructors. In some cases, this interest in further training apparently was due to a desire to qualify for better jobs. Generally, however, motivation was due to a genuine interest in helping their fellow villagers, and not for personal mobility and gain.

Some authorities caution that too much training will weaken the paraprofessionals' affinity to the community, encouraging workers to migrate to urban areas in search of better jobs.[19] The general consensus, however, is that paraprofessionals tend to be under-trained rather than over-trained. For instance, the Bolivian administrators in our case study feel that two in-service training sessions per year is optimum but limited finances make this a hope rather than a reality. It is imperative that long-term training needs be incorporated into program planning with adequate financing budgeted.

Training Locale. The selection of the training site itself demands careful attention since the learning environment has a direct effect on the assimilation of

[19] Richard Smith, Manpower and Primary Health Care: Guidelines for Improving/Expanding Health Service Coverage in Developing Countries (Honolulu: University of Hawaii Press, 1978).

knowledge. Given the goal of the training session, whether it be to provide classroom instruction, practical training, or experience in the community setting, the training site may be an agricultural research station, hospital, regional training center, maternity, rural health clinic, or the community itself. A variety of training locations have been used depending upon the learning needs and resources available. Storms notes three factors to be considered in determining the appropriateness of the training site: (1) distance of training center from workplace and supervisory personnel which may pose problems for monitoring the training and progress of students; (2) morale of students which can be affected by the training site; (3) separation of training from actual work context which may undermine the viability and applicability of material presented.[20] The debate between residential and workplace training remains unresolved.[21]

Wherever the training site may be located, the more successful programs place greater emphasis on learning by doing, rather than on classroom instruction. The point is to practice the newly acquired skills under supervision to reinforce the learning process. With this in mind, many programs combine classroom and workplace training sessions. Supplementing classroom instruction with on-the-job training provides the immediate opportunity to apply skills and discover any problem areas or weaknesses. Others recommend starting with an on-site learning experience since it is felt that the student first must become acquainted with the future work role and problems to be addressed before learning how to deal with those problems. In such programs, the paraprofessional may spend up to two weeks in the work environment before attending a formal training course.

There are no standard formulas to apply to the issues of program duration and scheduling of classroom and workplace instruction. These decisions have to be made for each program taking into consideration the objectives of the training program, the paraprofessional's role, the number of paraprofessionals to be trained and the economic constraints of the situation. Field training, however, should not be considered an easy method requiring only minimal structure and teacher input, or that field exposure will be automatically beneficial. The repercussions may be positive or negative. As Storm writes, ". . . not all field experience is equally meaningful. Unless training takes place

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[20] Storms, op. cit., p. 47.

[21] Training sites located in urban centers can have positive or negative repercussions. They provide exposure which (1) may combat boredom among workers living in rural areas; (2) may open paraprofessionals' eyes to new ideas which they communicate to rural people; or (3) may cause dissatisfaction with rural lifestyles.

at a site where the programs the auxiliaries are expected to carry out are, in fact, being carried out effectively, students cannot be provided the right kind of on-the-job experience."[22] To develop a relevant field training experience, it is necessary to specify goals and learning objectives and maintain close supervision of the students. It is not sufficient merely to expect the paraprofessional to learn from another paraprofessional already working in the field—a structured learning program is needed in a conducive environment.

Curriculum Development. While trainers of paraprofessionals may vary in their recommendations of location or duration of training programs, there is a general consensus that curriculum should be simple and pertinent to the local area. Training curricula need to be flexible to respond to the students' levels of education and situational needs of the local area as well as the specific tasks the paraprofessionals are to perform. Consequently, it is inadvisable to employ "packaged" training or standard syllabuses. The students must be prepared for the actual situation, not a hypothetical situation.

Generally, it is recommended that the role of the paraprofessional be limited initially, and the paraprofessional taught a few basic skills. As experience is gained and problems and needs are identified, these skills can be increased and developed through additional training.[23] In developing the curriculum, the paraprofessional role needs to be clearly defined and the curriculum formulated as follows:

1) formalize the paraprofessional role by listing all the functions which the paraprofessional is to perform and set evaluation criteria to measure performance;

2) under each function, clearly delineate the tasks and materials which are necessary to accomplish each function;

3) determine concrete learning objectives and minimum levels of performance in terms of cognitive knowledge, interpersonal and psycho-motor skills which are

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[22] Storms, op. cit., p. 47.

[23] A problem which arises in many paraprofessional programs is that the paraprofessionals are expected to "know everything" since they may be the sole service provider in remote, rural areas. Our study in Bolivia especially confirmed this with the paraprofessionals requesting training in basic health and agricultural concepts to be able to answer villagers' questions. While many trainers caution about diluting paraprofessional training with nonessential subject matter, the paraprofessional must be able to respond to local needs to establish and maintain credibility (for example, providing curative care tasks rather than just preventive health promotion). However, to include too much material in a single training results in poor competency levels. Thus, the need is for a regular system of additional training where paraprofessionals can be taught specific skills to meet multi-faceted community needs.

necessary to perform each task and use attainment of these objectives for evaluation and redesign;

4) develop learning experiences using problem-solving approaches with simplified words and concepts to meet the stated knowledge needs; and

5) include pedagogic and communication techniques in paraprofessional training so the paraprofessional will know how to teach others.[24]

The intent of such curriculum development is to break down the paraprofessional role into its most basic component parts and to train accordingly. This also insures that the paraprofessional role is clearly defined; appropriate training cannot be developed without clarifying what the paraprofessional is to do, how, and what resources are necessary to accomplish these tasks, as evidenced by the Upper Volta case study. Simplifying the training curriculum in this manner means that paraprofessionals with limited formal education can more easily assimilate the needed knowledge and skills. Tasks are portrayed in a series of steps which can be accomplished by relatively inexperienced workers. Furthermore, the paraprofessional is trained in a fashion which is directly transferable to the work setting, combining pedagogic techniques with technical training. By using simple words and basic concepts in training programs, the paraprofessionals will find it easier to teach others in a like fashion, as there is minimal discrepancy between what is learned in the training sessions and what is to be performed in the work setting. For example, local foodstuffs, not urban-purchased foods, should be used in teaching nutrition education; paraprofessionals should be taught with the same visual aides they will in turn employ on the job; agricultural techniques should be re-learned using actual tools and supplies in the field setting; the local language, not a cosmopolitan language, should be used in the training sessions. Experience shows that the most successful training is that which trains the paraprofessional in the same methods and language which the paraprofessional will subsequently use on the job. The Lardin Gabas Project in Nigeria trains its health workers through parables, drama and songs which the workers in turn use in conveying health messages in their villages.[25]

The roles assigned to paraprofessionals vary widely. Consequently, there is considerable variation in curriculum designs according to (1) the degree of decision-

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[24]The International Institute of Rural Reconstruction in the Philippines found that paraprofessionals had to be taught how to teach; knowing material was not sufficient.

[25]"Rural Basic Health Services: The Lardin Gabas Way," Contact, 41, October 1977.

making and discretion paraprofessionals have in carrying out their roles; (2) the nature of the role, whether it involves a set of routine tasks or varied tasks demanding a more comprehensive training program; (3) the level of on-the-job supervision provided to the paraprofessional; (4) the location of service delivery resulting in differences in tasks, delivery of supplies, referral lines, immediate supervision, etc., and (5) the amount of in-service training that can reasonably be expected to be provided. For example, an isolated, multi-purpose community development worker has very different tasks and learning needs than a rural health worker who is only providing first-aid care or a clinic attendant who is working under the direct supervision of a professional.

Where community participation is recognized as the key to program success, specific skills in community organization, in the identification and assessment of problems and in how to mobilize local and external resources need to be included in the training curriculum. Too often paraprofessionals are inculcated with ideology and spirit during training programs, but are not provided adequately with the necessary technical, communication, and organizational skills to perform their jobs effectively or to sustain development efforts after the initial burst of enthusiasm. While the major portion of training programs will vary according to the specific role of the paraprofessional, an almost universal need of paraprofessionals is learning how to keep records and write reports--tasks relegated to a large majority of the paraprofessionals.

Training Style. To assure that the training provides knowledge and skills which are relevant in the work context, some programs are experimenting with a dialogic approach to training. Other programs employ conventional participative methods such as role-playing, problem identification and problem-solving, group discussions, etc. Despite the adoption of these participatory training techniques, however, the usual approach to learning provides that knowledge is imparted by those with experience and formal educational qualifications. Skill levels and competencies are defined and measured by the teacher.[26] The dialogic approach, on the other hand, views the paraprofessional as an active contributor in the learning process in deciding what is and is not relevant in the local context.

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[26]While many paraprofessional roles are based on the ability to problem solve and to stimulate this in others, the traditional top-down learning approach, where the teacher presents material and the student is the passive receiver, does not promote the development of problem-solving capabilities. Some programs are trying to dispel this top-down learning approach and initiate more participatory learning strategies: the Sarvodya Movement in Sri Lanka is an exemplary model. Changing customary behaviors, however, takes a long time and needs to be continually reinforced.

Farming systems research is especially active in using the dialogic approach in developing technologies appropriate for the small farmer. Rather than viewing the farmer as the "object," the farmer is actively involved as part of the research team in all phases of design and implementation. This type of process, then, is a collaborative effort, based on a joint undertaking and a mutual learning experience, which challenges the conventional interpretation of "training."

Since experience shows that the primary method of instruction should be based on "learning by doing," it appears essential that the paraprofessional be provided an operations manual for use first as a training manual, and later as a reference manual on the job. Simple words and illustrations based on everyday experiences of rural people can effectively explain complex ideas and give explicit instructions which later can reinforce knowledge gained during the training session. Developing such a manual will also aid the instructors in planning a clear, complete and practical curriculum. In Senegal, such manuals serve both as a source of information and a symbol of the paraprofessional's competence. Cassette tapes have also been used with success to reinforce the learning process or to provide in-service training courses to paraprofessionals in very remote areas. An interesting approach to the use of cassette tapes has been to present a specific topic on one side of the tape, while the reverse side has questions to which the paraprofessional is to respond. Radio programs and newsletters can also be used to build knowledge and morale, as does the newsletter prepared by the field workers in the Guatemala health program. Published on a regular schedule, such newsletters can offer an avenue for the exchange of ideas and the dissemination of information.

Paraprofessional Instructors. With the move to employ paraprofessionals in rural areas, many countries are faced with the dilemma of who will train this cadre of new workers. Since the training of paraprofessionals cannot be much better than the quality of the instructors themselves, the selection and training of the trainers is of utmost importance to the success of any program. In response to training needs, however, we find that doctors, extension agents, midwives, agronomists, educators or any variety of personnel are involved in training paraprofessionals; some are professionals with appropriate technical skills but who may lack the necessary pedagogic capabilities or a realistic understanding of the paraprofessional's future work context.

All evidence indicates that it is essential for the trainer to have lived and worked in a setting similar to that which the paraprofessional will face in order to provide a relevant learning experience for the paraprofessional. In fact, the best teachers may be other paraprofessionals themselves who have had experience working in rural areas.

Yet, too often, the instructors are a part of the urban sector and are unfamiliar with the rural milieu so that inappropriate training ideas and methods are employed. Our research from Senegal illustrates this problem. Health trainers were found to be more interested in replicating practices employed in the clinic than in addressing the specific needs and constraints of the village. Thus, local midwives were often displeased when they were not supplied with the plastic gloves similar to those their instructors had used during the training, even though plastic gloves are impractical and inappropriate for use at the village level.

To avoid the adoption of inappropriate practices or the fostering of unrealistic expectations, it is crucial that the instructors be well informed of the work context and adapt training techniques to meet the workers' needs and limitations given their knowledge and resource base. Frequent field visits or rotating training responsibilities with field work may be necessary to keep the trainers in touch with local realities.[27]

Compensation

An important question facing paraprofessional program planners is whether the paraprofessional is to be compensated financially and if so, what amount is appropriate and who shall be responsible for paying the paraprofessional. The initial decision, to compensate or not, is fundamentally a question of the paraprofessional's job—whether it demands full-time or part-time hours. The paraprofessional who works full-time obviously requires a direct compensation as contrasted with a community worker who works undefined hours and has another source of livelihood. A major rationale for using paraprofessionals is that governments cannot afford to employ vast numbers of professionals to service rural areas. Paraprofessionals will be able to maintain close ties with the community and not be a burden or addition to the civil service system. On the other hand, the lack of credibility and the adequate incentives inherent in an unpaid, part-time position pose numerous problems: motivation and volunteer spirit dwindles over time with a consequent high attrition rate; other personnel and community members may view the paraprofessional as inferior, since they are not being paid; paraprofessionals may neglect tasks as requirements of earning a living take

[27] More attention is being paid to developing texts and teaching materials for training these instructors, as they hold the key to the effective preparation of front-line workers. It appears that more effort has been given to systematizing health instructional materials adaptable to specific programming needs than to developing similar materials in the agricultural sector. For a summary of the major instructional materials available to the health program planner see Storms, op. cit., pp. 49-50.

priority; and paraprofessionals may be in an ambiguous position in relation to the professional service system.

Volunteer Status. The argument for having paraprofessionals as volunteers rests on the premise that the paraprofessionals are serving their communities. To compensate them for this service would undermine their commitment and their potential as respected individuals in the society. This cultural rationale for volunteer workers is representatively stated by the Klampok Project in Indonesia: "The people respect them because they give their time to help the community. . . . If they receive payment, neighbors may think they are seeking to serve their own needs."[28] Satisfaction in serving their neighbors is considered adequate compensation and motivation in such a use.

Whether or not the paraprofessional is to receive direct compensation depends upon the cultural, socio-economic context. The ideology of the program and/or the traditional nature of the society may dignify volunteerism. Although there may be no material compensation, there is, however, generally some form of payment or benefit accruing to the volunteer. Depending upon the culture, these benefits may include: increased respect, prestige, influence, social responsibility; increased prospects for a better life in the hereafter; traditional forms of compensation such as food, gifts or other in-kind services. The Equal Access Project in Upper Volta suggests that not only is it unrealistic to expect the government to support the number of persons needed to work in rural areas but a system of reciprocal trust relations operates in traditional societies which would be upset by imposing a compensation scheme. Villagers are resentful and jealous of paraprofessionals who receive special services or benefits there.

As volunteers, however, paraprofessionals may be forced to rely considerably on their established livelihood, cutting into the time they can devote to health or agriculture promotion. "A program cannot demand too much of people who are giving their time voluntarily," stated one administrator in Upper Volta. Subsistence-level rural villagers have minimal leisure time and cannot afford to neglect their source of livelihood. Research from Ghana concludes that village workers should be paid since only "a modicum of spare-time work can be expected to be given voluntarily."[29] Finding that their programs required more consistent working hours, some administrators have

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[28] "Volunteer Health Promoters Can Form the Missing Link in Community Health," World Neighbors Newsletter, 9:1.

[29] IDS, op. cit., p. 219.

been forced to upgrade their volunteer force to full time employees with a fixed salary. Other authorities feel that it is exploitative and unethical to expect poor villagers to give their services voluntarily while others are paid for performing similar duties. It also may even be that in the absence of any compensation, the paraprofessional will be tempted to abuse the system by charging unauthorized fees-for-services, confiscating and reselling supplies, using equipment for personal use, etc. Joseph concludes that "developing a scheme based upon total volunteerism would seem to be unrealistic and exploitative of the community health worker."[30]

Sustaining the volunteer spirit may also pose problems. Where the paraprofessional is motivated by an intrinsic interest or religious zeal, where cultural mores support reciprocal relations, or where a sophisticated monetized economy does not exist, sustaining motivation may not be a problem. However, it has been found that the volunteer spirit wanes as the work becomes routine. Paraprofessionals then either request to be replaced or receive payment for their services (e.g., Niger, Upper Volta and Ghana).

Material Compensation. While volunteers may work consistently and effectively in many situations, the vast majority of programs using paraprofessionals provide for some form of material compensation. Of the 76 paraprofessional roles for which we have information, 51 of these include some sort of arrangement for explicit, tangible payment. It appears that most planners feel a direct compensation is necessary to sustain an effective level of work performance.

If the paraprofessional is to be paid, the question which arises is who is to responsibile for this compensation: the community or the sponsoring agency. The source of compensation seems to be more significant than the amount, with the consensus being that the community should make some contribution to supporting the paraprofessional. It is seen as an important facet of self-reliance that the community bears some responsibility for its own development. Compensation by the community also helps to ensure that the worker will be accountable to that constituency. Behrhorst, having long experience with community health programs in Guatemala, is adamant on this count: "The central agency should not, under any circumstances, put anyone on the payroll. The community is being served, so the community pays--with no

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[30]Stephen Joseph, "The Community Health Worker in Developing Countries: Issues in Administrative Structures, Support, and Supervision," paper presented at the Symposium on the Community Health Worker, Airlie House, Virginia, October 1977, p. 9.

exceptions."[31] A major rationale for using paraprofessionals is that they are outside the formal bureaucratic system and therefore do not place a financial burden on an already overstrained budget. Thus, if the paraprofessional is to be paid, this must be the responsibility of the community. This attitude is evident in a new Bolivian rural health project where compensation for the promoter is to be arranged by the local committee and not be the responsibility of the government of Bolivia.[32]

The major draw-back to this approach is that poor villagers often cannot afford to pay the paraprofessional's salary. Village health insurance schemes or income-generating activities such as a communal field or garden have been tried to provide financing for salaries with varying results. Other compensation schemes which are being employed by paraprofessional programs around the world include: fee for service, sale of drugs/supplies at slight profit, in-kind goods or services, production or work points, and commissions. In Ghana, where there is no tradition of contributing communal labor needed to support a regular salary, it is recommended that the central or local government contribute the deficit when treatment fees are insufficient to meet the village worker's salary.[33] It may be one thing for a community to pay the worker's training costs or to pay him or her on a fee-for-service basis, but it is quite another matter to support adequately a full-time worker over a long period. This is the main reason why many programs seek part-time workers who have another source of income. In the Sudan, the government and community share costs: the community grinds and sells grain provided by the government to pay the village worker.[34]

How the community views the paraprofessional role will also determine whether it can be expected to support the village worker. It has been found that in Ghana, for example, sanitation and community development work are not considered priorities and would not merit payment by villagers. Or the issue of urban/rural bias may arise: one may question the ethics of requiring villagers to pay for services which urban publics receive freely from government-sponsored programs. The volunteer health promoters in Guatemala feel that they could devote more time to their roles and consequently be more effective if they were paid. They feel strongly, however, that the government should pay these salaries since rural communities are too poor.

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[31] Carroll Behrhorst, op. cit., p. 299.

[32] A.I.D. Project Paper, Bolivia, Rural Health Delivery System (#511-0483, Washington, U.S.A.I.D., 1979).

[33] IDS, op. cit.

[34] Cited in Storms, op. cit., p. 39.

To deal with this issue of compensation, many health programs have set up a fee-for-service scheme to finance the paraprofessional's salary. The viability of this method, however, depends upon the clientele population in the service delivery area. In small villages, extended family relations may make it impossible for the paraprofessional to charge for services, as is the case in Upper Volta, or the demand may be so limited that the earnings are inconsequential. In Senegal, where the three village health workers are to split the receipts from service and drug fees, each one's share is insufficient. This is especially serious in Senegal since the first-aid worker is an outsider with no other source of livelihood in the village. As might be expected, the attrition rate among these workers is extremely high.

Other programs allow the paraprofessional to sell medicines at a slight profit, retaining the difference as their compensation, or to provide services on a commission basis. With these systems, a potential problem is that the paraprofessional may be tempted to prescribe unnecessary drugs, solicit inappropriate use of services, and/or spend more time on curative tasks than on preventive health care. When this problem occurred in the Behrhorst program in Guatemala, however, the community demanded that the paraprofessional be replaced.

Regardless of the form the paraprofessional compensation takes, the amount is generally considered meager and insufficient. The National Health Program in India intentionally pays its village workers an amount too low to live on so that they will continue their normal work. It is felt that by calling the compensation an "allowance" rather than a "payment" the workers are more likely to see the community rather than the central system as their source of authority.[35] While the program sought to involve villagers in their own health care by training village health workers, it was found that most of these workers were only interested in the assignment for its job possibilities and found the allowance inadequate.[36] In the Sarvodaya Movement in Sri Lanka, the allowance ranges from $5-$16.50 per month; this constitutes a desirable bonus for unemployed youth but cannot be construed as a real salary. While the performance of "meritorious acts" may serve as considerable motivation in a Buddhist culture such as found in Sri Lanka, the absence of adequate compensation effectively determines who can afford to serve as the paraprofessional. Our case study of the Community Development Service in Bolivia revealed that the salary of the full-time village

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[35] Watts, op. cit.

[36] "New Rural Health Scheme Has Poor Impact Study," The Times of India (Bombay), June 9, 1978.

promoters was found to be inadequate for attracting and retaining some potential workers, and that reimbursement for expenses was inequitable between sexes and between persons at different skill levels. When a central organization pays the paraprofessional's salary, special attention should be given to establishing an equitable system according to workload, skill levels and expenses incurred for all personnel in the service system to deter any possibilities of discord or jealousy.

Promotion Possibilities. Most paraprofessionals are placed "outside the bureaucratic structure" so as not to be an addition to the civil service system, the rationale being that governments cannot financially support these cadres. The paraprofessionals are to "belong to" the community, not with an external structure. Problems arise, however, given the paraprofessionals' lack of job security and benefits and their ambiguous position vis-a-vis other program personnel.[37] For example, even in non-governmental programs, there appear to be few instances of career ladders for paraprofessionals. In some cases, paraprofessionals have been upgraded to serve as trainers or supervisors of others. However, in general, the village worker is trained to work and remain in the village.

When the paraprofessional is full-time and paid, then promotion becomes a concern as in the Bolivian case. Payment tends to raise expectations, so a promotional ladder is needed. Attention should be given to creating an equitable system with promotion criteria made public, and the levels and wage structure worked out in advance. Perhaps the most important decision concerns who is to judge the paraprofessional's performance: program personnel, the community, or both. While this decision depends upon the nature of the program and its decentralization of decision-making, care should be taken to develop a reward system compatible with community standards.

Given the fact that most paraprofessionals work as volunteers or receive only subsistence benefits and have no opportunities for promotion, sustaining motivation is a continual problem. A high attrition rate is not only costly but is demoralizing and undermines continuity. Consequently, the need for job incentives to reward performance is of utmost importance in paraprofessional programs. While in all six case studies the major motivation cited by the paraprofessional was "helping fellow

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[37] In countries where the government is viewed as an adversary or an alien structure, the paraprofessional's lack of civil service status, however, may be an advantage as found in our Guatemala case study and noted by David Werner, Health Care and Human Dignity (Palo Alto, CA: Hesperian Foundation, 1976).

villagers improve their lives," the low or non-existent material benefits created difficulties. Where salary increases or material benefits are out of the question, other incentive strategies maybe employed such as: diplomas, certificates, pins, gifts as symbols of recognition, special educational opportunities, field trips, conferences, preferential use of supplies and equipment, free access to services for families, etc. Regardless of what strategy is used, a method must be devised based on the socio-cultural context to reward hard work and effective performance by the paraprofessional.

Conclusion

The fact that this chapter has presented more alternatives than answers reflects the multi-faceted nature of the issues concerning selection, training and compensation. Ultimately, these personnel management decisions depend upon the goals of the program and the role of the paraprofessional within the particular social context. Perhaps the over-riding finding of our research is that the design and implementation of appropriate management practices is much more complex than heretofore assumed. This is due not only to the variety of situations in which paraprofessionals work but also the interdependent nature of the variables. Any one decision may require trade-offs and compromises. The major conclusions derived from this chapter and the subsequent policy recommendations are presented in Chapter VI.

Chapter IV
SUPERVISION AND PROGRAM SUPPORT

One characteristic of the paraprofessionals included in our studies, as indicated in Chapter I, was that they operate as part of an organized public service or private agency. This was stipulated because this analysis was intended for use particularly by policy makers and planners who, in fact, could exert significant influence over the circumstances and conditions within which paraprofessionals work. We did not include some persons who operate in roles much like the paraprofessionals we studied, for example, the traditional birth attendants, healers, midwives and other kinds of health personnel functioning in rural areas. As independent entrepreneurs, these persons are less susceptible to policies and planning decisions than are those who operate within the organizational context of a Ministry of Health or a private voluntary organization.

It is abundantly clear that using paraprofessionals as the "point" of contact and service delivery requires co-terminous back-up for these workers, including supervision, logistical support and a reliable referral system. Our research confirms the testimony of knowledgeable and experienced people who have worked with paraprofessionals: a community-based program which depends heavily on paraprofessionals will fail without a reliable, appropriate support system. Coombs notes that:

> A community-based health or family planning program...that is not adequately tied in with and supported by higher levels in the system could be worse than no locally based program at all. It would be a deceptive sham, perhaps good for national and international public relations but quite unfair to the rural people....(V)illage workers and paraprofessionals can effectively carry out more important responsibilities than many highly trained professionals...are willing to concede—provided (and this is a crucially important proviso) they are properly selected and trained and are given steady and adequate supervision and support by more highly trained personnel. [1]

The conclusion is clear: a program's overall operations must deliberately support the paraprofessional component of the system, not treating it as an incidental peripheral service.

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[1] "What It Will Take to Help the Rural Poor" in Philip H. Coombs, ed., Meeting the Basic Needs of the Rural Poor: the Integrated, Community Based Approach (Essex, Conn.: International Council for Educational Development, 1980), emphasis supplied.

Often the necessary commitment and resources for establishing and maintaining effective support have not been forthcoming because of some antagonism of professionals to the paraprofessional concept. In other cases, planners and officials believe that paraprofessionals are simply an inexpensive alternative: the tendency is to believe that once paraprofessionals are in place, the needs of the poor rural majority will be met without much further effort or expense. Consequently, we find paraprofessionals working in an administrative vacuum or merely tacked on to an already over-strained agency structure. This situation is detrimental to any program success. As expressed in a WHO/UNICEF study, "unless frontline workers have the backing of the rest of the . . . system, the rural population may well reject a service that is clearly insufficient by itself."[2] This point is highlighted by Joseph in reference to health services:

> A Community Health Worker without whatever drugs and supplies are considered necessary for his/her defined functions, and without the stimulation of periodic and continuing on-site education and supervision, cannot be effective, and because of the visibility and proximity to the community may be even more damaging to the relationship between the health ministry and the population than the empty dispensary standing 20 roadless miles away from the village. A commitment to a Community Health Worker program entails a commitment to establishing and maintaining physical, administrative, and intellectual continuing contact between the representatives of the formal health system and the Community Health Worker in the village.[3]

While the critical importance of a support system for paraprofessionals has been widely acknowledged, our research reveals considerable vagueness as to what "support" entails. In this chapter we try to bring the issue into sharper focus by examining some of the support problems, and analyzing "support" both conceptually and operationally. The discussion deals first with supervision and then with program support.

Supervision of Paraprofessionals

Given the modest training and isolated working situations of most paraprofessionals, it is not surprising that supervision is considered such a vital element

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[2]V. Djukanovic and E.P. Mach, eds., Alternative Approaches to Meeting Basic Health Needs in Developing Countries, A Joint UNICEF/WHO Study (Geneva: World Health Organization, 1975), p. 19.

[3]S. Joseph, "The Community Health Worker in Developing Countries: Issues in Administrative Structure, Support, and Supervision," Paper presented at Symposium on the Community Health Worker, Airlie House, Virginia, October 1977, p. 11.

in the success of any programs in which they play a prominent role. The importance of supervision has been stressed by almost every person who has ever worked in such a program.[4] For example, Fendall contends that the "lack of adequate, informed and regular supervision is . . . the main reason why auxiliaries fail to function satisfactorily."[5]

In our Guatemala case study, the difference between health promoters who received supervision and those who did not was "clear-cut and striking:"

> In the supervised setting, health promoters had better morale, were more active, and more likely to engage in public preventive health care projects as opposed to just providing curative medical care. Although no effort was made to measure these differences precisely, the magnitude of the differences can be suggested by the fact that it appeared that supervised health promoters were twice as active as those health promoters who were not supervised, and four times as likely to engage in public preventive health care projects. Furthermore, the consensus at INDAPS (a training center) was that the dropout rate of health promoters was two to three times higher among those health promoters who were not supervised.

Testimony and project experience elsewhere corroborate this observation. An ICED case study of the Lampang Project (Thailand) notes that where supervision has been regular, health post volunteers' performance has been good.[6]

Despite the obvious importance of supervision in the use of paraprofessionals, there seems to be broad consensus that this and other aspects of the support system constitute the weakest element of such programs.

Personnel Shortages: Several factors contribute to the deficiency of supervision of paraprofessionals. One is simply the shortage of personnel. Leonard notes in Kenya, for example, that the bulk of agricultural extension work is actually done by 3,800 untrained agents (Junior Agricultural Assistants) and paraprofessionals (Agricultural Assistants) and that a central problem for the agricultural extension system is the

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[4] D. Storms, Training and Use of Auxiliary Health Workers: Lessons from Developing Countries, Monograph #3 (Washington, D.C.: APHA, 1979), p. 75.

[5] See N.R.E. Fendall in Medical Auxiliaries, PAHO Scientific Publications #278 (Washington, D.C.: PAHO, 1973), p. 9.

[6] International Council for Education Development, The Lampang Health Development Project, Case Study #8, Prepared for ICED by Lampang Project Personnel (Essex, Conn.: ICED, 1979).

management of these personnel.[7] The only professionals in the extension system are the 10 percent who supervise the paraprofessional field workers, and the ratio between supervisors and those paraprofessionals in the field is clearly inadequate to do the job.

The pattern can be seen elsewhere. In an effort to serve rural, isolated or other hard-to-reach people as rapidly as possible, emphasis is put on introducing and expanding a grassroots field force without planning for or providing the appropriate back-up personnel. In Guatemala, Rural Health Technicians who supervise health promoters were supposed to be responsible for 6-10 villages, but as the program evolved, the technicians were covering as many as 20 villages. In our Sri Lanka case study, the Gramodaya Centers which are designed to assist local groups in their development efforts were originally expected to serve 10 to 15 villages within a 10 mile radius; in practice they were serving 30 villages located as much as 20 miles away.

Transport. The shortage of supervisory personnel is made more acute by another frequently occurring situation: a shortage of transportation resources. This presents a paradox: those paraprofessionals who are farthest away are frequently the ones who need supervision and support services most, yet they are the hardest to reach.[8] A Primary Health Care Strategy Proposal for Ghana responds to this problem by acknowledging that the greatest cost of the system will be transport.[9] While a well-developed public transportation system in Sri Lanka makes supervision there physically possible, the time and expense involved discourage frequent visits by supervisors to the more distant villages. In fact, transportation problems in terms of fuel, vehicles, distances to cover, and state of roads were cited as the major constraints to regular supervision in all of our case studies.

Most paraprofessional programs recommend an on-site supervisory visit once every one to two months, to be supplemented by paraprofessional visits (for meetings or training) at the regional center. Seldom, however, are such plans realized.

Qualified Supervisors. Another difficulty in supervision is the question of who should do it. Perhaps the most accepted pattern is to have a professional (doctor,

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[7] D. Leonard, Reaching the Peasant Farmers: Organization Theory and Practice in Kenya (Chicago: The University of Chicago Press, 1977).

[8] A recent WHO document states that the greatest problem facing any organized "Traditional Birth Attendant Program" will be transport and communications. WHO, Traditional Birth Attendants, Offset Publication #444 (Geneva: WHO, 1979).

[9] Government of Ghana, "A Primary Health Care Strategy for Ghana," Ministry of Health, National Health Planning Unit, Accra, Ghana. Revised, August 1978 (unpublished).

agronomist) travel to a service site making personal, face-to-face visits. Such professionals, however, may be inappropriate supervisors since they often are unwilling to leave their city environments, are unfamiliar with rural conditions, are disdainful of the paraprofessional concept, are overloaded with their own tasks, or simply feel that other activities have higher priority. Increasingly, programs are employing subprofessionals to serve as the paraprofessional's direct supervisor. The importance of training such staff in supervision techniques, and providing them with adequate resources and the appropriate status to fulfill this crucial position cannot be overstressed.

The Major Elements of Supervision

Our research suggests that the mechanisms for providing supervision for paraprofessional field workers need to be re-examined and alternative supervision patterns developed which fit better the needs and realities of rural development programs. This implies two major tasks. The first is to identify carefully what supervision is supposed to accomplish. This means dissecting the term "supervision" that has been used to label various combinations of activities, and making an inventory of these activities.

The second task is to identify who or what agencies might be most suitable for carrying out specific aspects of the supervision process. For example, it may be practical to shift some responsibilities in this process from the conventional in-person, on-site supervisor to a communication technology such as two-way radio; or from an agency supervisor working at a great distance to an individual or group working closer to the community; or shift some supervisory responsibilities to the community itself. Some of these approaches will be explored later in this chapter.

Based upon our case studies, the following list specifies the various functions of supervision. Analyzing supervision in this manner allows for a more complete accounting of the various functions supervision can play in a paraprofessional program.

1) Legitimation: Personal, on-site visits by supervisors help establish the paraprofessional's legitimacy and credibility in the eyes of villagers. The significance of this became especially clear in our field studies. For example, in Guatemala, while a paraprofessional indigenous to the village is trusted more than an outsider, villagers see him as a peer who has no special knowledge or resources. Likewise, in Senegal, the paraprofessional, even after training, is viewed no differently than previously (see page 28 above). The acceptance of paraprofessionals as legitimate service providers is not

automatic. Their credibility and authority are enhanced when villagers know that the paraprofessional has access to outside "experts" and resources. We found that paraprofessionals feel their respect and effectiveness greatly depend upon being seen in their villages with supervisors so that their links to and support by the agency are clear.

2) Protecting Role Integrity: Given their non-professional status, paraprofessionals are in particular need of a system for preserving the integrity of their work. A supervisor can explain to a community and its leaders the extent of the paraprofessional role, thus showing how the person can contribute to the community and also defining the limits of the demands that can be made on the paraprofessional. The supervisor may be in a position to reduce or resolve tensions or conflicts resulting from different expectations concerning the paraprofessional's role.

3) Motivation: Paraprofessionals (like everyone else) need to be encouraged in their work. The staff of the Lampang Project in Thailand noted that where health post volunteers were not kept resupplied or given encouragement through routine supervision, there was a sharp decline in service contacts. Because most paraprofessionals are working in isolated areas with little material compensation, sustaining motivation and morale are constant problems. The initial enthusiasm tends to wane as the job becomes routine or when continual frustrations are encountered. Offering emotional support and encouragement is considered by most persons working with paraprofessionals to be a critical element of supervision. Also, motivation by the supervisor may be as important for villagers as for the paraprofessional to make a community-based program work, a factor observed in our Senegal case study.

4) Education and Counseling: Perhaps the most important function of supervision is in providing the paraprofessional with continuing education and consultation. Since the paraprofessional's pre-service training inevitably is insufficient on its own, most programs purport to provide additional training after the person begins work. This may be done by having the paraprofessional travel to a training or administrative site, or by having the supervisor carry out systematic or ad hoc training in the field. Such a continuing education process is essential, not only for learning new skills to meet changing situations, but to reinforce knowledge and practices already covered by training. Research from India and Guatemala indicates that without supervision, trained midwives generally revert to their old methods.[10] A document

[10] As cited in A. Neumann et al., "Traditional Birth Attendents - A Key to Rural Maternal and Child Health and Family Planning Services," The Journal of Tropical Pediatrics and Environmental Child Health, 20:1, February 1974, p. 24.

published by PAHO lists in-service training as one of three basic elements of supervision (evaluation and control are the other two).[11] As noted in Chapter III, however, adequate and appropriate continuing education is rarely available to the paraprofessional. Supervision generally becomes a form of control and discipline, rather than a means for providing support and education.

5) Technical Assistance: Paraprofessionals often encounter special problems for which their pre-service or in-service training did not prepare them sufficiently. An important feature of some supervisory systems includes ready access to diagnostic assistance and to expertise for dealing with such problems. In the Farmer Scholar program in the Philippines, for example, paraprofessionals are backed up by roving agricultural specialists who can assist in solving problems which are beyond the capability of the farmer scholar.

6) Linkage: An important function of supervision is linking the paraprofessional to resources--material and technical--beyond those available in the community. These may range from credit for agricultural inputs to specialists for combatting crop disease, from referral channels to medical supplies for health programs. In Senegal, for example, regular supervision includes assisting village members and village health workers in ordering and paying for replacement stocks. However, the effectiveness of this linkage function often depends on the capacities of the external agencies to provide back-up services, and underscores the need to verify and if possible to upgrade referral channels before recommending their use. Paraprofessionals themselves may be responsible for linking community needs to external services. However, the initial contact and establishment of referral channels should be done by the supervisor rather than inexperienced paraprofessionals who lack the prestige and status of their supervisors.

Equally significant as a linkage function is making paraprofessionals feel part of the larger body or agency with which they are associated. In Sri Lanka, for example, although district field workers have no special preparation for supervision and thus are not able to address some of the critical problems facing the paraprofessionals, our research revealed that their visits encouraged the workers, making them feel an important part of the Sarvodaya Movement. Supervisors can serve as communication channels between and among paraprofessionals and other agency personnel, contributing

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[11] PAHO, Guide for the Organization of Health Services in Rural Areas and the Utilization of Auxiliarty Personnel, Scientific Publication #209 (Washington, D.C.: PAHO, 1975).

to a spirit of team effort. While not clearly demonstrated in our field studies, the supervisors also may be able to serve as advocates for the paraprofessionals in their relations with higher organizational levels, a necessary function given the paraprofessional's lack of professional status and often isolated existence.

7) Monitoring and Control: This function includes administrative activities related to the paraprofessionals' day-to-day delivery of services. It may, for example, deal with the nature of the service itself or with the specific performance of the paraprofessionals. In Guatemala, the Rural Health Technicians seem to be instrumental in the health promoters' maintaining a balance between curative and preventive health services. Monitoring paraprofessional performance and the development of the program, checking the distribution and maintenance of supplies and equipment, as well as such administrative tasks as collecting and recording data and paying salaries all may fall within the supervisor's role. A typical portrayal of this supervisory function is noted in the Bolivian case study:

> The supervisors will often offer suggestions for resolving problems as well as corrections for the monthly report. They will also tell the promoter to increase home visits, if the number falls short of expectations, or to hold more meetings with the community or village leaders. The supervisor will review the plan for the forthcoming month and will also suggest revisions.

In many instances, it has been found that this aspect of the support system--monitoring and control--is the main focus of supervision. As such, supervision connotes a negative or corrective stance rather than one which emphasizes more positive educational or supportive activities. Over-emphasis on control and discipline can distort the supervisory role; the supervisor should act primarily in a supportive relationship, as a resource person for the front line service worker.

8) Evaluation: This is identified by many as an important responsibility of supervision, but there is little evidence, either in our case studies or other project documents, to indicate that evaluation of paraprofessionals has been systematically or rigorously implemented anywhere. To assure that paraprofessionals are performing satisfactorily and to provide data for making appropriate planning decisions and for assessing the cost-effectiveness of a paraprofessional strategy, on-going evaluation procedures are necessary. It is also important that paraprofessionals be aware of the criteria by which they are assessed.[12]

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[12] Storms, op. cit.

Alternative Designs for Supervision Systems

The preceding discussion indicates that supervision consists of a variety of functions, besides the "control" aspect so often associated with more limited interpretations of supervision. Many of the weaknesses of existing supervision systems can be attributed to the failure to identify the various components of supervision, and who or what method will be used to accomplish these tasks. Supervision entails a wide range of responsibilities and requires substantial resources, including time, effort, and material. It is unrealistic to expect professionals to increase their visits to rural areas or to expect one individual supervisor to perform all the activities identified above when paraprofessionals are numerous and widely dispersed. Consequently, alternative methods need to be explored for overcoming the deficiencies associated with conventional approaches to supervision. In the following section we discuss several possibilities for strengthening the supervision of paraprofessionals, without unduly increasing costs.

Functional Division of Roles. Some programs divide supervision into two distinct categories or what Fendall calls the disciplinary-administrative and counseling-educational roles.[13] Separate personnel are designated to perform each of these functions. For example, professionals such as MDs or agronomists may provide all in-service training and on-the-job guidance, while a subprofessional performs the administrative/control tasks associated with supervision. In Alaska, medical supervision is provided by two-way radio contact between paraprofessionals and the nearest hospital, with the administrative supervisory functions falling to public health nurses or physician assistants.[14] Although it probably was not deliberately planned into the system, testimony from a paraprofessional health worker in Alaska reveals that the two-way radio hook-up also gave her the feeling of being linked into the health system.[15]

The Training and Visit System, widely promoted by the World Bank, purposefully abstracts the training function from supervision and creates a separate position, the "subject matter specialist," for delivering regular and systematic in-service training. Dividing supervision into these two central functions performed by different personnel

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[13] N.R.E. Fendall, Auxiliaries in Health Care: Programs in Developing Countries (Baltimore: Johns Hopkins Press, 1972).

[14] Referred to in Storms, op. cit., p. 76.

[15] This was observed in the film, "To Bridge the Distance," produced by the Office of Education and Human Resources, Development Support Bureau, USAID, 1980.

may alleviate the conflict in the supervisor's role of being both a disciplinarian and a motivator. As Storms notes:

> The auxiliary in difficulty may be reluctant to consult the supervisor for fear of being judged as failing on the job. The supervisor may feel caught between the demands of management to enforce rules, regulations and procedures, on the one hand, and the needs of the auxiliary for support and individual development on the other. The tension is a real one.[16]

A potential problem with having two functional positions is that the trainer/educator is unlikely to make frequent on-site visits to each paraprofessional, and the nominal supervisor may not be equipped to offer the paraprofessional technical and counseling assistance needed on the job. A WHO document recommends that the trainer and supervisor be the same person. Where this is not possible, it suggests that the supervisor attend all paraprofessional training sessions to be knowledgeable of the role and skills the paraprofessional is to practice.[17]

Intermediate Level Personnel. Inasmuch as professional level staff are unable, unavailable and in some cases unsuited for supervisory assignments, particularly in rural areas, increasingly efforts are being made to augment the personnel system to accomplish more and better supervision. A notable example is the introduction in Guatemala of a new level of auxiliary personnel, the Rural Health Technician (TSR). Recruited from the rural areas and restricted by law to health practice there only, the TSR serves as an intermediary between the health promoter and the health center. An explicit and significant part of his training and responsibilities relates to the supervision of health promoters (unlike the physician for whom this kind of supervisory responsibility becomes an added task). Unfortunately, as noted earlier, there are not enough TSRs to meet the supervision needs of the rural health care program.

The Medex (physician extender) system is another plan which introduces an intermediate layer connecting the village health worker to the main health system. In agriculture, the Training and Visit System works through village extension workers who link contact farmers with the professional ranks of the extension system, while carrying out some of the supervision functions discussed earlier in this chapter. Our Upper Volta case is a similar example, with subprofessional village extension workers serving as the

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[16] Storms, op. cit., p. 78.

[17] WHO, Traditional Birth Attendants, op. cit., p. 30.

supervisors of paraprofessionals. Problems which apply to paraprofessionals likewise may apply to this type of subprofessional: they are considered by "higher-ups" as inferior, they lack the benefits that others higher in the agency system have, and they are under-supplied, under-trained, and under-supported. Consequently, their morale is often low and their dropout rate high.

Other programs are remedying the lack of suitable supervisors by upgrading experienced, competent paraprofessionals into supervisory positions. Their demonstrated ability and motivation in working in rural areas and their knowledge of the paraprofessional work context often make them sensitive, capable supervisors. Behrhorst notes that a promoter elevated to the supervisory position does a better job than the MD who makes personal visits. Behrhorst attributes this to the promoter's experience and his cultural affinity to the paraprofessional.[18] In other instances, where several paraprofessionals are working in one village, the most competent may provide some of the supervision functions described above, reducing the range of tasks performed by the more distant, official supervisor.

Community Supervision. In an effort to create community-based programs, to make paraprofessionals more accountable to their constituents, and/or to compensate for the lack of supervisory personnel, some programs are looking to communities themselves to carry out some supervision functions either through local committees or through local leaders. Our research indicates that such supervision—the form it is to take and the means for implementing it--remain largely undefined. Consequently, where some supervisory activities were to be the explicit responsibility of communities, these functions frequently have not been carried out. Experience indicates that rural communities often lack the experience, organizational sophistication and, most important, the information needed to take on the responsibility of actively guiding, supporting, and monitoring the paraprofessional.

Community management of the paraprofessional and the program not only compensates for the deficiencies of agency supervision but it may also result in greater local accountability and local participation, and in reducing abuses such as overcharges, favoritism, and pilfering of supplies. The challenge is to clarify and make more explicit what the community's responsibility should be in supervision and how it will be realized. These issues need to be carefully analyzed and clarified during the planning process.

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[18] C. Behrhorst, "The Chimaltenango Development Project, Guatemala," Journal of Tropical Pediatrics and Environmental Child Health, 20:6, December 1974.

At present, the major forms of community involvement consist of control and providing resources. Providing the paraprofessional with compensation, lodging, food, and supplies is seen as an indicator of interest and a way to maintain commitment. Control is intended to involve the community in managing the paraprofessional aspect of the program and includes such tasks as setting fees, identifying needs, and selecting/dismissing the paraprofessional. Such community management, however, is most often manifested through passive means, such as withdrawing from participation in paraprofessional activities, rather than actively modifying services or even dismissing the paraprofessional. This may occur especially when the paraprofessional services do not respond to the people's interpretation of their needs and the latter feel no stake in the program, or when villagers sense a paraprofessional's impotence. In Ghana, for example, villagers realize that local control does not guarantee continued support from the external agency; this support is most central to their interests, and they are loathe to jeopardize it by criticism or active supervision.[19]

It appears that the major reason for the lack of effective supervision and management at the local level is that roles and responsibilities are rarely clearly defined. Community members lack the necessary preparation to carry out supervisory tasks. (The issue of community support for the paraprofessional and the program is discussed further in Chapter V.)

Communications Media. When a supervision "package" of activities is analyzed into its sub-parts, possibilities for modifying conventional face-to-face on-site practices become clearer. This has already been implied in the two previous sections of this chapter (Intermediate Level Personnel and Community Supervision). Communication technology represents another alternative to some of the conventional face-to-face methods. (Technology in this context refers to both hardware and "software"; the latter includes strategies for application of the hardware, and the content developed for it.) In the Basic Village Education program in Guatemala (a project designed primarily to help farmers increase their agricultural output), for example, audio cassette tape machines were used to supplement conventional in-service training by a supervisor, thereby providing a "team" to do supervision. This arrangement substantially reduced the amount of training the supervisor had to do. In Colombia, radio broadcasts to the public were used to enhance credibility of health promoters in dealing with nutrition matters. This reduced the need for the supervisors

[19]IDS Health Group, Health Needs and Health Services in Rural Ghana, Vol. 1 (Brighton: Institute of Development Studies, University of Sussex, June 1978).

to legitimize the promoters. In the Philippines, "nutri-vans" equipped with a video tape deck, a television monitor, and a driver are carrying out some responsibilities normally considered those of a supervisor, such as providing training and technical information support to field workers.

In all of these cases, communication technology was used to do some of the supervisory tasks conventionally done (if at all) by in-person, on-site visits. By using communication media, some aspects of supervision can be done more frequently or on a different schedule than might be possible if they had to depend on an on-site personal visit of a supervisor. For example, continuous motivational reinforcement can be given to remote rural promoters through radio spot announcements or dramatizations which highlight the role being played by promoters in highly valued activities.

In some of our studies, we saw opportunities for using communication media to overcome some of the difficulties resulting from the shortage of supervisory personnel. For example, in Guatemala two vital functions of the supervisor--to legitimize the paraprofessional in the eyes of the community, and to control the amount of preventive health care in the paraprofessionals' service mix--could be promoted by local radio broadcasts which would contribute to the image of the health promoter, and increase his constituents' understanding of, and demand for, preventive health programs.

The kind of person required for supervision might be made more flexible if it were accepted that media could carry some of the burden. For example, older persons with good experience but less suited to the rigors of up-country travel could be employed. Personal on-site supervision might be spread over more paraprofessionals if supervisory responsibilities were shared with some type of communication technology. Thus communications media can complement and reinforce conventional supervisory methods.

A Ghanian health strategy proposal recognized the importance of radio communication in information exchange, consultation, referral and ordering drugs and supplies.[20] The Ghanian Ministry of Health has been exploring (1978) an MOH radio communication network, as has the Ministry of Health in the Dominican Republic.

Planning and Training for Supervision

It is clear that there is not a single model or even a best model for organizing supervision of paraprofessionals. The nature of the supervision mechanism will be influenced by a range of factors including many of those discussed elsewhere in this

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[20] Government of Ghana, op. cit.

document, such as the paraprofessional role, conditions of their employment, amount of training, number and quality of supervisory personnel available, structure and capabilities of the local community, funds available for salaries, training, transport, etc.

What seems most important from a planning perspective is to disaggregate "supervision" into its essential functions as we have done above and identify available or accessible means for best accomplishinging these tasks. The "means" may include: (1) professionals from outside or within the community itself, such as MDs, district agricultural officers, school teachers; (2) subprofessionals such as auxiliary nurses, extension assistants, supervisory technicians, or upgraded paraprofessionals; (3) community members such as those forming a supervisory committee, local leaders or senior paraprofessionals; or (4) communication technology such as radio, newspapers, cassette tapes, etc. A mix of these various "mechanisms" will probably provide the most effective and efficient system of supervision for paraprofessional programs.

For example, to alleviate the conflict in the supervisor's role of being both a disciplinarian and a supporter, the major control features of supervision could be vested in the community while a visiting supervisor could provide counseling and on-the-job training, a function which communities usually cannot provide. And the education and legitimizing aspects could be supplemented by radio broadcasts and/or by service representatives. There are many possibilities. However, to reduce the ambiguity of having a number of people involved in the supervision process, the paraprofessionals need to know to whom and in what ways they are accountable. Contacts between the paraprofessional and the local committee as well as between the paraprofessional and the agency should serve to clarify these issues.

An "ideal" system could be proposed but would either be too general or too site-specific to be useful. The challenge in program planning is to establish a system which accomplishes the necessary aspects of supervision according to the given situation, while being affordable and acceptable to the various constituent parties. Planners need to list and rank systematically the supervision activities which are most vital to the program and to identify the agency or mechanism which might carry them out. A simple planning matrix, like that on page 60 and discussed in the following paragraph, will make explicit the variety of supervisory mechanisms available and indicate specifically who will have responsibility for which different supervision components. It will also suggest where there may be deficiencies in the system to sustain the kind of supervision needed by the program.

Planning the Supervision Package

To develop a workable supervision scheme, a program planner should identify what supervisory mechanisms are available for use in a project. Some of these have been listed across the top of the matrix in Figure 2 below for purposes of illustration. For a particular program, some others could be added and/or some eliminated.

The vertical listing includes the supervisory functions already discussed in this chapter. These functions are not equally important in all programs, hence some system for ranking them could be used by planners. In this exercise we have simply used the

FIGURE 2:
Planning Matrix for Supervision of Paraprofessionals

	Supervisory Mechanisms							
Supervision Functions	Program Technician	Program Administrator	Community Committee	Local Radio Broadcasts	Two-Way Radio	Professional Supervisor	Auditing Cassette Recordings	Other . . .
Legitimation		1		1				
Protection		2	2			2		
Motivation	3		2	1		1	1	
Technical Assistance	1				1	1		
Linkage	1	2			1	1		
Monitoring/Control	2	2	1			1		
Evaluation	2		1			1		
Education/Counseling	1				2	1	1	

numbers 1, 2, 3 to indicate their priority in a hypothetical project--and have indicated which of the supervisory mechanisms might handle which responsibilities. Obviously, a completed matrix would look different for different programs or communities.

By examining the array of priorities under each mechanism, a clearer picture emerges as to the training and other resources needed for each component of the supervision package.

Training for Supervision. Regardless of who provides supervision—whether it be a new layer of subprofessionals, upgraded paraprofessionals, or community members--these individuals need training in their new tasks and responsibilities. Likewise, they need job descriptions which serve not only to clarify the role, but also provide a basis for designing an appropriate training program and for assessing performance. It appears that agency personnel assigned to supervisory positions generally do receive some sort of training in methods and styles of supervision, though the quality is questionable. Community leaders, on the other hand, generally do not have this benefit, and this may be one reason for non-functioning supervision at the local level. An exception to this was found in Bolivia where village leaders receive training in basic management functions. The results of this have been encouraging.

For many programs, providing community leaders with systematic training in supervision methods may be out of the question. But short sessions, perhaps one day, held in the village may be a realistic approach for acquainting local leaders and committee members with their roles and responsibilities. Follow-up is needed, however, to support and reinforce these leaders in their new supervisory capacity. Without assistance and support, village committees cannot realistically be expected to play a significant role in management of paraprofessionals.

Revising Management Structures

Equally important is the re-orientation of all staff in the agency structure to the concept of using paraprofessionals in the program. As previously stated, merely tacking paraprofessionals onto an established structure is not sufficient. Roles and responsibilities need to be redefined with the staff at all levels and all the personnel of the agency must be oriented to these changed patterns. A UNICEF report notes that "Without a change of outlook and work plan of the supporting staff, the community-level workers will be under-trained, under-supported, and under-supervised."[21] Creating

[21] UNICEF, A Strategy for Basic Services (N.Y.: UNICEF, 378-76-10M), p. 13. See also S. Joseph, op. cit., p. 11 and D. Storms, op. cit., p. 64.

a new level of subprofessional supervisors does not solve management problems unless the higher levels are sensitized, committed, and able to offer them effective support.

During the planning stages, the complete management structure should be analyzed, tasks delineated and assigned to the appropriate staff, with training and sensitizing provided accordingly. Complementary services of other programs likewise should be analyzed to insure reliable referral channels. In large bureaucracies, it may be impossible to provide systematic training programs to all personnel; but at a minimum, orientation seminars should be designed to acquaint these individuals with the new system of service delivery. Potential weak points in the supervisory structure should be identified and these points strengthened through additional training and support. As found in one A.I.D.-supported health project, unexpected problems arose from by-passing a weak level in the health delivery system, rather than attempting to strengthen it.[22]

Program Support

Relatively few aspects of any rural development program are well funded, and support services for projects using paraprofessionals are no exception. Indeed, it may be a more chronic problem with these kinds of projects because, among other factors, (1) the use of paraprofessionals may be seen as a cheap solution to a problem, and once the paraprofessionals themselves are "in place," the problem is perceived as being solved; (2) additional resources may be considered to be the problem of someone else; and (3) the clientele of these programs generally have little power or influence over those who ultimately control the resources.

There are several categories of resources which appear from our research to be vital in programs using paraprofessionals. These include: supplies and equipment, referral channels, transport, training and learning materials, and facilities. We are not in a position to say who the supplier should be, because in some circumstances it might be a regional development agency and in others it might be the local community. What we are saying is that these kinds of support services must be provided in the system design, with supply responsibilities clearly identified and agreed to by those assuming these responsibilities. Where a community is given the responsibility, the agency sponsoring the paraprofessional needs to assess the community's capacity to carry it out, or assist the community in developing that capacity. Where paraprofessional

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[22]Monteze Snyder, U.S.A.I.D., Washington, Personal Communication, June 16, 1980.

activities depend upon cooperation or resources from other agencies or personnel, their capabilities need to be verified.

1) Supplies and Equipment: All evidence points to the obvious: paraprofessionals cannot function credibly without the supplies and equipment instrumental to their missions. While some development approaches have advocated local self-sufficiency and self-help almost to the extent of barring any external assistance, rural villagers usually are doing all they can with what meagre resources they have. They need some outside resources--material and technical--and continuing timely access to such resources. The point is not to build dependency on external goods and services, but to provide the paraprofessional and villagers with requisite supplies and channels for starting or speeding up the process of rural improvement.

While perhaps more acute in health programs, the issue of getting supplies on a regular and timely basis is a major problem in most paraprofessional activities. In Senegal the rural health program has been greatly compromised due to the lack of medicines. Complicating factors have been: (a) getting advance extimates of supply needs from inexperienced paraprofessionals and (b) the lack of transportation, causing delays in the system for relaying supplies.

The same problems occur regarding equipment. Because of bureaucratic procedures, delays, or sheer unavailability, the paraprofessional's performance and credibility are thwarted when they lack the necessary equipment. Once the equipment is in place, difficulties often arise in maintenance. Whether the equipment is initially given to the community or is paid for by local publics, it is essential to establish a system for maintenance and repair, including the replacement of worn parts. Questions to be addressed include: Who is to be responsible for maintenance? What training do they need for this and who is to provide it? Who is to pay operation expenses? How and where can spare parts be obtained? Paraprofessionals may be greatly compromised if these "support" problems undermine the programs in which they play a prominent role.

2) Referral: The most common kind of referral system is that found in health programs, where emergency cases or patients who cannot be treated locally are sent to facilities outside the community. The need for functioning and responsive referral systems has been stated over and over in health program documents. Given the limited education and training of paraprofessionals, however, all are equally liable to need some outside assistance and access to external services regardless of whether the paraprofessional is working in agriculture, community development or nutrition.

Paraprofessionals need to understand their limitations and to have accessible, reliable channels for referral. These operate in two modes: serving the client directly

upon referral or indirectly through the backup given to the paraprofessional. In the first situation, there is the villager with appendicitis who needs the services of a physician at the district health center, or the farmer with a crop pest problem who needs the timely advice of an agricultural specialist. In the latter case (but not the former), the paraprofessional could go to the specialist for the advice, but one way or the other, the backup support of the specialist is needed.

While referral systems benefit members of the public directly, they also provide paraprofessionals with indispensible assistance from supervisors or other service representatives. Such channels are often essential for establishing the paraprofessional's credibility. Not having the status of a professional to rely on, paraprofessionals must be seen by villagers as having experts and expert services to whom they can promptly and reliably refer.

Using paraprofessionals in development programs will increase the pressure on existing referral systems and facilities. The anticipated load on the district health center or requests for agricultural advice should be estimated during the planning stages and the necessary steps taken to strengthen these services. Too often these referral facilities are understaffed or undersupported, and unable to meet the rising demands placed on them as a result of paraprofessional activities.

3) Transportation: Directly related to the first two support issues is the question of transportation. As previously indicated, there is probably no more universal need than support for transportation. Supply lines and referral channels cannot function without vehicles and monies to pay for transport. Both at the supervisory level and at the paraprofessional service level, distances may be so great that without agency help, those distances will never be covered. Some programs provide paraprofessionals with a means of transportation such as motorscooter, bicycle, or horse cart. Others do not, often because the paraprofessional serves only one community. Then, however, a system should be established for covering the paraprofessionals' expenses incurred when they must travel to the regional center for meetings, training, referral needs, or supplies. In Upper Volta, village midwives themselves are responsible for resupplying their medicine kits but due to travel distances and expense, often do not journey to the urban centers to obtain these supplies. A horse and buggy was to be provided to each rural community in Senegal with a health post. Long delays in obtaining horses have impeded the program and whether the horse and buggy is even appropriate is questionable, given the terrain and deep sand in many areas.

4) Training and Learning Resources: The nature of the paraprofessional system demands an investment in training programs and training materials. These needs appear

at all levels in the system: in training of supervisors, in training of paraprofessionals, and in education of the community. In Guatemala, to generate educational materials for supervisors (TSRs) to use with paraprofessionals, the field staff developed their own newspaper as a means of sharing ideas. In our case studies and in other projects, the appeal by paraprofessionals and supervisors for more and better reference and educational materials seems to be universal. It is important to note that there often seems to be personal motivation and capacity in the system to improve its operation through more extensive learning efforts, but that the system itself is not geared up to respond with the resources.

5) Facilities: Program support for the paraprofessional also includes the facilities which allow paraprofessionals to perform their jobs. One essential facility is an appropriate training site; where one does not exist, it should be provided or arranged for by the program. Depending upon the paraprofessional's role, a health post, a warehouse for storing agricultural supplies and equipment, or a maternity facility may be required. Many programs solicit community participation in the construction of these facilities, though materials such as cement and roofing may be provided by the agency. Questions which need to be addressed include: Who will supervise the construction? Who is responsible for maintenance and repair? Once again, when the agency is providing construction materials, timeliness of delivery is essential. In Upper Volta, paraprofessionals' credibility, and that of the program in general, were greatly handicapped by the long delays in receiving promised building materials.

Conclusion: Building the Infrastructure

The lack of adequate program support is not unique to programs using paraprofessionals. Our six case studies found, as in other development efforts around the world, that the paraprofessional's ability to perform effectively was hampered by: under-financing; excessive red tape and delays in releasing materials and funds even when they are budgeted for; difficulty in establishing reliable supply lines to isolated, rural areas; poor coordination and cooperation among service agencies working in the same area; and ambiguity about who was responsible for what. As a result of these kinds of conditions, the paraprofessionals in a majority of the villages in our study were greatly underutilized, lacking resources, particularly knowledge, supplies and equipment to perform their jobs. Paraprofessionals commonly express a desire "to do more for our villages" but feel thwarted in their efforts.

While problems differ in kind and in magnitude among our six case studies and those others whose documentation we have studied, there seems to be a common

denominator. The art of using paraprofessionals effectively has not dealt significantly with the problem of building an adequate infrastructure to provide, on a continuing systematic basis, the logistics and staff support necessary to establish and maintain a service that can make a significant impact in the countryside and enjoy the confidence of rural families. This is not to say there are not successes. But our analysis suggests that there are significant gaps between the potential of paraprofessionals and what is being accomplished.

This potential will continue to be unrealized until paraprofessionals receive reliable support from their sponsoring agency. Tacking paraprofessionals on to an existing overstrained structure is clearly not the answer. Paraprofessionals are only as good as the support unit immediately above them; and that unit depends upon the level above it, and so on. All levels in the program need to be strengthened and re-oriented to changes in the service delivery system. Supervisors must have appropriate management training to facilitate two-way information flows. This necessitates a commitment to the paraprofessional concept, which should be formalized in a policy statement noting why paraprofessionals are needed, how they will be used, what resources are necessary, and what will be availble to the program. Without this commitment at the highest policy-making level, including a clarification of the program's relationship to other programs and agencies, and without the establishment of linkages among international, national, regional, and local resources, the paraprofessional strategy will continue to be compromised.[23]

The support system may be viewed as a package of functions which can be operationalized as follows: (1) delineate each function included under supervision and back-up services; (2) identify appropriate and acceptable persons or mechanisms to fulfill each function; (3) assess and provide for their training needs; (4) clarify the manner in which each responsibility will be undertaken; (5) identify and provide for necessary financial, material and transport resources to perform each function; (6) develop an on-going evaluation procedure to analyze results and to provide data for modifying the system. Where the community is to be responsible for providing supervisory or support functions, a contract between the agency and community may help to clarify responsibilities and alleviate the frequent misunderstandings about what is to be provided by whom.

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[23] See especially Storms, op. cit., p. 15.

Supervision and program support are clearly necessary to the success of any program using paraprofessionals. The challenge to the planner is to develop the most effective system which is affordable, taking into account the local and administrative contexts and capabilities. The provision of services to support paraprofessionals will continue to be inadequate until costs, scheduling, and competent personnel for carrying out the responsibilities are identified and provided for before project start-up. Without an operational plan of support, paraprofessionals should not be deployed to villages. As noted earlier in this chapter, paraprofessionals in the village who do not have the backing of the rest of the system may be more harmful to rural development efforts than the "empty dispensary standing 20 roadless miles away."

Chapter V

COMMUNITY LINKAGES FOR PARAPROFESSIONALS: LOCAL PARTICIPATION, ORGANIZATION AND LEADERSHIP

As stated in the introduction, our review of the literature on paraprofessionals suggested that the effectiveness, efficiency and responsiveness of paraprofessionals will vary directly with their success in encouraging local participation, particularly through local organizations. Recently a USAID review of integrated low-cost health delivery systems also suggested that "the quality of the relationship of the village health worker to his or her community is the key to success of primary health care."[1] In even more emphatic terms, a meeting of Ministers of Health in the Americas declared that "an informed, active and vigorous participation by the community is an essential prerequisite" for community-based health programs.[2]

Yet there is considerable ambiguity concerning what is meant by "participation," what are the means and channels for encouraging it, and how it relates specifically to the performance of paraprofessionals in health, agricultural and other programs. In one of the major volumes on organization of primary health care programs, for example, the only specific recommendations are for the community to be involved in selecting candidates for training, and "in the planning process."[3] It is necessary to be more explicit and more detailed about participation aspects of paraprofessional activities in order to be of assistance in planning and assessing such programs. Our six field studies examined experiences with local participation in specific contexts, thereby enlarging upon what is available in the literature on the subject.

There are many possible elements of participation which could be identified and examined, but only those which are most relevant to paraprofessional programs will be discussed here.[4] It is also important to look at the specific tasks paraprofessionals are

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[1] N. Baumslag et al., AID Integrated Low Cost Health Projects: Volume II, Analysis, Report prepared for USAID by the Office of International Health, U.S. Department of Health, Education and Welfare, Rockville, Md., 1978.

[2] PAHO, Utilization of Auxiliaries and Community Leaders in Health Programs in Rural Areas, Scientific Publication No. 296 (Washington: Pan American Health Organization, 1978), p. 3.

[3] M. Bomgaars, "Primary Health Care Program Operations," by R. Smith, ed. Manpower and Primary Health Care: Guidelines for Improving/Expanding Health Service Coverage in Developing Countries (Honolulu: University Press of Hawaii, 1978).

[4] J. Cohen and N. Uphoff, Rural Development Participation: Concepts and Measures for Project Design, Implementation and Evaluation (Ithaca: Rural Development Committee, Cornell University, 1977).

called upon to perform because these influence what kinds of participation are appropriate and feasible. Also important is the community context, which makes the different kinds of participation more or less attainable.[5] Since we find that participation is best sustained within some framework of local organization, this needs to be studied, together with the roles and performance of local leadership.

Elements of Participation in Programs Using Paraprofessionals

The most relevant kinds of participation in paraprofessional programs concern decision-making, implementation, and sharing in benefits.[6] Each of them can be usefully differentiated to focus, for example, on participation in initial, on-going, operational and evaluation decisions, or on resource contributions and management activities as part of implementation. Where possible, identification should be made of who is participating in the specific kinds of decision-making, implementation and benefits, as well as how this participation is occuring. To illustrate these different kinds of participation, the chart on the next two pages sketches the nature of participation in each of our six case studies.

Participation in Decision Making

Initial Decisions. Usually there is limited participation in the initial decisions governing paraprofessional programs. Identifying specific communities' needs is seldom done, though it is logically the first step. Health and agriculture programs as a rule

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[5]Manzoor Ahmed, writing of a rural health project in Bangladesh, says:

> There is an acute awareness in the project of factionalism and interest conflict in the villages and of the fact that a village is not really one communal entity. The interests of the large landowners, money lenders, petty traders...are not the same as those of the landless laborers, the mini-farmers, the craftsmen, and the destitute women....A broad based community participation, with more than token representation of the under-privileged majority in any formal participatory mechanism, is seen as the best remedy for intra-village conflict affecting the project activities. But the operational steps for implementing this idea are yet to be worked out and tested.

The Savar Project: Meeting the Rural Health Crisis in Bangladesh (Essex, Conn.: International Council for Educational Development, 1978), p. 39.

[6]In the analysis offered by Cohen and Uphoff, op. cit., participation in evaluation was considered a fourth kind of participation, along with decision-making, implementation and benefits. We include it under the decision-making heading. What specific kinds of decision-making involve participation is more significant than how they are classfied.

FIGURE 3

PARTICIPATION (P) IN DECISION-MAKING	BOLIVIA Natl. Community Dev. Prgm	GUATEMALA Rural Health Worker Prgm	PHILIPPINES Samahang Nayon	SENEGAL Sine Saloum Health Project	SRI LANKA Sarvodaya Shramadana	UPPER VOLTA Equal Access for Women
Initial Decisions 1. Identification of community needs	By elected community development committee	By PP, by PP with TSR help or vill. comm.	Some input from community	Community health needs assumed	Work on SS - identified 10 Basic Needs	Possible, but program meets only some needs
2. Initiation of PP program.	CDC decides whether or not to have PP	Community decides whether to have PP	Community decides to have SN	Usually decided by leaders, some community P	Usually few leaders are instrumental	Community decides to host program or not
3. Scope of PP program activity	Choose among pre set alternatives (e.g. school or mother's club)	Pre-set, but some variation by PP in practice	Little voice, but some informal influence	In principle could set PP renumeration, actually set at Dept. level	Determined by PP with community	Project has basic things to offer, may or may not match needs
On-Going Decisions 1. Planning of program	Little planning, most activities undertaken sequentially	Very little participation in planning	Program pretty much set at natl. level	No mechanism for involvement in planning	Small core group does most of this	Possible, but new activities chosen centrally, village can P or not
2. Decisions to extend or discontinue program	Successive activities undertaken only with community support	In principle, continuing program, can lapse into inactivity	On-going program but could drop out through inactivity	Program could be stopped in community	Small core group would decide this	Can request modification or new activities, depend on availability of funds
Operational Decisions 1. Selection of Paraprofessionals	Variety of methods but can be rejected by community	Usually selected by community meeting, maybe by TSR	Community not involved, cannot reject PP	Village leaders most influential, usually have meeting, may delegate	In practice by local leaders and other SS workers	Usually by village chiefs, some by women's groups
2. Eligibility of beneficiaries	Community could have some say if relevant	All eligible	Decided by PP	All eligible	Community could determine	All eligible, but mostly for women
Evaluation Decisions 1. Evaluation of PP's performance	Some, but only informal	Virtually none, only by informal channels	No formal role of SNs, could approach supervisor	Could remove worker but reluctant to do so	Could remove PP but reluctant to do so	Could remove by community decision, has happened
2. Evaluation of PP program	Virtually none, any feedback by informal channels	Virtually none, only by informal channels	Only informal feedback from SN to program staff	No established procedure, could speak to MOH staff	Little evidence of this in any formal manner	No formal feedback mechanism

FIGURE 3 (cont'd)

PARTICIPATION (P) IN IMPLEMENTATION	BOLIVIA Natl. Community Dev. Prgm.	GUATEMALA Rural Health Worker Prgm.	PHILIPPINES Samahang Nayon	SENEGAL Sine Saloum Health Project	SRI LANKA Sarvodaya Shramadana	UPPER VOLTA Equal Access for Women
Resource Contributions 1. Funds	Not as a rule	Not as a rule	Not as a rule	Fee for service, money for tin roof on health hut	Sometimes; no regular basis	Pay midwife & for medicines; collect money for projects; now repay for mill, cart, etc.
2. Labor	Voluntary labor for construction	Voluntary labor for building health posts	Some labor contributions	Construction of health hut, clear brush	Voluntary labor often given	Men build maternity facility, classroom, PP supervisor's house; women collective field
3. Materials	Materials for construction; food, lodging for PP	Materials for health posts; food, lodging for PP supervisor	Some contributions	Materials for health hut, food, lodging for outside PP	Wealthier villagers give land, average give food for shramadana projs.	Construction materials; food
Admin. & Coordination 1. Local organization working with PP	Community Dev Committees; Mothers' Clubs	Village Self-Improvement Committees	Samahang Nayon (pre-coop); Barrio Livelihood Comm. (farmer-scholar)	Comite de Gestion	Mothers' Committee, Youth Committee, other comm's	Project Committee
2. Membership	Representative cross-section	Up to dozen villagers	Elected farmers (under 7 hectares)	Mostly local elite	Various sectors	Chief, influentials, women PPs
3. Activities, including PP supervision & program management	Decide on and plan activities, no formal supervision or management	Encourage broader P in health activities no sup/mgmt.	Carrying out SN program activities for agr. development, no sup/mgmt.	Oversee funds, renumeration, reordering supplies, no sup/mgmt.	Responsibilities not clear, little or no sup/mgmt. Mothers' Comm. help with pre-school	Chief mobilize people; decide schedule, hours, places; oversee constr. & coll. field
Partaking of Services	Varies with service, many are public goods; most benefit from some CD activity	Most villagers come for service when needed; less P for preventive activity	Highly variable from village to village and within villages	Women/children most frequent; first-aid used generally	Most often for pre-school program; usually wide P in shramadana projects	Women most, also men (literacy), fairly widespread P
PARTICIPATION (P) IN BENEFITS	Benefits available to all, P varies, but not apparently related to income	Benefits available to all; P not related to income	Most SN members benefited in some way	No evident skew in distribution of benefits, women often paid more of costs	Some benefits to average villager, few to the poor; dishenefits to businessmen with exploitive/illicit activities	Pregnant women, mothers benefit most; water well may be near chief's compound; various benefits

presume that the problems of communities are similar enough that specification and diagnosis of these problems for a given community is not necessary. This assumption is often inaccurate, though as an approximation to save time and money in pre-program effort it may appear justified. What is overlooked in such a calculation is the fact that involvement of rural people in the initial stages of a program appears to be a valuable exercise in itself, laying the basis for subsequent participation. There must be what Storms calls "adequate social preparation" for a paraprofessional program,[7] and the initial involvement of intended beneficiaries is perhaps the major means of such preparation.

Our own field work and the research of others stress the importance of involving the community in the early stages of program development. Informal individual and group discussions about community problems, needs, and resources should be held between program administrators and community members. Community leaders should, of course, be included in such discussions, but the program should not rely entirely on them to disseminate information about the program since these leaders do not necessarily share their information with all villagers. Instead, an effort should be made to reach as many villagers as possible through group meetings and informal contacts.[8]

Community involvement in the initial stages of program development enables community members to have greater knowledge of the program, and to make suggestions concerning the implementation of the program. Evidence from Iran and Mexico, as well as from our own six case studies, suggests that when people have some input into the shaping of a program, they take greater interest in it.[9] Fortunately, there is increasing awareness on the part of development agencies of the need to consult communities before a program is implemented.[10]

The approach best taken varies, but the objectives are to determine the potential level of interest and cooperation and to gain acceptance. In the Guatemala case, program administrators have recently decided it was so important for the community to

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[7] D. Storms, Training and Use of Auxiliary Health Workers: Lessons From Developing Countries (Washington: American Public Health Association, 1979), p. 21.

[8] Ibid., p. 21.

[9] Ibid., pp. 21-14; and F. de la Barra-Rowland, "Analysis of Experiences of Self-Help and Public Participation in Rural Water Supplies: The Case of Mexico," in D. Miller, ed., Self-Help and Popular Participation in Rural Water Systems (Paris: Development Centre Studies, OECD, 1979), pp. 30-65, 62-62 in particular.

[10] APHA, State-of-the-Art of Delivering Low Cost Health Services (Washington: American Public Health Association, 1977), p. 42.

display broad-based interest in the program that in the future a community would ordinarily not be allowed to elect a candidate for training until it was deemed to have shown sufficient interest. Measuring community interest can be difficult, but a number of different indicators can be used, for example, attendance at meetings, or number of signatures collected. The best indicator is the willingness of villagers to make some sort of personal resource contribution to the project.

What seems most important in regard to initial decision-making is: (1) that specific information on the paraprofessional program be given to all members of the community in advance of decisions, spelling out exactly what is expected or required of the community and (2) that the program itself have as many options as possible so that it can be tailored, and be seen to be tailored, to the community's needs and capabilities. Beyond this, the more community members can be involved in the discussion and ranking of community needs, and in the actual decision to enter into the paraprofessional program, the better. This applies also to making modifications in the program to suit the community's needs, preferences and capabilities; this can also be more or less participatory depending on how the program staff approach the community.

Community participation in determining the scope and content of a paraprofessional's service is important, but usually must be constrained. Because paraprofessionals receive only limited and specialized training, they cannot be expected to deal with all possible needs in the community. Thus, there must be some limitation to their scope of activity, and thus some limits on local self-determination are unavoidable. Complete open-endedness may result in a plan for full-scale community development which requires more resources and technical skill than the paraprofessional can mobilize or provide. Furthermore, in the area of health care, where communities need to be persuaded that preventive activities produce more health improvement for the resources expended than do curative efforts, one is likely to have mostly the latter if the content of program activity is left simply to the community. It is possible and essential, however, to provide for community participation in decisions—adapting activities to specific local needs and preferences.

Although community participation in the initial decisions about setting up paraprofessional programs is usually limited, whether or not the program will be introduced into a particular community is usually left to the villagers and/or their leaders. Program administrators often require that an affirmative decision be backed up with some action or contribution, such as construction of a health hut in the village or selection of a community member to go for training as a paraprofessional. In some

cases the decision on whether or not to enter into the paraprofessional program is made by the community assembled, in other cases by community leaders in some informal consultation with village residents, and in yet other cases the village headman or chief actually makes the decision. It appears preferable for this to be a decision in which the whole community has an opportunity to participate--to discuss at least, if not to vote. In some cultures, however, when local notables make or at least articulate community decisions, to insist on the forms of democratic decision-making may not be appropriate or effective.

On-going Decisions. There tends to be little community involvement in on-going decisions once programs are started. Occasionally publics have an opportunity to determine which project activities will be undertaken in their village. However, publics are usually not given an explicit opportunity to determine whether or not the program will be expanded or continued. Program staff assume that the activities are beneficial and find it hard to imagine that village residents would want to change or discontinue the effort; alternatively, they think funds are so limited that there is no room for flexibility. A tacit kind of participation often accompanies these non-decisions. If people judge the paraprofessional activity to be less rewarding than anticipated, they slacken and eventually stop their participation in its implementation. In effect, they "vote with their feet," by staying away from the clinic or not coming to agricultural training sessions, and the program declines into inactivity.[11]

Operational Decisions. As reported in Chapter III, the most visible and critical form of local participation is the selection of paraprofessionals from the community if this is provided for, or accepting/rejecting paraprofessionals nominated from outside. This kind of participation is likely to strengthen paraprofessionals' rapport with the village, and increase a village's confidence in them. This is vital to the success of the paraprofessional strategy. Interestingly, probably the most active and effective program among those we studied, Bolivia, did not select a paraprofessional from each village. Instead, persons who had demonstrated some local leadership capability were given training and then assigned to a set of villages, seldom including their own. But these villagers could reject a paraprofessional who did not establish good working

[11] This was reported in the Sri Lanka case, where villagers were often enthusiastic and active in the initial stage of building facilities like roads, wells or a temple sermon (bana) hall. But they looked beyond this to activities yielding them increased income, a keenly felt need. When this was not forthcoming, the general level of participation diminished. This amounts to an effective (negative) set of individual decisions about program expansion/continuation.

relations with them. In the Senegal and Upper Volta projects, on the other hand, selection seems to have been made essentially by local notables, though often with some consultation with others in the community. The Sri Lanka case provided for community selection but in practice the process was more like the latter cases.[12] In Guatemala, it was clear that paraprofessionals selected by the supervisor (TSR) rather than by the community were less effective in their work. Next to participation in deciding on initiation of the program in the village, participation in selection of the paraprofessional seems most important. Indeed, the two decisions may well be linked as they were in our Guatemala and Upper Volta case studies.

A second kind of operational decision—who is to be eligible for participation in the program's activities and benefits--did not seem to be particularly relevant in the programs we studied. This is almost always a policy decision. Furthermore, health programs were as a rule open to all, and most of the community facilities built in Bolivia and Sri Lanka, for example, were public goods. In a program like Samahang Nayon in the Philippines, eligibility criteria were set nationally and the paraprofessional had only to apply for them. Thus, there appears to be little significant community participation in this regard, but it does not seem to have affected the program's performance.

Evaluation. The most overlooked area for participation, as in most development programs, was that of evaluation. There are few specified channels for ongoing or periodic community evaluation of the paraprofessional or of the program itself. Where the paraprofessionals are not performing properly, they can in theory usually be replaced at community request. But the lack of formal, legitimate channels often makes this awkward and slow. At most there are informal means of contacting program staff, who may be willing to hear complaints against paraprofessionals (especially if they are not working at their tasks), but who are unwilling to have the program itself criticized. Nearly all paraprofessional programs could benefit from more explicit and formalized procedures for community participation in evaluation both of the paraprofessional and of the program itself. This is a kind of participation which government officials ought to welcome and even seek out, but seldom do.

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[12] In one of the Sri Lankan villages studied, the paraprofessional had been appointed with influential political figures behind him, and although he was unpopular and ineffective, he remained in his position for a year before being replaced. Villagers reportedly were reluctant to oust someone who had outside support.

Participation in Implementation

Resource Contributions. Understandably, this is the kind of participation program managers usually desire most. The resources contributed in our six case studies were impressive; likewise, the literature on paraprofessionals has also documented the extensive contributions villagers are willing to make.[13] However, in general, villagers are very short of cash and programs seeking to raise cash contributions from them invariably have a difficult time. It is also difficult because often villagers feel that the government should pay for any expenses. Several of the health programs required payment on a fee-for-service basis, such as lump sum payment in Senegal for pre- and post-natal maternity care by the paraprofessional midwife, and difficulties were encountered even on this arrangement. In fact, the problems encountered in keeping village medicine chests adequately stocked in Upper Volta and Senegal resulted as much from people being unable or unwilling to pay cash for what they used, as from logistical difficulties in physically obtaining new supplies.

It is sometimes suggested that communities themselves should pay a salary to the paraprofessional. Paraprofessionals in Guatemala who were unpaid complained that their lack of salary kept them from working more at their health tasks, and Bolivian paraprofessionals found their meager salaries inadequate to maintain their families. But both quickly dismissed any suggestion that the villagers pay something toward their salaries, on the ground that villagers were simply too poor, and would have a hard time raising the cash. Paraprofessionals tend to feel that it is the government who should pay their salaries.

Contributions in-kind are easier to attract. Building materials, for example, are fairly readily obtained for building a school, a health post or hut. Wealthier community members often are willing to contribute land for a public facility; collective fields for group gardens were donated in Upper Volta. Providing food and lodging to the paraprofessional is often done as a matter of simple hospitality—obligatory and usually freely given in a village society. Still, there are limits as to how much can be obtained in material contributions because the things given up have value to their owners.

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[13] "In voluntary projects in Bangladesh, India and Guatemala...small regular contributions by rural families subscribing to a kind of 'group health insurance scheme' cover up to one-half of the total costs of Primary Health Care for the Community. The remaining half or less can be more than covered if a portion of the per capita national government expenditure for health is redeployed to the PHC programme." Manzoor Ahmed, "Community Participation, the Heart of Primary Health Care," Contact, June 1980, p. 21.

What villagers have in most abundance is their labor, and this is often given freely in the communities we observed, provided that the paraprofessional or some other local leader takes sufficient initiative to organize the effort and provided that the task is in the community's interest. Most communities have some tradition of communal labor which can be drawn on in paraprofessional activities. In Sri Lanka, shramadana (the gift of labor for public purposes) is a religious duty of Buddhists and earns them "merit" for the future. In the recently settled rural communities we studied in Guatemala, there was no old tradition to refer to, but where a common good was at stake, labor could be mobilized.[14] Obtaining communal labor for continuing activities, however, is not automatic. The most common problem is that expected benefits do not materialize. Then projects are not seen as worth continued investment.

Such participation in implementation is important not only for the cost saving which it can have for the overall paraprofessional program, but for the heightened commitment to the program which such contributions evoke. When people have built a health post or cleared an abandoned field in order to conduct seed variety trials, the ensuing health or agricultural program is more "theirs" than if the work had been done for them from government resources. While resource contributions can usually be elicited, there are two potential problems which can be significant. The first is the necessity of demonstrating that the resource contributions will provide tangible, and preferably immediate benefits to the village. Obviously, villagers will be reluctant to contribute to a project if they do not feel they will benefit from the project.

The second potential problem concerns equity--who should contribute and how much. For example, it is reported that resource contributions were halted altogether in one project in Ghana because some villagers were not making any contributions.[15] Another example appeared in an Upper Volta village where the women refused to work in a collective field since not all would work, and earnings were to be distributed to everyone. Such a "free rider" situation is always a potential problem. Of course, deciding what is an equitable distribution of obligations and benefits is a difficult issue

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[14]The most amusing example of labor contribution was the "coerced" case we found in Bolivia where the men, who had agreed to build a school which the women could also use for their planned Women's Club activities, reneged on their agreement. The incensed women seized various items of the men's personal property and held these transitor radios, wristwatches, etc., as "ransom" until the men fulfilled their labor commitment.

[15]IDS Health Group, Health Needs and Health Services in Rural Ghana (Brighton: Institute of Development Studies, University of Sussex, June 1978), pp. 226-227.

in any society. Given the importance of this issue to rural villagers, program designers should leave some discretion to communities as to how they want to apportion payment or labor requirements, engaging if possible the whole community in discussing and deciding how their resources are to be mobilized.

Participation in Management Activities

Unfortunately we find usually only nominal or minimal participation by villagers in the management of paraprofessional programs. In particular, there tends to be only limited involvement in supervision of the paraprofessional and in directing or supervising the program. In all of our six case studies, for example, management decision-making was concentrated within the project organization despite rhetoric to the contrary. What were described as exercises in local management often proved to be only efforts to encourage support for the paraprofessionals and their activities.

More meaningful local participation in the management of a paraprofessional program might involve rural people in selecting the projects to be undertaken and devising the means for carrying them out. On-going monitoring of the paraprofessional's performance could also be done locally. Although the implementation of projects would be undertaken locally, not all resources for the program would necessarily originate in the village. Of course, local management does not preclude a strong role for supervisors and program administrators. Villagers and the agency could jointly carry out periodic evaluations.

Each of the programs in our six case studies had a local organization which worked directly with the paraprofessional. Membership in these organizations varied from a representative group elected by of the community (Bolivia), to a project committee made up of local influentials and the paraprofessionals (Upper Volta). Without exception these organizations did help to foster participation. However, their role was largely limited to engendering support for the paraprofessionals' activities and not in management of the programs. Thus, each helped to spread information about the program and encouraged villagers to donate needed labor and materials, but did little to determine the project's program, and virtually nothing to supervise the paraprofessionals. Usually project personnel have been reluctant to give up the responsibility of supervision and management to locally-elected bodies, while local organizations sometimes are not eager to take on such responsibilities because of the time such activities would take, because of doubt about the rewards, and fear of antagonizing some villagers.

Although there has been little local participation in the management of paraprofessional programs, publics should be able to fill an important gap in the supervision of paraprofessionals as suggested in the preceding chapter. Even under the best of circumstances, paraprofessionals are likely to be visited by their supervisors no more than once or twice a month. Where there is a shortage of supervisors, or where villages are particularly isolated, supervision is likely to be even less frequent. Since publics have direct contact with the paraprofessional, and since they are, in fact, the beneficiaries of the paraprofessional's service, they are in a position to exercise a supervisory role, particularly through local organizations. This should help to make the paraprofessional more accountable to the village. The point is emphasized by Golladay:

> (H)ealth workers must be made accountable to the community, especially through recognized organizations, such as the local council or village development committee. The community can monitor such aspects of performance as the hours of service, the use of drugs and materials, and the care provided. But how far the health worker should be made formally accountable to the local authorities has to depend on the local situation. In some cases, supervision can be successfully exercised by the community. In others, program directors argue that complaints are resolved most rapidly and effectively if health authorities at a higher level deal with them.[16]

Furthermore, participation in the management of a program can result in a heightened commitment to the program in the same way that contributing resources can evoke such a commitment. This has been dramatically illustrated in a project that provided village health service in Nigeria.[17]

Increasing local participation in the supervision and management of paraprofessionals necessitates designing programs to be more decentralized in structure and operation. It is not enough merely to delegate authority and responsibilities to a community, because villagers often lack the skills and experience to assume such tasks. First, there must be a legitimate leader and/or organization to direct community action. Second, local leaders need some training in the skills necessary to carry out their duties. Third, and equally important, local leaders need continuing reinforcement from supervision. Continuing support is necessary until villagers are familiar with the tasks involved in managing paraprofessionals and their activities.

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[16]Frederick L. Golladay, "Community Health Care in Developing Countries," Finance and Development, Vol. 17, No. 3 (September 1980), p. 39.

[17]"Rural Basic Health Services: The Lardin Gabas Way," Contact, October 1977, p. 7.

Participation in Benefits

There was reasonably widespread participation in benefits from paraprofessional programs in the villages observed. This does not mean, of course, that programs could not have provided more and better services. But for all their limitations and problems, the results were positive. This is especially noteworthy given the meager resources usually put into rural development programs by governments, compared to what they expend on other activities.

Of special concern is the distribution of benefits. We did not find any systematic skewing of benefits in favor of the better-off sectors of the rural communities. In some instances the benefits that paraprofessionals provide are such that the rural elite are not interested in monopolizing them, for example, lectures on nutrition and food preparation. In other instances, the benefits are of a public goods nature, such as the construction of village health posts or roads and bridges, open to any who want to use them and consequently difficult to monopolize. We found some petty appropriation of program benefits, e.g., where a chief named a wife or relative to become the paraprofessional (though only status and not remuneration was attached to the position), or located the new well for village water supply near his compound--two examples observed in the Upper Volta case study. However, in general the distribution of benefits in our case studies was reasonably equitable. Apparently because paraprofessionals' services are very "basic," and are mostly " public goods" they do not lend themselves so readily to skewed distribution.[18]

One cannot assume that the use of paraprofessionals will automatically lead to the equitable distribution of benefits. It is the type of activity and the nature of the

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[18]The only correlation we found between income and participation in benefits was in the literacy training classes of the Upper Volta Equal Access program: poorer households perceived literacy training to be less useful than other paraprofessional-assisted services; for the latter the income factor did not appear to differentiate participation so evidently. In the Sri Lanka case, we found that while the program explicitly desired to assist the poorest sectors, these were the least likely to participate in efforts to establish public goods, although they did later use the facilities. In both cases, the poor were not excluded, but chose not to be involved. A study of similar kinds of self-help projects in Kenya showed that the poorer sectors utilized the facilities as much as the rich. See Barbara Thomas, "The Harambee Self-Help Experience in Kenya," Rural Development Participation Review, Vol. 1, No. 3, Spring 1980. Studies of health programs suggest that utilization rates among lower socio-economic groups are proportionately high while the wealthier groups tend to seek more qualified health personnel. See Rushikesh Maru, "Organizing for Rural Health: The Indian Experience," (Ahmadabad: Indian Institute of Management, 1979); and Glen Williams and Satoto, "Socio-Political Constraints on Primary Health Care," Development Dialogue, 1, 1980.

benefits which determine who participates and who benefits. Social patterns tend as a rule to channel divisible benefits to more powerful sectors, while benefits of a public goods nature are more likely to result in equitable distribution.[19] Even with the latter, however, socio-economic factors come into play, and sharing in benefits depends in part upon how the individual perceives those benefits. Villagers often differ in their opinions as to what their village needs, and how these needs should be satisfied. Thus, it is no surprise that in a given village, some will enthusiastically support the activities of the paraprofessional, others will be indifferent, and a few may be opposed.

As previously mentioned, a paraprofessional unacceptable to a particular socio-economic group may effectively preclude their sharing in any benefits. In other cases, for example in an agricultural productivity project, participation may be open to all and require minimal financial inputs, but in fact it may be limited because many people lack access to land. Populations may not share equally in benefits due to the inability of some persons to pay even minimal costs or fees or due to cultural norms which preclude the sharing of common facilities (e.g., a maternity room) across social or class groupings.

The benefits of some paraprofessional programs may not be as evident as program planners would like. This is particularly true for public health activities intended to prevent disease. Even though a project may seem to offer benefits to its recipients in the eyes of an outsider, the intended beneficiaries may not be convinced. For example, health paraprofessionals in Guatemala trying to convince villagers to construct latrines recalled being told, "I am sixty years old and have not been sick for years; why all of a sudden do I need a latrine?" Though improved sanitation measures would clearly improve health standards, initially this may not be understood by villagers. As suggested above, this perception is likely to affect other aspects of participation in the program, if there are not clearly understood benefits attributed to it, and this may necessitate a mix of curative and preventive services.

Another qualification needs to be made on the distribution of benefits. The very nature of some programs directs benefits to a specific group and thus may not provide broad-based participation in benefits. In Bolivia and Sri Lanka, for example, mothers' groups assisted by paraprofessionals undertook activities to improve the education, sometimes income, and most often, the maternal functions of women. The Upper Volta

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[19] This is discussed analytically in Norman Uphoff, "Political Considerations in Human Development," in Peter Knight, ed., Implementation Programs of Human Development, World Bank Staff Working Paper No. 403 (Washington: IBRD, July 1980).

project was explicitly oriented to improving women's access to development benefits, though it did include men in most of its activities and produced benefits for men. The health activities of midwives in Senegal and Upper Volta, of course, were aimed at women, and it was predominantly women who used the health hut and its paraprofessional services. This bias in participation in benefits need not be objected to since these projects were directly aimed at an underserved category and were open to all within those groups, all of whom appeared to benefit relatively equally.

Role of Local Organizations

As noted earlier, each of the programs we studied had some form of organization involved in running the program, confirming our observation from the earlier review of the literature on paraprofessionals that programs of this sort are likely to be more effective when linked with some form of local organization.[20] It is true that most such organizations are not very robust. They are set up to give support to the program but not to manage it. Even in Bolivia, where local organizations were very active, there were no formal channels by which the rural people could exercise control over the paraprofessionals other than to ask for the replacement of a paraprofessional who was not working out well. Even such cases are infrequent. Nonetheless, the support which local organizations can mobilize is impressive, and can be a key factor in the successs of a paraprofessional program.

Usually new organizations are set up to work with the paraprofessional, though we found cases in the literature where the tasks of support and supervision are entrusted to existing organizations having some development role. There is a long-standing debate over whether or not such work can be accomplished by a "traditional" organization and leader, which might be too constrained by vested interests to be effective in this service role. It is important to look also at the leaders and at the commuity in which they operate, rather than try to deal with this question strictly in terms of the

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[20] See Royal Colle et al., Concept Paper: Paraprofessionals in Rural Development (Ithaca: Rural Development Committee, Cornell University, March, 1979), especially pp. 31-34. Village health committees are described from Nigeria, Philippines, Guatemala, Thailand, and Bolivia. "In cases where a specific health committee is not formed, the promotion of the health program may fall under the auspices of the village community development committee, e.g., in Indonesia, Senegal, Mali, and Haiti. Village health committees often come into being either by being freshly created or through the cooperation of an existing community council. These committees then, may participate in the village-level health planning, personnel selection, management decisions, and to provide feedback and support."

organization alone. What often passes for "traditional" organization is a local leader with some following, perhaps in patron-client terms, not an organization which mobilizes and empowers its members.[21] Of course, if program administrators are not careful, some newly formed organizations may not be much different. Thus, to understand the workings of such organizations, we need to consider the nature of their leadership and the community structure where each operates. These will in turn tell us something about the context and possibilities for participation in paraprofessional-assisted programs.

If programs offer needed and valued benefits, it does not appear as difficult as might be suspected to set up new organizations, or to co-opt existing organizations to work with the paraprofessional program. However, a number of basic steps must be undertaken. First, the program must provide specific information about the project to the community at large. Program administrators should be wary of relying too heavily on local leaders because they cannot always be counted on to disseminate information about the project to the community-at-large or to provide enough details to allow residents to make well-grounded decisions. Cases of ambitious individuals "selling" a project without informing the community of the costs of the project are unfortunately familiar occurrences.

Second, program administrators should also make sure that they are as specific as possible about the extent and nature of community involvement. There often is ambiguity over the role of the community in the program, and, in particular, some ambiguity over the accountability of the paraprofessional. Local organizations often do not understand what they are supposed to do, nor are they certain of what they can expect from the program. One method of handling this problem might be to draw up a contract between the community and the program in which the duties of each are clearly designated and described. Such specific understandings were set forth in Bolivia and Upper Volta.

Finally, program administrators should realize that villagers are likely to be unfamiliar with the means for undertaking formalized community action. Hence, program administrators will ordinarily need at the very least to provide some sort of orientation to local organizations. Actually, most communities have some form of

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[21] See discussion of such issues in N. Uphoff et al., Feasibility and Application of Rural Development Participation: A State-of-the-Art Paper (Ithaca: Rural Development Committee, Cornell University, 1979), pp. 45-55, 62-68; also Carl H. Lande, "Networks and Groups in Southeast Asia: Some Observations on the Group Theory of Politics," American Political Science Review, LXVII, 1, 1973, pp. 103-127.

informal organizations, such as work exchange groups, rotating credit, funeral insurance societies or age-grade or clan organization. This does not necessarily lead to effective organization which will support a paraprofessional. The Community Development program in Bolivia, recognizing the need to get excellent organized support for its activities, has developed a strategy for resolving the problem: members of the community council appointed to support the activities of the paraprofessional are provided with special leadership training. The results of this effort seem to be encouraging. Given the general paucity of supervisors, however, it would be difficult for many programs to duplicate this strategy. Paraprofessionals can and should be trained in developing community organizations. Still, evidence from our case studies suggests that paraprofessionals ordinarily need at least a modicum of outside assistance in creating the kind of organizations which will benefit the program.

Role of Local Leaders

While the characteristics, preparation and motivation of the paraprofessional are probably the most important features affecting program performance and while local organizations are a key factor, the role of local leaders stood out in a number of the cases as greatly affecting the success of a paraprofessional. Local leaders or authority figures generally are an important factor in achieving local participation. Hence, it becomes vital to gain the support, or at least acquiescence, of those persons and groups who have considerable influence in rural villages. If local elites are supportive of the paraprofessional program, its possibilities for success are strongly enhanced. When those with authority enjoy the confidence of a broad spectrum of the populace, programs utilizing paraprofessionals should attempt to engender participation by working directly within established organizations and local elites.

This most favorable situation, however, is only one of a number of combinations of leaders' degrees of influence and their orientation to the program. These combinations are displayed in the following table, with the desirable situation just described indicated by the letter A.

FIGURE 4

	COHERENT LEADERSHIP		NON-COHERENT LEADERSHIP
	Influential	Uninfluential	
Supportive	A	B	
Unsupportive	C	D	
Antagonistic	E	F	

The least favorable is situation E, where it may not be possible to get paraprofessional activity started; or where starting work in such situations should get lowest priority. Perhaps examples of success in neighboring communities will change the leaders' minds or make community members willing to break with their leaders on this issue.

Situation B offers a benign environment, though possibly such leaders may become resentful of successful organization (and new leaders) emerging around a health or agricultural activity. This, however, will only change the situation to D or F, still one in which the program has some prospect for local participation and success.

Situation C is basically neutral, with the potential to change toward A or E, depending on whether the leadership perceives benefit to the community and/or itself from the program. If the activity affects the distribution of status and influence within the community, opposition may be involved.

We indicate with large blank cells on the right the possibility that there may be no coherent leadership, influential or otherwise, in the community. This may be because contending leadership groups are stalemated by factional conflict, or because leadership elements are oriented to interests outside the community and invest little effort in shaping community affairs. Possibly, there may be no evident leadership of any sort. In such situations, the program faces different problems and runs different risks.

If the local elites do not enjoy wide-spread confidence, then alternative organizations should be fostered. Care must be taken that in doing so a threat is not posed to the established elites, as they then may oppose the activities of paraprofessionals. In examing the situation in the health field, Ahmad observes:

> Where the institutional structure does not exist or the local government body is without substantial authority, an appropriate participatory mechanism has to be devised or existing weak ones have to be rejuvenated. On the basis of a national appraisal and the local diagnosis, it has to be determined to what extent traditional and existing institutions, whether formally or informally constituted, such as village councils, neighborhood associations, youth and women's groups, can serve the purpose; what modifications may be needed in existing institutions to ensure effective and fair participation; or whether new mechanisms are required. When new institutions need to be devised, initially, at least, the scope of participation will be narrow and limited to the health programme. Eventually, these new institutions may evolve into multisectoral participatory organizations, provided the communities so desire and the government policies support such a move.[22]

The most successful way to get new support bases established is by stressing and demonstrating that (1) the activities of the paraprofessionals are limited to certain well-defined tasks, and (2) the paraprofessional and supporting organizations will remain non-political. While it may be necessary to draw forth new leadership elements, there are some advantages in working with the more traditional leaders in rural communities. Older leaders frequently command greater authority and they may be equally supportive of improvements. Their lesser literacy need not present a serious barrier in leadership roles. Of course, the functioning of local organizations and local leaders is not an independent phenomenon. As a rule it is heavily influenced by the many factors determining the nature of the community in which the organizations and leaders operate.

Role of Community Variables

In seeking to understand participation, organization and leadership, we should not take them out of their socio-economic context. It is important to note that the term "community" may refer only to a geographic or residential entity, having no social

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[22]Manzoor Ahmad, "Community Participation, the Heart of Primary Health Care," Contact, Special Series, No. 3, June 1980, pp. 24-25.

identity or political coherence.[23] Such a situation is, to be sure, a context in which either elite-dominated decisions are likely, or no decisions will be forthcoming; there is a community of sorts but not a close-knit cooperative group. Unfortunately, many planners continue to look at communities as homogeneous entities, without examining carefully their internal differences and how these affect the decision-making process.

To some extent, all communities are stratified, with differences in wealth and status associated with differences in power, including differential access to and exclusion from authority roles and decision-making. These differences are matters of degree and there are some more or less egalitarian communities. Our studies were too few to make rigorous generalizations in this regard, but it did appear that paraprofessional programs were more likely to have somewhat broader participation in decision-making, implementation and benefits in more egalitarian settings. However, in situations with some inequality, but where the local leadership was supportive of the program (our Upper Volta case is a good example), significant participation was also possible.[24] In more egalitarian communities there can be stalemates of leadership or absence of leadership, either of which bodes poorly for the paraprofessional program, but generally these societies are more likely to yield desired program results.

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[23] "Another complexity in dealing with paraprofessionals and participation is the term 'community' used in the literature with little of its definition. Rural villages may be 'communities' only in the sense that inhabitants can be identified as living in and belonging to a particular geographic area. Assuming that an agglomeration of houses and fields implies common goals and values or a collective capacity to determine priorities, make decisions, and allocate resources may be erroneous." Colle et al., op. cit., pp. 32-33. Coombs arrives at a similar conclusion in his introduction to nine rural development case studies, prepared by the International Council for Educational Development. See "What It Will Take to Help the Rural Poor," in Philip H. Coombs, ed., Meeting the Basic Needs of the Rural Poor: The Integrated, Community Based Approach (Essex, Conn.: International Council for Educational Development, 1980).

[24] In a study of village health workers in Java, Indonesia, Peter Berman found that with relatively great inequality of landownership and political power, the range of permissable action and institutional development for paraprofessional programs was closely regulated. "Village-level institutions in Java typically reflect the influence and interests of the more powerful inhabitant, as does the local administration. Selection of VHWs, distribution of social and pecuniary benefits from village-level services, and popular perception of projects will be affected by these arrangements. Where the local elite is interested in equitable improvements and facilitates expression of popular needs, active community participation has proved possible. However, this should not obscure the fact that such conditions are not universal in Javanese villages and certainly cannot be created administratively." Colle et al., op. cit., pp. 31-32, citing P. Berman, "Village Health Workers in Java: Initial Projects and Their Implications for Major Programs," unpublished manuscript, Department of Agricultural Economics, Cornell University, 1979.

Another community characteristic which seems more certain in its effects is the degree of solidarity. This is best expressed in the extent to which there is a tradition of mutual aid among families or within the community as a whole. Since one of the more significant aspects of participation in implementation is contribution of labor, this seems to be more readily forthcoming where traditions of solidarity exist. As noted, however, in the case of Guatemala, a "new tradition" of cooperative self-help to build a health post seemed to be emerging. It makes sense to design programs to take advantage of whatever symbols and roles already exist which promote group contributions to a community service. Still, an appeal to individuals' and families' sense of self-interest is probably the stronger force in evoking labor and other contributions. If the paraprofessional program cannot convey this sense of providing net benefits to rural people, the appeal to a tradition of solidarity is unlikely to be effective in the long run.

One community characteristic on which the literature is divided is the degree of participation to be expected from communities that are geographically remote or socially and economically "backward" because of poverty, low caste, or ethnic differences. It has been observed that dynamic self-help programs such as those which support paraprofessional activities are to be found in more prosperous, more accessible, more educated and sophisticated communities. At the same time, such self-help is reported in quite poor, isolated, even illiterate communities, where a recognition of need to help themselves is a strong motivating force ("if we do not, nobody else will"). The cost of benefits is likely to be lower in the more accessible, advantaged community. Cash and labor can more easily be contributed; getting supplies or selling farm produce will be quicker and cheaper. On the other hand, the benefits attached to any improvement may be valued more in the remote, backward community. While backwardness is probably not an advantage in achieving participation, it does not appear to be an impossible barrier. The main variable is whether or not the program can provide needed and valued technical knowledge and resources.

More agreement can be reached on the effects of social and political divisions. These do appear to impede paraprofessional success in specific communities where ethnic, religious, or political cleavages or kinship factions are important. A degree of mutual trust and cooperation is necessary among villagers as well as toward paraprofessionals. In highly fragmented situations, the success of a paraprofessional in serving some members of the community may become a reason for others not to partake of services. If the paraprofessional comes from one group by birth, he or she may not be able to work with villagers of a different race, religion, or other identity.

More than one paraprofessional--a costly or difficult solution--may be needed in such divided villages.

We should note that the influence of "politics" per se is not clearly positive or negative. In two of our case studies (Guatemala and Sri Lanka), the paraprofessional programs found it advantageous to have no political or partisan connections.[25] On the other hand, part of the success of the Bolivian program can be attributed to its politicization. Successive governments have identified the Servicio as "their" representative, signalling to the bureaucracy at all levels that this program is a national priority and that the government wants quick, village-oriented service. The "political" overtones of the program imbued it with more influence and urgency. Politics were less relevant, positively or negatively, in our other three cases, though this does not mean there were not plenty of "politics" at the local level for the paraprofessional to contend with.[26]

Conclusion

The number of participatory activities that any public can undertake is a function of their tradition and experience with collective decision-making and responsibility.

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[25] Though for different reasons. In Sri Lanka, a legacy of intense party competition stretching over several decades and reaching down to almost every village makes partisan strife potentially destructive for any local organization. In Guatemala, on the other hand, having no such party competition or elections, there is an aversion by the authorities to any activity that might be seen as political or lead to political articulations. Villagers, whether politically inclined or not, are disposed to maintaining a non-political stance while guerilla insurgency flares up from time to time and the army seeks to suppress it.

[26] An example of very extensive and apparently successful use of politics to promote paraprofessional health services has come to our attention from Burma, where information about the establishment of Community Health Worker and Assistant Midwife programs was passed through political channels before anyone from the local Rural Health Center even approached the villages. Communication up and down passes through both the political party and through representative bodies (for which usually only single candidates are running, under a one-party system). Villagers seem to have found a variety of ways to come up with funds for drug resupply and for payment of the CHWs and AMWs--something seldom found or sustained in other health programs. A programmatic innovation is that all Rural Health Centers are required to be closed 2½ working days per week, during which time all RHC staff are out in the field. They themselves tend to envision this time essentially as conducting mobile clinics rather than supervising field staff. But their presence in communities presumably assures that at least some supervising occurs; at the very least some higher-level personnel know about the village--and the CHW and AMW. (Personal communication, Don Chauls, Training/Community Involvement Advisor, Management Sciences for Health/Nepal, April, 1980).

This is true not only for the number of tasks but also for the depth of participation possible in any set of activities. Thus, it is often useful to plan participation in stages. Publics that have little or no experience in participation can be involved at least in the decisions whether or not to host a paraprofessional activity, in the selection of the paraprofessional, and in evaluation efforts. Publics that have some previous experience in participation, especially through formal organizations, can be involved in the more difficult task — management. As publics gain experience and confidence, the scope and depth of their participation can increase further. This phasing of local involvement reduces the risks of failure resulting from imposing excessive burdens on inexperienced publics or from development of unrealistic expectations that are doomed to be frustrated.

We have broken down the concept of "participation" in order to examine specific kinds that may be associated with program success. In particular, we have seen that some form of local organization with which the paraprofessional can link is an important element in all the successful programs observed or reported. In such performance, the attitude and actions of local leaders vis-a-vis the paraprofessional appears particularly influential. The nature of the community, of course, affects what is and is not acceptable, what is and is not possible concerning people's response to the program.

Under almost any condition, program planners and administrators can promote a greater community role and level of participation in paraprofessional projects. To achieve this, program administrators must identify or establish local channels that can guide local participation, must clarify roles and responsibilities, and must train and continually reinforce local leaders through supervision. The costs of such efforts may be greater than what program administrators would like to spend, but without proper attention and assistance, active local participation is likely to be elusive and self-sustaining development efforts are unlikely.

Chapter VI

IMPLICATIONS FOR PROGRAM DESIGNERS AND MANAGERS

Evidence from the case studies undertaken by the Cornell research program confirms the testimony of knowledgeable participants and observers that:

1) Paraprofessionals can and do successfully extend to the rural poor, and at relatively low cost, useful services that would otherwise be unavailable; yet because of defective program design, inadequate training, and above all, inadequate support, many paraprofessional services are producing results far below their potential;

2) They are able to motivate communities to undertake self-help projects, yet many paraprofessionals neglect or fail in this activity; and

3) Paraprofessional programs can be innovative--modifying familiar roles such as that of midwife to include new and improved patterns of service organization, or bringing entirely new services such as nutrition education or radio listening forums to village audiences; yet innovations often stagnate and programs do not succeed in sustaining a continuing process of organizational learning.

The lessons that have been learned from our review of the literature and our six cases are outlined below. For analytical purposes these suggestions are organized under the following topics: the paraprofessional role, personnel management factors (selection, training, compensation), supervision and program support, and community participation. The analysis identifies elements that can usefully be incorporated into the design and operation of development programs using paraprofessionals.

The Paraprofessional Role

A) What activities can paraprofessionals perform effectively?

Paraprofessionals are already working in various development sectors, including health, nutrition, family planning, community development, non-formal education, and increasingly in agriculture. Success seems to be related more to how the job is organized than to what the subject is. The key to paraprofessional utility is job simplification: identification of specific tasks that are needed and likely to be appreciated by rural publics, yet are simple enough to be performed by persons with little formal education or technical training. Thus, the following points should be considered in designing paraprofessional roles:

1) The definition and specification of tasks must initially come from the sponsoring agency, but these should be adapted to local conditions in consultation with knowledgeable members of the publics to whom the services are addressed.

2) Programs should begin with a few simple tasks in which paraprofessionals can establish their credibility and elicit public cooperation. They are vulnerable to the suspicion that they know and can do little more than their neighbors. Program managers should, therefore, avoid the common temptations to overload paraprofessionals with tasks which exceed their trained capacities, or involve them in activities which compromise their standing among their publics. Experience and training should, in time, enhance their self-confidence and enable them gradually to take on additional and more sophisticated tasks.

3) Paraprofessionals should be encouraged to define their own roles and adapt their services and styles of operation to local norms and expectations. While they are often innovators and change agents, they must depend on local acceptance if the publics are to use their services and contribute resources to their activities. They must be trained to be educators and community organizers as well as service providers.

B) The range of publics to be served.

1) A persistent presumption in rural development activities is the homogeneity and harmony of village communities. In fact, inhabitants of a locality may be divided by class, ethnic, religious, political, family and patron/client cleavages to the point that they are unable to cooperate. The assignment of paraprofessionals must reflect such local realities. In many situations, paraprofessionals can serve the entire village or all members of a special public (youth, mothers, small farmers) within the village without having services distorted by group divisions. Otherwise each segment may have to be served separately.

2) Whether paraprofessionals should be assigned to a single village or to several villages depends on:

a) Whether they are full-time or part-time. Full time paraprofessionals can cover more territory, but full time personnel usually must be paid.

b) The number of households or persons to be served.

c) The scope and intensity of the paraprofessionals' tasks. A monovalent worker can usually cover more households than a polyvalent worker, since the latter has more tasks to perform. However, polyvalent workers performing related sets of tasks are usually more efficient and more appreciated by their publics.

d) Adequacy of transportation facilities. Smaller service areas must be planned where the publics are hard to reach because of the condition of the

roads or trails during some seasons, inadequate means of transport available to the paraprofessional, and insufficient funds to cover travel costs.

C) Accountability

Most paraprofessional programs are deficient in specifying to whom the paraprofessional is responsible for what activities, and through what channels and by what procedures this accountability can be enforced. The result often is uncertainty, ambiguity, and lack of any effective and continuous system for accountability. The consequence is failure to maintain responsive service, alienation of some publics, and their withdrawal from participation.

In program design, the details of accountability should be made explicit for all parties--the agency, the relevant publics and the paraprofessional. Where various publics are expected to have a major role in performance evaluation and in the exercise of control, program managers should encourage them to take hold of this responsibility and should respond promptly to their initiatives. Where, as in most projects, there is shared responsibility by the agency and the publics, procedures should be worked out and agreed to by those concerned in order to prevent default by either party on assuming and exercising responsibility for the performance of paraprofessional duties.

D) The Question of Costs

1) The most persistent and damaging illusion among governments is that using paraprofessionals enables them to provide needed and welcome services in rural areas at minor costs. While the chronic resource shortages in poor countries combined with increasing demands for services help explain this temptation, the consequences of setting up programs on this premise are usually disastrous.

The paraprofessional method can provide services at lower cost, but they are never costless. Yet it is common for governments to initiate such activities with insufficient financial resources to pay for the infrastructure, materials and activities essential for a successful program. Paraprofessional services do require substantial and continuing public expenditures for training and retraining, for supervision, and for supplies and logistics. Costs for paraprofessionals' labor are low, but administrative and support costs are bound to be substantial. To hire paraprofessionals, to organize communities to support them, and then to leave them bereft of supplies, information, training, support, and supervision is to condemn promising social innovations to slow strangulation, and to discredit the paraprofessional idea.

Program designers among governments and donor agencies should soberly calculate the annual continuing and recurring costs of using paraprofessionals before programs are launched. Since such programs are from the outset low cost enterprises oriented to politically weak and often inarticulate publics, they are vulnerable to budgetary squeezes. However, they have little margin to sustain cost reductions without impairing the fragile logistical and administrative support systems that are vital to their effectiveness.

2) The advocates of paraprofessional systems have attempted to promote them to governments on the basis of low costs. The impressions of most observers support this claim. However we could find very little objective evidence on the question of cost effectiveness or on the more technical question of what forms of paraprofessional organization or service are likely to be associated with lowest cost per unit of service rendered, and how much relatively modest government expenditures invested in a paraprofessional system will generate in new contributions of community resources. These questions go unanswered for most programs and we were not able to get satisfactory data on a comparative basis.

Personnel Management Factors

A) Who should select the paraprofessional and by what criteria?

1) A general assumption is that a community role in the selection of paraprofessionals is necessary for insuring community acceptance and involvement in paraprofessional activities. While this appears to be true, a "community selection process" does not mean that equitable decision-making or a popular election will necessarily occur. Rather it may be a selection process controlled by local elites or one that excludes low status community members (e.g., women), or it may result in a paraprofessional who is not acceptable to or who refuses to deal with some factions in the community. Program managers need to analyze how the nomination and selection processes are likely to occur in a particular area and decide on that basis whether the agency, the community, or the agency and community jointly should select the paraprofessional.

2) Depending upon the tasks to be performed and the social context, selection criteria may include: literacy, residence, previous experience, personal characteristics, age, sex, and marital status. Our research suggests that literacy does not appear to be as important for some paraprofessionals as many practitioners believe; as a selection criterion, it may work against otherwise well qualified candidates. Older paraprofessionals tend to have a greater potential for

success because respect and credibility are functions of age in most cultures and because they tend to be well established in their communities. Women generally work as well in paraprofessional roles as men, and in a number of instances they appear to be more effective. Where there are strong cultural differences in sex roles, agencies should investigate the idea of using both males and females, possibly through husband/wife teams. This may apply to agricultural programs as well as health or family planning where the reasons are more obvious.

3) An oversimplified assumption is that paraprofessionals serving the community from which they were selected are more readily accepted and therefore perform more effectively than outsiders. Paraprofessionals should come from the same cultural background so that they can empathize with local people. But ties to local factions, past reputations, or low expectations of peers may impair their effectiveness. Two solutions are available for handling such situations where they are found: the paraprofessionals can be assigned to villages other then their own but within the same cultural locale; or alternatively, program supervisors can visit villages regularly to emphasize the continuing commitment of program support and to enhance the status of the local paraprofessional.

B) Training Issues

1) No paraprofessional program can succeed without solid and reliable training support. Our study points conclusively to the need for providing paraprofessionals with continuing education. Initial or pre-service training courses are essential but they are inevitably short in duration; it is difficult for paraprofessionals to acquire enough skills and information in a short period of time to enable them to cope with complex and often changing situations. Thus, to enhance skills and reinforce confidence, programs must plan for continuous training. Regular sessions on at least a bi-annual basis are recommended, but more important is the assistance and education provided through routine supervision.

2) Specific and simplified training curricula need to be developed according to the actual tasks the paraprofessional will be performing, using materials available in the work setting. The emphasis should be on learning by doing through supervised practice, rather than classroom instruction. Since the paraprofessional needs to know how to teach others, training programs should include interpersonal and communication skills along with technical skills.

3) Generally, it is recommended that the paraprofessional role be limited to a few tasks during an initial service period, and that corresponding basic skills should be taught which the paraprofessional can accomplish comfortably and execute competently. Then, as experience is gained and problems and needs are identified, the role can be developed and broadened.

4) The scheduling of training needs to take into account the normal duties and obligations of part-time paraprofessionals in earning their livelihoods including the demands of cyclical work responsibilities.

5) Trainers should be familiar with the paraprofessional's future work context, and manuals which can later be used on-the-job as resources should be prepared.

6) Adequate financing must be secured to provide for a regular system of in-service training before initiating a project.

C) The Question of Compensation

It is generally assumed that part-time, unpaid or minimally compensated paraprofessionals are the answer to servicing vast rural populations since they will not be an economic burden to governments, and communities can somehow be induced to bear a substantial share of the costs. In all six of our case studies, the paraprofessionals worked under adverse conditions and received minimal compensation. However, while paraprofessionals may seem to be inexpensive alternatives to the use of civil servants and/or professionals, the lack of incentives inherent in a part-time, unpaid or minimally compensated position poses problems: motivation and volunteer spirit tend to dwindle over time as work becomes routine. Although cultural factors influence the extent of altruism in a community, in general, satisfactory continuous performance suffers with unpaid, part-time paraprofessionals. Paraprofessional tasks are neglected as the requirements of earning a living take precedence, and there tends to be a high attrition rate necessitating continual training of new recruits.

On the other hand, paying the paraprofessional also raises the problem of who is to pay and how much. Sharing program costs between the publics and the agency is usually an effective indicator of local interest and an incentive for participation. This sharing of costs may include the paraprofessional's compensation. Rural communities, however, are usually unable to pay the salary of a full-time paraprofessional, and a program that attempts this is likely to encounter serious problems. Rural villagers can and will contribute various resources if they feel they are realizing benefits from the program. Likely forms of contributions include goods and services in kind, and fees for such things as medicines and farming supplies.

Paying paraprofessionals full-time salaries may present more than economic problems: it also introduces the problem of deciding which candidates are genuinely interested in the position and which candidates are primarily interested in the money. On the other hand, given the inevitable attenuation of voluntary and insufficiently paid paraprofessionals' motivation and commitment, program designers need to devise additional incentives which can be introduced and administered systematically.

In planning programs, it appears that it is best to include an arrangement for paying paraprofessionals for the work they do, unless there is unambiguous evidence that this will be contrary to culture practices and detrimental to the program. This expense should be shared by the program agency and the community through either money or "in-kind" contributions, so that each feels a stake in the program.

Supervision and Program Support

The importance of regular supervision and reliable support have been emphasized by all who work with paraprofessional programs. Yet, in all six of our case studies, the paraprofessionals were greatly underutilized because they lacked resources--knowledge and supplies and equipment--to perform their jobs. Tacking paraprofessionals onto overburdened agencies without providing these resources will do little to meet the basic needs of the rural poor majority. In fact, paraprofessionals are more dependent on program support than professionals, given their minimal training, lack of experience in the range of tasks they are to perform, their limited technical competency of which villagers are keenly aware, and their relatively low status.

A major problem in providing paraprofessionals with regular and timely support seems to be the vagueness and ambiguity about what support entails. The support system should be viewed as a package of functions involving two major components: supervision and program support. Each of these two components should be disaggregated to identify explicitly what is to be performed under each. Appropriate individuals or mechanism should be identified and procedures developed to fulfill each task; and the necessary resources should be provided in terms of finances, materials, transport, and training.

While support systems will vary depending upon local and agency capacities and resources, the following recommendations are indicated by our field studies and literature reviews:

1) As a general rule paraprofessionals should receive regular on-site supervisory visits. Twice a month is an ideal target, but the length of the visit

and the quality of the supervision are more important than the frequency. The number of paraprofessionals deployed should be related to the number of supervisors available, distances to be covered, and the transportation available. To deploy paraprofessionals in rural villages without supervisory support is a prescription for failure. Other mechanisms such as mass media or community committees may augment this supervisor. (See sections 3 and 4 below.) However, on-site visits by a competent outside supervisor are essential to maintain the paraprofessional's credibility in the eyes of the community, to provide assistance and continuing education to the paraprofessional and village committee, to encourage the paraprofessionals and to sustain their morale. The primary purposes of supervision should be reinforcement and support; control should be secondary.

2) Who should the supervisor be? Professionals are essential to provide technical in-service training and should be available to refer to in time of need. For regular supervisory tasks, however, subprofessionals or upgraded paraprofessionals who receive training in supervisory techniques appear to be the most promising approach. It is preferable that these supervisors be familiar with rural life and the paraprofessional's work context and attend all paraprofessional training courses. They must be accorded the status, benefits, and support which are essential for maintaining effective performance, and which are symbolically significant in reflecting their important role.

3) Community supervision and management of the paraprofessional and the program not only augment agency assistance but are essential for promoting local accountability and local participation. Only through local control and monitoring can a community-based program be expected to become self-sustaining. This is the primary way to insure paraprofessional responsiveness to local needs and interests and to prevent abuses such as overcharges, favoritism, or pilfering.

Three key elements for establishing local management include: (a) organization: an established local committee with regular operating procedures; (b) motivation: involvement of interested citizens, men and women, to serve on the committee; (c) information: knowledge of roles, responsibilities, and operating rules. Orientation sessions in the village are necessary to assure that everyone is familiar with the tasks and procedures of the committee, of the paraprofessional and of outside agencies. Local management is likely to be forthcoming only if the program is perceived as responding to and meeting village needs as seen by those in the village.

4) Communication media such as two-way radio, radio broadcasts, newspaper articles, audio cassettes and other media should be used when and where possible. They can contribute significantly to the supervision process, especially in increasing its quality and efficiency.

5) The major areas of program support which directly influence paraprofessional performance are supplies and equipment, transportation, referral, training and learning resources, and facilities. Without these resources on a timely and reliable basis, and without improved referral capacities to handle the increased demands which they stimulate, paraprofessionals cannot perform their role. An operational plan delineating responsibilities, scheduling, procedures, and cost estimates should be developed before paraprofessionals are deployed to the field.

6) While it is important to strengthen many parts of an organization to support the paraprofessional system, highest priority should go to building and expanding the capability of the unit which is directly responsible for the paraprofessional. The usual pattern is for organization to be very well developed in the "center" (the capital city), but to be substantially weaker in the "periphery" (the rural areas). In developing plans for use of paraprofessionals, these peripheral units should be designed (or re-designed) so that they can implement the recommendations listed above. This includes a staffing plan that acknowledges the need for competencies beyond the technical specialists in health or agriculture and including those required in management, adult education, mass communication, and evaluation. Planning should also provide for logistical support for the staff, including transportation, simple production equipment for preparation of training and communication materials, and reference resources.

7) Programs expecting to make a significant impact in rural areas through the use of paraprofessionals require a strong agency commitment to the paraprofessional concept. A reorientation of roles and responsibilities of all personnel throughout the agency structure is needed. Training and deploying paraprofessionals will make little difference in service delivery unless each link in the hierarchy is sensitized to its responsibilities in making the system work. This requires a strong commitment formalized in a policy statement clarifying how paraprofessionals will be used, what resources are necessary and will be commited, and how the paraprofessional program will be linked with other programs and agencies.

Participation and Community Involvement

There is widespread agreement that public support is indispensable for the success of paraprofessional activities. Program planners who desire people's participation in their programs, however, face a real dilemma. Without some initiative on their part, it is not likely that participation will be broad-based. Even spontaneous local participation usually requires reinforcement. While community participation can be individual and direct, sustained and effective participation is more likely to occur through some form of organization, formal or informal. Where organizations for supporting a paraprofessional activity do not exist, they need to be encouraged. Where relevant organizations can be found, there is still the question whether they can and will be oriented to buttressing and guiding paraprofessional work with community involvement. Some leadership from the program to foster participation is needed. Yet, when planners take such initiative, the program and even the affiliated organizations may be seen by community residents as the government's program and not "theirs."

Even if the organization is not thoroughly active or participatory, it is likely to make for more success than if there is no organizational channel at all. Of course, a corrupt or exclusionary organization will impede participation by the majority, and as such it is not a good candidate for linkage with the paraprofessional program. Yet as a rule, organized situations are preferable to unorganized ones for mobilizing cooperation. All of the programs in our six case studies had some organizational base and would have been markedly less effective without one.

The philosophy of program planners is as important as the structure proposed. If the program is presented as simply a means of delivering services more broadly and cheaply to the rural community, this prompts quite a different response than if proponents characterize the program as a way to help community members deal with agricultural, health or other problems they recognize as significant. Any approach to the community by program staff is likely to be perceived and responded to by rural residents in light of past contact with the government. Where past relations have been essentially "top-down," or antagonistic, special efforts need to be made to start off on a basis that is more reciprocal and mutually cooperative. The paraprofessional role works most successfully where it is a "bridging" role, not simply an extension of the central bureaucracy. Without participation and community involvement, it can be no more than the latter at best, and more likely it will be simply ineffective.

How existing local organizations can be induced to take on responsibilities for paraprofessional selection, support and management should be considered in

program design--if they have the capacity and reputation to perform these tasks. Where no appropriate or willing organizations are found, initiating and supporting such structures should be an important task of paraprofessionals and their supervisors. Since our study focuses on the management, performance, and effectiveness of paraprofessionals, we cannot go into detail on the means of stimulating and working with such local organizations. (That is the subject of a state-of-the-art paper scheduled for publication by the Rural Development Participation Project in 1981). Here we can only underscore the importance of such organization for the success of paraprofessional programs.

It is clear that local leaders or authority figures are crucial to achieving local participation. This is especially true because local organizations in many situations are essentially composed of a local leader and some constituents, based perhaps on extended kinship or patron-client relationships. If local leadership elements are supportive of the paraprofessional program, its possibilities for success are substantially increased; conversely, opposition can deter most local residents from cooperating with the program. When those with legal or de facto authority enjoy the confidence of a broad spectrum of the populace, programs using paraprofessionals should aim at engendering participation in cooperation with established organizations and local leadership. Where there is no support from the local leadership, program planners need alternate strategies; for example, they might aim for quick program successes to generate significant public support, and provide opportunities for leaders to participate in and be identified with the successes. They then can play a role in perpetuating community participation. In short, the position of local organizations and local leadership must be carefully assessed, before determining how and when to link up paraprofessionals, local organizations, and local leaders.

The Socio-Economic Context. Participation, organization and leadership cannot be taken out of their socio-economic context. The degree of social stratification, solidarity and economic well-being of a community all affect paraprofessional program operations, as does the community's previous experience with collective decision-making and responsibility. This is true not only with the number of tasks they undertake but also the depth of participation possible in any set of activities. Consequently, it is often useful to plan participation in stages. As publics gain experience and confidence, the scope and depth of their participation can increase. Planning local involvement in stages reduces the risks of failure resulting from imposing excessive burdens on inexperienced publics.

The modes of participation to be given special attention in program design are outlined below:

1) Community and Program Preparation: Since the nature and scope of paraprofessional programs are determined at the policy level, there is limited potential for community participation in such initial decisions governing paraprofessional programs. However, it is important to assess the specific characteristics and needs of each community so that the program can efficiently address salient problems. It is necessary to evaluate both the social structure of the community, such as degree of stratification, as well as more obvious technical considerations, such as the nature of health problems. Identifying problems, needs, and potential should be done in discussion with the community. The more community members can be involved in the discussion and ranking of local needs and in actual decisions to undertake a paraprofessional program, the better. Such a dialogue will not only encourage a more efficient mobilization and use of resources, but also will give villagers a sense that the program is, in fact, addressing their particular needs.

Program planners and administrators should not rely entirely on local elites to disseminate information about the program, but instead attempt to reach as many villagers as possible through group meetings and informal contacts. In many situations, use of mass media and indigenous information systems will enhance the dissemination of information not only by increasing the amount available, but by reaching persons who are geographically or culturally isolated. Community interest can be gauged not only by the expressed decision to take part in the program, but also by the number of signatures collected, attendance at meetings, and commitment to make needed resource contributions. During this initial preparation stage, it is also important to clarify for all what will be the respective responsibilities of the community and of the program. One way ambiguity and misunderstanding can be minimized is by drawing up a contract between the community and the program.

2) Participation in Selection of Paraprofessionals: Presently the most visible form of local participation tends to be in selecting paraprofessionals from the community or accepting/rejecting paraprofessionals nominated from outside the community. The selection of paraprofessionals is critical because villagers' continued participation in a program depends heavily on the confidence they have in the paraprofessional. It is desirable that members of the community have a voice in the nomination and selection process. At the least, a general meeting should be held when the selection is discussed. In some cultures, certain persons traditionally make or at least articulate community decisions, in which case democratic decision-making may

not be appropriate or effective. But if it is apparent that those persons will dominate the process, program personnel should retain some control over the selection, or at least the nomination process.

3) Participation in the Contribution of Needed Resources: Participation in the contribution of needed resources can help reduce overall program costs to the sponsoring agency and can evoke a heightened commitment to the program by the community. Our six case studies and the literature on paraprofessionals show that villagers have the potential to make significant resource contributions. There are, however, three possible problems that program planners and administrators should be aware of: (a) it must be demonstrated that the resource contributions will be used to provide tangible, and preferably immediate benefits; (b) since villagers usually have very little money, programs seeking to raise substantial cash contribution from them invariably will have a difficult time; hence, it is preferable to seek contributions "in kind"--such as building materials, and especially labor; and (c) considerations of equity--who should contribute and how much, and how benefits should be shared--must be addressed and resolved to sustain the activity. While the agency must be satisfied that general standards of equity are maintained, specific decisions about the distribution of contributions and benefits should be left to local communities.

4) Participation in Management of the Program: There is usually only minimal local participation in the management of paraprofessional programs. In particular, there tends to be very limited involvement in supervision of the paraprofessional and in initiating and implementing local projects. In all six of our case studies, decision-making was largely concentrated within the project organization despite rhetoric to the contrary. What was often described as participation in local management was often only an effort to get the community to support paraprofessionals and their activities. Most communities could play a more substantial role in management. Since many members of the community have direct contact with the paraprofessional, and since they are, in fact, the beneficiaries of the paraprofessional's service, they are well situated to carry out some aspects of supervision.

5) Participation in Evaluation: As in most development programs, the most overlooked aspect of participation is in evaluation. Nearly all paraprofessional programs could benefit from more explicit and formalized procedures for community participation in evaluation, of both the paraprofessional and of the program itself. Local organizations should carry out evaluations and devise means of acting upon results. The development agency should not only encourage these evaluations, but should itself become involved in evaluation, perhaps in collaboration with the

community. Periodic reviews of the program can provide the basis for deciding whether it should be continued, extended, modified, or discontinued. These decisions should be made jointly by the community and the agency.

Neither participation in management nor evaluation will occur spontaneously. Planners must be sure that there is a legitimate leader and/or organization to guide community action. Then it is necessary to plan for systematic orientation and training. This might include the following: (a) training of local leaders to provide them with understanding, motivation and skills in mobilizing the community to undertake the management and evaluation responsibilities; (b) continuing support and guidance of the leaders and the villagers until they are familiar with the tasks involved; and (c) regular reinforcement to sustain interest. Most programs will be limited by their available funds in building facilities and resources to maintain these kinds of efforts. However, they need not be prohibitively costly. Approaches can be developed combining on-site orientation/training, periodic visits from outside supervisors, and generous use of printed materials and radio broadcasts. Program planners and administrators desiring greater local participation in the management of paraprofessional activities also must allow for some flexibility in the structure and operation in their program. The same management and operational plan cannot be applied to every community in a program.

The Potential

There is a pressing need to extend basic services to the rural areas of the less developed countries, yet conventional delivery systems are prohibitively expensive, and professionals are generally reluctant to work in rural areas. The use of paraprofessionals is a viable means of reaching the rural majority and of drawing on their own latent capabilities. Experiences to date with paraprofessionals have not been an unqualified success, but some successes have clearly been registered. If one considers the obstacles paraprofessionals face, their efforts and dedication are impressive: they are willing to do for free, or for next to nothing, what others will not do for money; their efforts are welcomed and their services are used by their publics. While some of the difficulties that confront paraprofessionals are unavoidable, many could be alleviated through more sensitive planning, improved program management, and more adequate and reliable resource commitments on the part of governments. The recommendations in this chapter, derived from an intensive review of recent experience, are practical proposals for improved program design and management which can move paraprofessional performance closer to its potential.

While there are numerous ways in which paraprofessional performance can be improved, the challenge is to develop efficient and effective systems adapted to local conditions and based on affordable costs. The central question is: given the resource-poor nature of most developing countries and their governments, what are the minimum resources necessary to develop and maintain an effective paraprofessional program? There are no standard answers. Solutions will vary depending upon local and administrative settings. However, it is important to concentrate some resources on more systematic planning, which can take account of local socio-economic conditions and create channels for involving local publics in all phases of program design and implementation. Developing local organizational abilities should receive primary emphasis whether the program be aimed at improving health conditions, agricultural production, or other local problems.

There is no escaping the fact that more resources must be committed to most paraprofessional programs to make them more effective. Without a reliable support system, paraprofessionals cannot provide the services expected of them nor can they activate local publics to improve their welfare. In particular, priority must be given to:

- regular in-service training of the paraprofessional;
- the reliable flow of supplies and equipment;
- an agency structure with sufficient personnel to provide supervision for the paraprofessional and to facilitate two-way flows of information and support.

These require greater financing than has commonly been available to paraprofessional programs by hard-pressed governments in developing countries.

The Contribution of Foreign Assistance

The paraprofessional method has begun to attract favorable attention from development assistance agencies because it can extend useful services at low cost to hard-to-reach rural publics. This interest is increasingly shared by Third World governments and for similar reasons. Development assistance agencies can promote and strengthen paraprofessional activities in the following ways:

1) Program design and project development: Agencies can bring to the attention of cooperating governments the opportunities and potential benefits of paraprofessionals in health, agriculture, nutrition, community development and similar activities. They can make available the growing body of knowledge and experience that can increase prospects of success and avoid common mistakes, such as the neglect of supervision, logistical support, community participation and the role of women.

2) Program operations and management: External financial and technical assistance can be especially useful in:

a) Establishing and maintaining training programs for paraprofessionals, supervisory personnel and community leaders in connection with projects utilizing paraprofessionals. This assistance should support curriculum development and training methods relevant to the specific tasks and community relations skills required of paraprofessionals and their supervisors.

b) Establishing and operating logistical support systems, including transport, communications and supplies.

c) Providing base-line research, simple monitoring and on-going evaluation arrangements, combining technical assistance with the participation of local social scientists.

Foreign assistance agencies should continue to tap the experience and the distinctive capabilities of private voluntary organizations for technical assistance in design and evaluation, as well as for operations. They should not hesitate to draw on persons from other developing countries who have gained first-hand experience and expertise with successful paraprofessional activities.

Local communities and individual paraprofessionals have demonstrated their willingness to make substantial contributions and even sacrifices to improve rural life. Their efforts are frequently frustrated by unreliable administrative and logistical support and by inadequate and poor supervision. The foreign asistance contribution should therefore focus on the critical weaknesses in current programs which have been identified in this paper. For relatively modest expenditures, substantial benefits can be realized through programs which capitalize on the efforts and energies of large numbers of rural people who are willing to provide needed, welcome and otherwise unavailable services to their neighbors at very low cost.

Appendix I

PARAPROFESSIONALS IN AGRICULTURE

PARAPROFESSIONALS IN AGRICULTURE

Paraprofessionals have been used in an assortment of ways in agriculture: as model farmers, leaders of radio listening groups, extension worker assistants and farm credit supervisors, for example. The paraprofessional concept, however, is not so well developed in agriculture as in health and other areas; for one thing, in agriculture they are rarely even called paraprofessionals. Their use has tended to be ad hoc, with little attention to the factors we have suggested are important to success: training, compensation, supervision, selection and participation.

As in health, the paraprofessional can extend coverage of service agencies like extension systems. Extension has long used model and demonstration farmers. Most uses of paraprofessionals in agriculture have been with this goal of extending services, usually technical assistance. Agriculturalists, however, have not yet fully appreciated the role paraprofessionals can play in agricultural development. We see agriculture in this respect as unexplored territory with rich potential. This appendix will map some of this territory, trying to provide most detail where the potential appears greatest. Our treatment will be more suggestive than systematic or exhaustive.

We will analyze the role of paraprofessionals in agriculture along two broad lines: their role in extension, and their role in agricultural research. The latter may seem a departure from the usual perceptions of how new plant varieties and farm technologies are developed: namely, that it is done on experiment stations by trained and qualified scientists, and the results are then passed on to farmers. But in the last 10 years, limitations of this approach, especially in LDCs and with respect to resource-poor farmers, have become clear. A new strategy, "farming systems" research, is now under development at a number of places worldwide It includes research at the farm level, working directly with the farmer, to learn the rationale for what he already practices, and to develop new technologies. Farmer-cooperators, who are common to all farming systems research programs, have most of the characteristics of paraprofessionals. They are from the service area, have limited formal schooling and pre-service training, are part of an organized public agency, and in many cases they perform their work semi-autonomously.[1] We will assess what is known about this role: the role of paraprofessionals in the design of new agricultural technologies. We will also review past experience with paraprofessionals in agricultural extension, and discuss newer methods of extension now in vogue and their use of paraprofessionals.

Our focus is the small, resource-poor farmer. The general imperative of agricultural development is now widely recognized, and for reasons of equity as well as output, most now agree it should no longer bypass or ignore the small cultivator. These people must be included explicitly. There lies both the difficulty and the challenge. We will try to understand how and to what extent paraprofessionals, most likely small farmers themselves, can contribute.

Paraprofessionals and Agricultural Extension

Extension in LDCs: An Overview. Agricultural extension is a peculiarly American institution that, with a few exceptions, has not thrived abroad.[2] LDC

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[1]Chapter I, p. 4.

[2]For a concise and recent compilation of facts on agricultural research and extension see J. R. Boyce and R. E. Evenson, National and International Research and Extension Programs (New York: Agricultural Development Council, 1975).

extension services have been described as undermanned, undermotivated, undertrained, and often with little to offer farmers that is an improvement on what they are already doing. Yet, many experienced specialists cite extension's potentially important role in rural development.[3] Extension can promote rural equity by targeting its services to poorer groups, by concentrating on poorer regions, and by stressing crops grown by the poor. Conversely, it can contribute to widening the disparities; cases can be cited where it has done just that.

Extension in the United States still remains something of a model for many. U.S. extension is well linked to research, feeding back to it farmers' problems and needs. This research system is an interwoven network of state, regional and national centers; and what it produces farmers can use.[4] In addition, U.S. extension has been embedded from the start in a base of local farmers' organizations. Its agents have traditionally had farm backgrounds, and in the early years when the poverty, lack of education and small scale agriculture of rural America resembled what is found in LDCs today, they worked with an evangelic fervor. These elements--linkage to research, feedback from farmers, a productive research system, local farmers' organizations, and dedicated agents with rural backgrounds--are commonly cited as reasons for the success of U.S. extension and the lack of it in LDCs.

Ben Stavis, in Agricultural Extension for Small Farmers, reviews the problems with LDC extension and the changes required to enable it to better serve small farmers.[5] He and others are now saying that improvement will require not simply more resources, but a reorientation of research and extension and a rethinking of their interaction. Top-down, one-way flows of agricultural information from the experiment station to the farmer have been criticized; farmers should no longer be thought of as passive information recipients but should play an active role. The separation of research and extension that is common in LDCs is cited as another obstacle to the design of suitable small farmer technology. According to Stavis: "Thinking of integrated 'learning systems,' in which scientists and farmers help each other to learn, is more useful than thinking of separate 'research' and 'extension' systems."[6] We agree, and later we will suggest how paraprofessionals can play a role in better integrating research and extension.

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[3]See R. Chambers, Managing Rural Development: Ideas and Experiences From East Africa (Uppsala: Scandinavian Institute to African Studies, 1974), p. 56.

[4]Actually, over half of agricultural research in the United States is now being done by the private sector. But private research is closely meshed with its public sector counterpart and the end result is a continual stream of new innovations for the extension agent.

[5]B. Stavis, Agricultural Extension for Small Farmers (East Lansing: Michigan State University, Department of Agricultural Economics, Rural Development Working Paper No. 3, 1979). Similar analyses of extension and conclusions are found in: A. D. Jedlicka, Organization for Rural Development: Risk Taking and Appropriate Technology (New York: Praeger Publishers, 1977); D. K. Leonard, Reaching the Peasant Farmer: Organization Theory and Practice in Kenya (Chicago: University of Chicago Press, 1977); and N. Uphoff, J. Cohen and A. Goldsmith, Feasibility and Application of Rural Development Participation: A State-of-the-Arts Paper, Monograph Series No. 3 (Ithaca: Rural Development Committee, Cornell University, 1979), chapters 7-8.

[6]Stavis, op. cit., p. 3.

Paraprofessionals have long been used in extension, both in the U.S. and in LDCs. As with extension generally in LDCs, its use of paraprofessionals gets mixed to poor reviews. Part of the problem is lack of attention to the personnel factors that we have stressed: selection, supervision, training, and support. This lack of attention is suggested by the fact that they are scarcely mentioned in the literature. Yet, several cases can be pointed to where such factors have affected the success of projects. Often, however, a more significant consideration is that agricultural paraprofessionals are used in programs that are fundamentally misconceived. For instance, they may be charged with demonstrating a crop or technology that for various reasons is inappropriate. Then it will not matter how carefully the paraprofessionals were selected, trained, supported, and supervised--farmers will not adopt the practice.

We next look at past experience with paraprofessionals in extension, giving attention to the personnel factors and to the ways which roles for paraprofessionals in agriculture have been conceived.

Extension and Paraprofessionals: Past Experience: The earliest and still most prevalent use of paraprofessionals in agriculture is as model farmers.[7] The best known early case was in the American South in the early 1900s by the legendary Dr. Seaman Knapp. When a boll weevil infestation was threatening to destroy the cotton industry, Knapp, at age 70, began a program using farmer-cooperators to demonstrate diversified crop systems which reduced weevil damage. Many of the lessons of this early work have since been relearned. In 1909, Knapp said:

> The aim of the farmers' cooperative demonstration work is to place a practical object lesson before the farm masses, illustrating the best and most profitable methods of producing the standard farm crops, and to secure such active participation in the demonstrations as to prove that the farmers can make a much larger average annual crop and secure a greater return for their toil.[8]

In answer to criticisms that all the instructions were issued from Washington and were not adapted to southern conditions, Knapp said:

> This is not correct. The instructions given out for this work are made upon the following plan: First, a compilation of all experiments, relating to a given crop, by the experiment stations in the cotton States, is carefully made. Then the experience in planting, of a large number of the best cotton farmers in the South is carefully noted....Even then our instructions are along lines of correct principles, leaving many details to the good judgment of the farmers.[9]

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[7] Recent literature distinguishes between "model" and "progressive" farmers. See, for example, Uphoff et al., op. cit., Chapter 8. The former are selected by their peers. We will not make the distinction but simply point out how selection was done.

[8] A. C. True, A History of Agricultural Extension Work in the United States 1787-1923 (Washington, D.C.: U.S. GPO, 1928), p. 64.

[9] Ibid., p. 64.

Knapp's demonstrators were not demonstrating a package tested only on the experiment station, something for which LDC programs have been criticized; regional testing was done, and feedback from farmers was also part of the recommendations. Even then the recommendations were "along the lines of correct principles, leaving many details to the good judgment of the farmers." Failure of more than a few recent farmer demonstration programs has been because of maladapted recommendations developed at the experiment station. Knapp's demonstrators also were Farmer's Union members, which linked the program closely to local organizations. These organizations were so strong that farmers would not cooperate until the agents joined them.[10]

Other early U.S. demonstration farmer work was in farm management. Successful farmer managers were singled out and their methods demonstrated to others. W. J. Spillman, one of the early farm management leaders wrote in 1902: "Here and there in all parts of the country farmers can be found who are highly successful. . . . There is no more fruitful field of study than the methods and results of these men."[11] The collaborating farmers were paraprofessionals. But disillusionment with farm management demonstrators who were superior farmers soon occurred as it was realized they were atypical enough of their fellow farmers that the methods they used could not always be applied generally.[12]

Details on workings of these early demonstration farmer efforts with respect to the personnel factors are lacking. Compensation and training were usually lacking in these early programs, and there is little information on how the paraprofessionals were selected. Knapp's demonstrators were supervised by "agents." These people had agriculture degrees and were assigned one to a county, overseeing 10-12 demonstrators; the county extension agent was their direct descendent. In the farm management demonstrator projects, using successful farmers to demonstrate their methods to others was a problem, as their "success" was often due to better land or access to better inputs and not their methods. A remedy for this, applicable today, would be to borrow from the techniques of superior farmers, adapt them, and then demonstrate them on the farms of more typical farmers; paraprofessionals could play an important role.

In extension's early days, both in the U.S. and in Europe, learning and communicating what methods and practices worked best was very important. What we now call extension largely consisted of communcation networks among farmers, assisted in the U.S. by the federal and state governments and land grant colleges. Knowledge generated by scientific research was scarce. Modern LDC extension systems usually lack this element of learning and communicating what is already being successfully practiced.[13] An important opportunity, it would seem, is being missed here.

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[10] Ibid., p. 60.

[11] W. J. Spillman, "Systems of Farm Management in the United States," United States Yearbook of Agriculture, 1902, p. 345.

[12] H. C. M. Case and D. B. Williams, Fifty Years of Farm Management (Urbana: University of Illinois Press, 1957), p. 24.

[13] Stavis, op. cit. pp. 55-56. China's program of having experienced farmers travel to other localities to share their knowledge is one of the most deliberate attempts to incorporate farmer know-how into extension. See B. Stavis, Making Green Revolution: The Politics of Agricultural Development in China (Ithaca: Rural Development Committee, Cornell University, 1974), pp. 172-189.

Paraprofessionals, working with local farmers' organizations and the extension service, could be an important part of this networking and sharing of farmers' experiences.

Demonstration Farmers in LDCs: Comilla and Puebla. Two well-documented recent users of demonstration farmers are the Comilla (Bangladesh) and Puebla (Mexico) projects. In Comilla, the paraprofessional "model farmers" were an integral part of developing farmer cooperatives and linking them to the Rural Development Academy.[14] At Puebla, they were a means of demonstrating the project's new maize technology.[15] There are many other demonstration farmer examples--too many to discuss here individually. Much of the experience is similar to the findings of Comilla and Puebla, so for illustrative purposes we will confine ourselves to these two.

Cooperative development was Comilla's most extensive project; and cooperatives, the Academy felt, were the best vehicle for extension, as well as providing farmers with supplies and services.[16] A member of each cooperative served as a model farmer. Khan describes how it worked:

> Each cooperative selected from among the members a "model" farmer. Their model farmers came for a whole day every week to study the Centre's demonstration farm, to be coached by the Centre's experts, and receive oral and written instructions about current operations. What they learnt the model farmers practiced in their plots and taught to the members, to whom they reported regularly in weekly meetings. Thus every cooperative village got a trustworthy extension agent whose already considerable skill was constantly upgraded by the thana experts.[17]

There are several important lessons from Comilla regarding both personnel factors and project conception. The model farmers were part of, selected by and responsible to, a local organization. Their training was continuous, and they were closely supported by experts at the Academy. The model farmers tested the recommendations on their own fields, which in turn served as demonstrations for their fellow farmers. Comilla came before the new awareness about learning from the farmer and the role of extension linking the farmer to research, so it is not surprising that little appears on this in the Comilla literature. The weekly meetings of model farmers, however, were undoubtedly a place where model farmers shared their experiences and made their problems known to the staff. Through their many studies and close contact with their clientele, the Comilla staff was sensitive to the farmers' problems and to what agricultural technologies were appropriate. For a variety of reasons, Comilla's cooperatives subsequently faltered, but the innovativeness of some of their techniques, including model farmers, has been widely recognized.

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[14] For a general reference on Comilla see A. R. Raper, Rural Development in Action: The Comprehensive Experience at Comilla, East Pakistan (Ithaca: Cornell University Press, 1970).

[15] See CIMMYT, The Puebla Plan: Seven Years of Experience: 1967-1973 (Mexico City: CIMMYT, 1974).

[16] A. H. Khan, Reflections on the Comilla Rural Development Projects (Washington, D.C.: Overseas Liaison Committee, Paper No. 3, 1974), p. 15.

[17] Ibid., p. 17.

Puebla used group extension and demonstration farmers in their efforts to persuade large numbers of semi-subsistence farmers to use modern maize production technology.[18] At the project staff's initiation, farmer groups were formed in the villages for purposes of technical assistance, credit and input supply. Model farmers were selected from the groups to demonstrate the new technology on their farms. The most capable and respected farmers were selected, with the project staff apparently making the final choices. They received no formal wage; compensation consisted of the materials and technical assistance they received in the process of carrying out their duties. The project saw the model farmer as a key element in spreading the new technology.

Some lessons from Puebla are negative ones. In its early phases, the project emphasized a commodity not taking into account the fact that small farmers in the region grew crops in combination. The maize technology given the demonstration farmers was believed appropriate; they were to "demonstrate" a superior technology rather than to "test" it.[19] In fact, it was soon learned that the varieties and methods were not universally suitable, and in many cases only parts of the package were adopted. There was no system for feedback from farmers and paraprofessionals. The farmer groups and the use of demonstrators were designed for getting rapid increases in production, rather than to create sustainable organizations under the farmers' direction to serve their needs as they themselves perceived them. But Mexican planners learned well from these early experiences. Subsequent programs have especially tried to incorporate farmer experience and feedback.

The Training and Visit System. The Training and Visit System of extension now being implemented in a number of countries makes use of "contact farmers" who do many of the same things as demonstration farmers. They are one element of a unified system of extension, the T&V system, which is being promoted as a package.[20]

T&V prescribes a narrow role for extension agents: the communication of technical agricultural information only. The Village Extension Worker (VEW) is a key in the system. VEWs are regular government employees and not paraprofessionals, but they have limited education, and only a few weeks of training. Very precise messages which are timed with the cropping cycle flow from the VEW to 6-8 paraprofessional contact farmers who work with groups of about 10 farmers. The contact farmers are unpaid and are selected by the extension worker so they are more likely to be representative of the average.[21] The basis for the farmer groups is primarily the reception of extension messages. T&V is a good example of group extension, and as with most forms of group extension, paraprofessionals are involved.

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[18] Jedlicka in Organization for Rural Development, op. cit., discusses Puebla's group extension.

[19] See W. F. Whyte, "Toward a New Strategy for Research and Development in Agriculture: Helping Small Farmers in Developing Countries," Desarrollo Rural en las Americas, 9, 1977, pp. 51-62.

[20] See D. Benor and J. Harrison, The Training and Visit System (Washington, D.C.: The World Bank, 1977), and M. Cernea and B. Tepping, A System for Monitoring and Evaluating Agricultural Extension Projects (Washington, D.C.: The World Bank, 1977).

[21] Stavis, Agricultural Extension, op. cit., p.35.

T&V appears successful in promoting innovations that are simple modifications of existing practices, which therefore should be usable by most farmers. But although T&V recognizes the vital need for new technologies and the importance of feedback to research, this linkage is not integral to the system. T&V's strength lies in its being a simple and well defined communication system. Where there is a lack of agricultural information among farmers, it can play an important role in change. But this very strength may mean too much rigidity, making learning and responding to a changing farm environment difficult.

The contact farmers are T&V's vital "bottom" link. They pass down the technical messages to farmers and pass up to specialists information on problems farmers are having with their practices. Their motivation, presumably, is to take advantage of new technology and to help their fellow farmers. Their formal responsibility, however, is to the extension system and not to the group. Viability of the group and the farmer's motivation to participate are dependent on the quality of the new practices being promoted.

Paraprofessionals and Farmers' Education. Paraprofessionals have been used in what may broadly be called "farmers' education" programs. Paraprofessionals may be radio or television listening (watching) group monitors and discussion group leaders. In other programs, selected farmers receive training through short courses in leadership or specialized farm techniques, such as hog or poultry production. They are explicitly or implicitly expected to return to their villages to teach others and act as leaders. Many such programs, using paraprofessionals in a variety of ways, have been carried out in LDCs. We describe several and propose some tentative generalizations based on them.

Farmer training at farmers' institutes is common in a number of LDCs, often a left-over from colonial days.[22] Hong studied a program carried out in the early 1970s in Korea.[23] "Village representatives"—promising young farmer-leaders selected by the extension service—were trained for two weeks in agriculture and were then expected to work with the extension service, while teaching what they learned to their fellow villagers. They were not paid. The program was conceived as being non-formal farmer adult education and technical training.

Hong cites as problems several of the factors we have said are important in the use of paraprofessionals. Regarding qualifications, Hong says their age may have been an important factor in the effectiveness of the courses they taught.[24] They were younger than most of their pupils, and they were less experienced as farmers--this lowered their credibility. When asked about how the programs could be improved, a number of the paraprofessionals themselves said selection should be given much more careful attention, and that the village should be more fully involved.[25] More systematic support and assistance by extension was called for as well. Hong says that "the

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[22]The British established Farmers' Institutes in several African colonies. Zambia, for example, has 35 distributed over the countryside teaching 1-2 week courses.

[23]D. S. Hong, The Educational Impact of Farmer Training Programs (Seoul: Seoul National University, Thesis, 1973).

[24]Ibid., p. 99.

[25]Ibid., p. 103.

training was, in general, loosely organized and developed in the villages without definite direction or supervision."[26]

Reports indicate that programs like the Korean farmer training system do not work as they are expected to. It may be too much to expect farmers receiving a mere 1-2 weeks of training to return to their villages to teach and organize. The Korean program did include support and supervision by extension agents, but it was not adequate. A problem even more important than the personnel factors is the relevance of what the paraprofessional is supposed to teach. Subject matter is determined high in the bureaucracy and not in response to expressed farmer needs. The paraprofessional's problem then becomes the same as the model farmer who offers inappropriate recommendations.

Similar to the Korean program is the Farmer Scholar Program of the International Institute for Rural Reconstruction (IIRR) in the Philippines.[27] Promising farmers ("Farmer Scholars") were selected by committees formed in the villages under the Institute's guidance. They received 3-4 day courses in one of a number of specialized agricultural subjects: rice, swine, poultry, fruit, corn and feed grains, and vegetable production. Then, in T&V fashion, they were to train 3-5 "Demonstration Farmers." These, in turn were responsible for training a limited number of other "Extension Farmers." The aim is not for the whole village to adopt each production specialty, but rather, for example, for some to undertake modern hog production, others citrus and vegetable production, etc. IIRR says this mode of training is applicable to other aspects of rural life, such as nutrition, family planning, sanitation, and health.

In three years of operation, 1972-1975, a total of 343 Farmer Scholars, 1,224 Demonstration Farmers and 1,843 Extension Farmers were trained.[28] Model and Demonstration Farmers recorded substantial increases in income through adoption of some of the specialized production practices. However, problems were encountered in getting the committees to function well in selecting and supervising the paraprofessionals. Another lesson was the need to instruct Farmer Scholars in methods of teaching.

The most important point is that in programs like Farmer Scholar where specialized techniques are taught, adoption of which may require substantial skills and access to capital, it is usually the paraprofessionals who benefits the most. They are not simply demonstrating techniques to others, but are the project's main beneficiaries. This is not bad, but simply a different approach than the demonstration farmer model discussed earlier.

Farmer Institute teaching of specialized production courses, where there is clearly a need and when credit and inputs are included, is a good idea whether or not the farmers are then used as paraprofessionals. The Farmer Scholar program does show that the paraprofessional concept can be used to extend specialized knowledge. A T&V-style networking of teaching obligations, with close local supervision, would seem to

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[26] Ibid., p. 101.

[27] See R. W. Roskelley et al., The Farmer Scholar Program, Vols. 1-3 (Silang, Philippines: International Institute for Rural Reconstruction, 1975).

[28] Ibid., Vol 1, p. XIV.

work better than where the paraprofessional is expected to organize and teach more vaguely defined "classes" with little or no supervision.

Turning to mass communication, one of the best known programs using paraprofessionals with radio is India's Farmer Training and Functional Literacy program.[29] Radio discussion groups are led by "conveners" who have received two weeks training at the district farmer training center and are provided with radios. Conveners act as links between the groups and radio contact officers. By the end of 1973, there were 397,585 discussion groups in 100 districts.[30] These discussion groups are just one aspect of a much broader program of agricultural education and change. Similar programs are found in a number of countries.[31] Sudan, for example, recently began a program of rural television clubs.

If generalizations about such programs are possible, they are that supervision and support of the paraprofessionals are a heroic challenge. Success of the groups in India, and presumably elsewhere, has been uneven, in part due to differences in the extent of back-up assistance. Also, in India when the program first began, the convener was practically the only one in the village with a radio. When more radios became available, the popularity of the groups declined.[32] Monitors can be important as a feedback link, but in general, success with small groups would seem to depend on the unique qualities of the monitor, and on the groups being part of broader-based programs.

The Basic Village Education Project (BVE) in Guatemala was a unique test of radio as a change agent.[33] Agriculturally-oriented programs with messages directly related to the agricultural cycle were broadcast. Some villages were provided with monitors who played the programs on cassette tapes for small groups of farmers. While the findings were somewhat ambiguous, they suggest that radio alone can carry a large responsibility for providing farmer education.

Paraprofessionals and Supervised Farmer Credit. A number of programs use paraprofessionals in supervised credit schemes. In such programs, farmers receive inputs "in-kind" and must follow recommended practices. Cash crops are commonly

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[29] See F. M. Ragheb, "Training and the Green Revolution," in FAO, Training for Agriculture and Rural Development (Rome: FAO, 1975), pp. 1-8.

[30] Ibid., p. 7.

[31] The Agricultural Education Program in Honduras, run by the semi-public agency Accion Cutural Popular Hondurena, is another interesting example. Heavy use is made of paraprofessionals in all aspects of the project including in radio groups. See R. A. White, "Mass Communications and the Popular Promotion Strategy of Rural Development in Honduras," in Radio for Education and Development: Case Studies, Vol. II (Washington, D.C.: The World Bank, 1977).

[32] Ragheb, op. cit., p. 8.

[33] See E. G. Nesman, "The Basic Village Education Project: Guatemala," in R. L. Niehoff, Non-Formal Education and the Rural Poor (East Lansing: Michigan State University Press, 1977).

involved. The paraprofessional assists the program staff in administering the inputs and credit, supervising production and collecting loans.[34]

One observation on such programs is that paraprofessionals, like extension agents, cannot effectively be both advisor/consultant and loan collector, especially since the paraprofessional is often personally associated with the village. A role as supervised credit collector may, for example, alienate him from fellow farmers, or it may strengthen an already existing position of dominance and control. Cash crop supervised credit schemes may increase the small farmer's income,[35] but generally they do not seem to produce competent, independent and knowledgeable farmers, rather farmers highly dependent on the project for knowledge and assistance, as well as income.

Extension and Natural Resource Management. So far, we have confined ourselves to extension related particularly to crop production. But if extension is expanded to include natural resources, new possibilities for paraprofessionals appear. Chambers is among those calling for such an expansion to include managemnt of natural resource exploitation.[36] Participatory approaches, he says, work best. But actual experience with paraprofessionals in this area is limited, probably due to a lack of sensitivity to the role of natural resources in development, and to the large scale, centralized form of natural resource management programs in LDCs.

In the view of many, deforestation is the principal environmental threat now facing the Third World. Many countries now suffer from declining timber reserves, and in parts of rural India and elsewhere this has meant a scarcity of firewood.[37] Traditional forest services have proven themselves incapable of accomplishing the job of replanting. Recognition of this and the importance of firewood in rural life, as well as the fact that firewood shortage is a localized problem, has led to proposals for "community forestry"--reforestation that is decentralized and put in the hands of villagers themselves. Paraprofessionals can potentially play an important, if not key role, in community forestry. Eckholm is one who has called for the use of paraprofessionals in such programs.

> Forest departments--or other agencies if foresters cannot adapt--need to provide "barefoot foresters" who will worry less about the elegance of silviculture and more about how peasants' cows will be

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[34] Several examples, such as the Mixed Farming Scheme (Gambia) and two agricultural credit programs in Paraguay are discussed in E. R. Morss et al., Strategies for Small Farmer Development, Vol. II (Boulder: Westview Press, 1976). Another example is the BIMAS Rice Intensification Project in Indonesia.

[35] Uma Lele in her work, The Design of Rural Development: Lessons from Africa (Washington, D.C.: The World Bank, 1975) analyses a number of cash crop supervised credit programs in Africa.

[36] Eckholm, Planting for the Future, op. cit., p. 38.

[37] See E. Eckholm, The Other Energy Crisis: Firewood (Washington, D.C.: Worldwatch Institute, Paper No. 1, 1976), and E. Eckholm, Planting for the Future: Forestry for Human Needs (Washington, D.C.: Worldwatch Institute, Paper No. 26, 1979).

> fed, how cooking stoves might be redesigned to conserve firewood, and how small farmers whose economic horizons extend only to the next harvest can be persuaded voluntarily to plant trees for the future.[38]

The rationale for such paraprofessional roles is that reforestation, erosion control and water management require specialized knowledge, which typically resides in government bureaucracies with responsibilities for forests and natural resources. But as with forestry, decentralized local solutions are often called for. Paraprofessionals trained, for example, in erosion control or woodlot management can act as a link between communities and bureaucracies.

Paraprofessionals and Group Extension

Group extension, that is extension agents working with groups instead of individual farmers, is one answer to both expending the coverage of extension and to linking it with local organizations. Roles for paraprofessionals arise naturally in group extension strategies. In this section we briefly review what is known about them.

For extension to work with groups is not new. True wrote of the 1905 work of Professor Hamilton, an early leader is U.S. extension:

> He knew that expert extension agents and teachers would for years be too few to carry agricultural education into rural communities generally, but he hoped to find in many rural communities persons of sufficient education and organizing ability to assemble small groups of people and give them worthwhile instruction. He proposed to supply these local leaders with definitely organized material for demonstrations, subject matter, apparatus, publications, illustrative material, and all necessary aids. A plan was made for a short course on this basis.[39]

Hamilton recognized the necessity of working with groups due to extension's limited manpower, and he asserted that local leaders should do the organizing and be the link between agents and farmers. Extension would support them with materials and instruction.

In the 1970s there have been new calls for extension based on groups.[40] Several of the examples we have already discussed—Comilla, Puebla, T&V, and BVE--are group based. In addition to its greater coverage of farmers, and strengthened links with local organizations, group extension has other advantages. Equity problems due to extension's concentration on progressive farmers can be reduced by the use of groups. Many agricultural innovations require economies of scale and cooperation, for example, synchronized planting of rice, and integrated pest management, which can best be

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[38] Eckholm, Planting for the Future, op. cit., p. 38.

[39] True, op. cit., pp. 30-31.

[40] See Jedlicka, op. Cit., Leonard, op. cit., and Stavis, Agricultural Extension, op. cit.

carried out in group context. Group organization makes it more likely farmers will exercise power influencing the policies of their extension system.[41]

Working with groups and local organizing in LDCs are, of course, not new. They lie at the heart of community development and "animation rurale". What many planners are calling for now is the organization of small groups narrowly focused on agriculture. Rejected are extension methods that work only with the better off "progressive" farmers. To date, China and Taiwan are the countries where group extension has been put to heaviest use.

Group extension almost invariably uses paraprofessionals. Hamilton used local leaders to organize and lead groups. Comilla, BVE, and T&V systems use paraprofessionals. In fact, use of paraprofessionals is one of group extension's advantages. Stavis notes:

> One of the most important potential benefits of organizing farmers into groups is that it becomes feasible to train individual farmers who are selected byand responsible to a group of farmers. Such persons can be extremely effective in interpreting new ideas to farmers and in bringing farmers problems and observations to the research system. Unlike government-employed extension agents, the trained farmer stays in the village, is not seeking promotion to urban areas, and is accessible at all times to villagers. If this person is selected by a group of farmers, it is likely that social pressures will increase his likelihood to share quickly and fully information about modern technology with his neighbors.[42]

Leonard observed in Kenya that local group leaders often began to perform extension functions themselves, even though this was not their responsibility.[43]

An important function for such paraprofessionals is facilitating communication and strengthening information flows. Upward and lateral communication of the problems farmers are having with new technologies and the practices that seem to work best should especially be stressed. Lack of feedback from the farmers and a poor integration of research and extension are major weaknesses in LDC extension systems. Particularly when an extension system is designed to serve rural poor, upward feedback should be emphasized.[44] Lateral flows mean communication among farmers of their experiences and knowledge. We said that early U.S. and European extension systems were really communication networks among farmers. In LDCs these flows have been weak, especially with respect to small farmers. An appropriately designed extension system could use paraprofessionals and groups to facilitate lateral communication. One very simple way would be through regular meetings of paraprofessionals and group leaders.

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[41] Stavis, Ibid., pp. 62-64.

[42] Ibid., p. 65.

[43] Leonard, op. cit., p. 204.

[44] Stavis, Agricultural Extension, op. cit., pp. 62-64.

Training of paraprofessionals for group extension should stress how to perform the linking role, as well as technical agricultural subjects. And as we will suggest, a good extension system includes experimentation at the local level by extension agents and farmers. Group leaders and paraprofessionals in such a system could receive training in experimental techniques to supplement their own intuitive knowledge.

Group extension and paraprofessionals are not panaceas, nor is extension itself. Stavis points out well the difficulties with group extension.[45] It may be, as Lele suggests, group approaches will work only where there is relative socioeconomic equality.[46] But if an extension system has equity and serving poor farmers in mind, group extension, making significant use of paraprofessionals, is probably the most feasible approach today.

Paraprofessionals and Farming Systems Research

It is old news that all the Green Revolution has not been a "cornucopia."[47] In the hundreds of "Green Revolution" journal articles, reports and books of the last decade, a recurring point is that the new technologies have not well served small farmers.[48] Although the rice and wheat technologies are scale neutral, their requirements for purchased inputs and irrigation has meant that farmers with access to these resources have benefited the most. There is now justified skepticism about technological "quick fixes." Some reject technology change altogether as a factor in improving the welfare of rural poor.[49]

If new agricultural practices are to benefit small farmers, it is clear that at the minimum they must take the small farmers' circumstances into account; they can no longer be developed in isolation behind the gates of the research station. John Nickel, director of CIAT comments:

> It has become increasingly clear that new technology must be so designed that it will take into account the social, physical, and economic realities of the small farmer. The need for increased food production is too urgent and the stakes are too great for physical

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[45] Ibid., pp. 67-69.

[46] Lele, op. cit., p. 80.

[47] The allusion is to C. R. Wharton, Jr., "The Green Revolution: Cornucopia or Pandora's Box," Foreign Affairs, April 1969, pp. 464-476.

[48] For example, see T. T. Poleman and D. K. Freebairn, Food, Population, and Employment: The Impact of the Green Revolution (New York: Praeger Publishers, 1973) and G. T. Castillo, All in a Grain of Rice (Manila: Southeast Asian Regional Center for Graduate Study and Research in Agriculture, 1975).

[49] This is the neo-Marxian "center-periphery" perspective applied to rural development. See S. Amin, Accumulation on a World Scale (New York: Monthly Review Press, 1972) and A. de Janvry, "Nature of Rural Development Programs: Implications for Technology Design," in A. Valdes et al., Economics and the Design of Small-Farmer Technology (Ames, Iowa: Iowa State University Press, 1979).

> scientists to develop new technologies without sufficient regard for these realities and then have social scientists conduct ex-post analyses regarding their suitability.[50]

Farming systems research (FSR) emerged in the 1970s in answer to such criticisms.[51] It is philosophically quite different from traditional discipline-bound agricultural research. A more holistic, systems approach, its advocates say, is necessary to develop technologies suitable for small farmers. Technologies developed in the usual way by concentration on one crop will not be suited for the complex farming system and social milieu of small farmers. Multidisciplinary approaches, they say, are required. Most FSR programs today are carried out by teams of agriculturists and social scientists.

Farming systems research does not intend to replace more traditional research but to complement it. As we have said, traditional agricultural research and extension have been called "top-down"; technologies are developed at the research station and diffused out to farmers. The criticism has been that, as practiced in LDCs, linkage between the farm level and research is poor.[52] By actually working at the farm level, FSR has the effect of enhancing these links, so the work that is best done at the experiment station is more relevant to farmers. Also, FSR tries to develop technology in a "bottom-up" fashion. Technologies that are step-by-step modifications of existing practices are devised, using only resources the farmer actually has access to.

Farming systems research can only be realistically conducted in a farm setting.[53] At the heart of FSR is the farmer himself, his fields and the social and economic conditions he faces. Consequently, and out of necessity, FSR has made heavy use of paraprofessional farmer-cooperators. Experiments are carried out on these cooperators' fields and studies are done on their current practices. Their resource allocation patterns and constraints are detailed through farm recordkeeping studies. The cooperators, in several programs, are closely involved in the design, testing and evaluation of new technologies.

The actual research tools are a combination of detailed case studies and surveys of farmers. These tools are not new: surveys and detailed case studies of farms,

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[50] Valdes et al., op. cit., p. viii.

[51] For general references see Valdes et al., op. cit.; the Technical Advisory Committee (TAC) of the Consultative Group on International Agricultural Research, Farming Systems Research at the International Research Centers (Washington, D.C.: The World Bank, 1978); R. R. Harwood, Small Farm Development: Understanding and Improving Farming Systems in the Humid Tropics (Boulder: Westview Press, 1979); and D. W. Norman, The Farming Systems Approach: Relevancy for the Small Farmer, Michigan State University, Rural Development Paper No. 5., 1980. Forthcoming in the MSU Rural Development Paper series are a worldwide assessment of FSR by Gilbert, Norman and Winch and an annotated bibliography on FSR by Doyle Baker.

[52] Top-down research has been criticized by William F. Whyte, among others. See his book, Organizing for Agricultural Development: Human Aspects in the Utilization of Science and Technology (New Brunswick: Transaction Books, 1975).

[53] H. G. Zandstra, "Cropping Systems Research for the Asian Rice Farmer," Agricultural Systems, 4, 1979, p. 137.

including the use of farmer-cooperators, were used in U.S. farm management studies as early as 1902.[54] The difference lies in the kinds of questions, especially about interactions, that the researcher with a "systems" outlook is led to ask.

As important as these paraprofessional cooperators are in FSR, little mention has appeared in the literature about the personnel factors: selection, support, compensation, training and supervision. There is no doubt, though, that they are important. For example, if FSR proposes to learn about the conditions of a certain group of farmers, selection of a cooperator with similar resources and capabilities is important. Mention of training hardly appears at all, yet these individuals are expected to make complex judgments about experimental trials and the suitability of new technologies. Compensation is important in a number of ways. Their linkage to and interaction with the researchers, as well as with their fellow farmers and community, are issues needing to be addressed. We will explore what is known about the use of paraprofessionals in FSR along these dimensions of selection, compensation, support, training and supervision, as well as their interaction with researchers and their communities.

Selection. Wise selection of farmer-cooperators is important to the success of farming systems research. Researchers depend heavily on the cooperator's judgment as to whether new cropping methods are feasible and whether other farmers will use them.

FSR generally begins with identification of homogenous populations of farmers and farming systems. Then suitable cooperators must be identified and selected. The criteria used and how the selection is done must yield cooperators who are both representative of the group under study, and who can perform the difficult role of "barefoot" agronomist-social scientist. Reconciling the two is not easy.

The literature indicates that farming systems researchers recognize the importance of selection. Harwood, speaking from the lessons learned in IRRI's Cropping Systems Program, gives as one requisite for FSR success that:

> Participating farmers must be carefully selected.... Middle-aged or older farmers are preferable because they are less likely to be kept on the edge of subsistence by the demands of a growing family. Such farmers are likely to be more inclined to experiment, and the research plan should encourage this tendency in every possible way.[55]

The Technical Advisory Committee's report on FST conducted by the International Agricultural Research Centers (IARC) mentions selection in its description of IRRI's Cropping System Program branches in Indonesia, Sri Lanka and Thailand.

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[54] In 1902-1903 the Minnesota Agricultural Experiment Station carried out the first of the so-called "cost-route" studies. "Route Statistician" researchers worked with 15 "farm statistics cooperator" farmers each collecting detailed cost-of-production data. This even involved researchers living with cooperators for periods of time. See H. C. M. Case and D. B. Williams, Fifty Years of Farm Management (Urbana: University of Illinois Press, 1957), p. 35.

[55] Harwood, op. cit., p. 36.

> The cooperation between the research team at the site and local extension workers is of great importance, particularly for the baseline survey, the selection of farmer cooperators, and the testing of cropping patterns.[56]

Hildebrand, in his description of ICTA's program, alludes to selection saying that they try to identify potential collaborators during the initial visits to the region and while conducting baseline surveys.

> The formal survey (as well as the reconnaissance) is also a valuable means of locating potential paraprofessionals and farmer collaborators who may be willing to participate in keeping fram records and in following phases of the program.[57]

And from Norman, Pryor and Gibbs' work in Northern Nigeria:

> The farmers included in the studies of improved technological package in Daudawa village all had expressed an interest in participating in the programs of new technology. Therefore, the sample of farm families who were inteviewed could be biased toward the better farmers. However, the wide variation in attitudes and performance of farmers adopting the technologies appeared to indicate that there was not a serious bias in the selection of farmers.[58]

The above observations point out some of the important selection factors. Harwood's rationale for using older, experienced farmers is sound. The researcher must remember, however, that such cooperators, even though they are small farmers and poor, may command more resources--be on the better land, have more plentiful and better controlled irrigation water and easier access to credit--than others in the target population. Norman, Prior and Gibbs were aware their sample of cooperators might be biased, but did not think it a problem. Whether it is will depend, of course, on the innovation. Ideally, the paraprofessional selected would be sensitive to what advantages he may have over other farmers, and be willing to communicate this to the researcher and take it into account in his judgments.

The benefits that the Technical Advisory Committee alludes to of involving extension and the community in selection are obvious. Care must be taken, however, to avoid ending up with "political appointees" of the village chief, or favorites of the extension agent. The researcher must as well be sensitive to what the goals are of farmers who are willing to be paraprofessionals, and that they may not be congruent with those of the program. This issue will be discussed next.

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[56] TAC, op. cit., app. 5, p. 3.

[57] P. E. Hildebrand, "Generating Technology for Traditional Farmers: A Multi-Disciplinary Methodology," Working Papers, Bellagio Conference, August 1978, The Rockefeller Foundation, p. 5.

[58] Norman, Pryor and Gibbs, Technical Change and the Small Farmer (Lansing: MSU, Department of Agricultural Economics, African Rural Development Paper #21, 1979), p. 20.

The only substantive conclusion that can be drawn from the limited mention of selection in the FSR literature is it appears that insufficient attention is being given to the representativeness of the cooperators selected. Willingness to cooperate and capacity for the work seem to be the most important considerations. Of course, the "representative" person is like the "average" person--nonexistent. But if a new technology is to be acceptable, the researchers must be very sensitive to how the paraprofessional differs from the target population, and to whether these differences are relevant. Obviously, they should be minimized if possible.

Compensation. Should or should not the FSR paraprofessional be paid? And if so, how? The matter of compensation is important not only in the most basic sense of whether the cooperator will work at all without being paid, but in affecting experimental results in subtle ways. Often the cooperator is called on to make labor inputs to experiments conducted on his fields, either in some prescribed fashion or as he would do it normally. Such designs are susceptible to many interferences, including compensation. The paraprofessional may be compensated by: getting the fertilizer and other inputs that the experiments use; receiving technical help from the researchers; or he may be paid outright. Compensation may be paid entirely by the project, or partly by the community, such as by a farmers' organization. In any case, people seldom do things only for altruistic reasons over a long period of time, and compensation can affect a FSR's program's success in various ways.

In practice, there have been differing approaches to compensation, depending on the research strategy. Harwood says:

> The farmer should not be paid in cash for his participation. Materials may be provided by the program, however, and he may be guaranteed some compensation in kind if the experimental plots fail completely.[59]

ICTA uses three types of cooperators: farm recordkeepers to collect data on current practices; cooperators who work closely with the research team designing new technology; and a larger number of cooperators who conduct "farmers' tests" on newly developed technology.[60] The recordkeepers are apparently not paid. As for the second group, ICTA rents their fields and provides all the inputs for experiments; the farmer works closely with the researchers and contributes his labor to the experiments. They apparently do not receive an actual wage. In ICTA's final "farmers' test" phase, compensation, or more accurately the lack of it, is an important element.

> The key in the "farmer's tests" is that the farmer pays all costs except the technical assistance required to incorporate the technology in his system and he provides all the labor. This is the critical stage because if the farmer conceives of the new technology as too difficult, costly or risky, it is automatically screened out as being unacceptableto him. This reduces the tendency to recommend technologies that are not appropriate for the target group--a

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[59] Harwood, op. cit., p. 36. IRRI does, in fact, pay its farmer-cooperators, however. R. Barker, personal communication.

[60] Hildebrand, op. cit.

> tendency--that has plagued most efforts to work with small, traditional farmers.[61]

Norman, Pryor and Gibbs recognized their cooperators were drawn by the inputs and saw this as a problem.

> Indeed, it is suspected that the main reason that most farmers wanted to participate in the project was to have access tothe improved inputs in the technological packages...We recognize that the approach used can be legitimately criticized, and we advocate that a more random sampling procedure be used in furture studies of a similar nature.[62]

Obviously, there are tradeoffs to whatever form of compensation is used. Testing a farmer's judgment on a technology by whether he is willing to pay his own way to exeriment with it has merit. But it seems possible to go too far in this direction, as farmers' judgments may sometimes be based on inadequate information. Some new or especially risky technologies may have to be subsidized in the trials until enough information is available. Compensation, if any generalizations at all can be made, is not a matter of simple payment for services. Both intentionally and unintentionally, it is closely interwined with the research process.

Training. FSR paraprofessionals are usually trained only on the job. It seesm that the research process could be enhanced by including some kind of formal training. At the minimum, a short course at the beginning would help orient the cooperators to the program's aims and methods, including the importance of the role they play. Such training, if conducted at the research station, could serve to familiarize the cooperator with the professional ways of researchers and agronomists--people he may soon find on his farm, clopboard in hand, blocking out his fields into neat parcels. For the farmer to understand the scientist could be as important in FSR as the converse.

Linkages and Interactions of the Paraprofessional. The goals of FSR are to learn from the farmer--his ways and circumstances--and to develop new technologies in collaboration with him.

Harwood is emphatic about the importance of the farmer-scientist interaction.

> The involvement of scientists with farmers that is the hallmakr of this approach capitalizes on the mutual motivation for improvement. Enjoyment and pride in experimentation, shared by both groups, is an important force for getting the program underway, and then for carrying it through to a significant conclusion.[63]

He cites the following as important lessons from IRRI's experience:

> The research staff should have farming experience and competence. Farmers will not respect anything less.

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[61] Ibid., p. 10.

[62] Norman, Pryor and Gibbs, op. cit., p. 21.

[63] Harwood, op. cit., p. 37

> An attitude of cooperative learning must be maintained by both farmers and researchers. The pedantic, teacher-student attitude characteristic of many extension programs has no place in this collaborative research effort.
>
> The farmer must be part of the research team, involved in making plans and decisions at all levels and stages and sharing credit for results.
>
> Constant contact should be maintained between the farmer and the researchers. Daily visits to the field should be made by a junior researcher in the company of the farmer; weekly visits should be made the senior researcher.[64]

Like the person who spoke prose without realizing it, farming systems researchers have been espousing "participatory research." This doctrine holds in essence that technology should not be produced by one group of people in one institutional setting and passed on to others whose interests may or may not be served by it.[65] There are many details of this collaborative research process yet to be worked out. In the opinion of Harwood and others, the researchers should live in the project area, both to gain a true understanding of the farmer's situation and to gain his trust. But in most programs, the day-to-day link between the farmer and the professional research team is a bachelor-level technician. Where research and extension is well integrated, this role could be played by the local extension agent. There are many other details of the actual experimental design—how much actual weight is given the farmer in choice of experiments, in evaluation, etc.—which now vary from program to program, and will be worked out with further experience.

We have said that most FSR programs are not well linked to the community. This is partly because to date much of this work has been done by the international centers. There are as yet few national FSR programs, and the international centers are naturally hesitant to venture outside purely agricultural research into areas they interpret as properly belonging in national hands. For example, the Technical Advisory Committee specifically recommends that the international centers stick to their mandates and not get involved in "rural development."[66]

But FSR in national programs should, in our opinion, be closely integrated with extension, and well linked tolocal farmers' organizations. Cooperators, for example, should not work in isolation but be part of an involved farmers' group, receiving their input as well as that of other interested farmers. The research then becomes more participatory, involving greater numbers of the client group in producing their own technology. Widely decentralized experimentation embodying principles of FSR can do much to strengthen ties between research and extension, if not eliminate altogether the distinction between them.

Integration of Research and Extension. There is skepticism about this model, especially the element of decentralized but directed agricultural research. Moseman,

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[64] Ibid., p. 36.

[65] Uphoff, Cohen and Goldsmith, op. cit., Chapter 7.

[66] TAC, op. cit., p. 60.

among others, has said that people with only B.S. degrees, typical for extension agents, should not be expected to do good research on their own, much less in collaboration with uneducated farmers.

> A rather commonly held view still contends that substantial modernization or upgrading of traditional agriculture can be achieved by individuals trained only through the B.S. school or degree level. This unfortunately is a misconception to which too many United States agriculturists contribute by suggesting "technical assistance tasks can be handled by a good county agent or extension specialist."[67]

In many extension systems, the extension agent is already responsible for for local adaptation. But Leonard's finding in Kenya that they seldom do it well or at all is probably not unique.[68]

A more formidable problem than qualifications is that decentralized participatory research and group extension require a complete reorientation of thinking by all actors: policymakers, scientists, extension agents, and farmers. Where hierarchical organization and behavior patterns defining scientists as knowledge generators, extension agents as disseminators, and farmers as recipients are well entrenched, adoption of such a fundamentally different system will be slow, incremental and painful.

But China has demonstrated the feasibility and success of widespread, decentralized research.[69] Extension agents and paraprofessionals can, in fact, do research if they are supported by specialists. According to Hunter: "The barefoot economist or agronomist or engineer is more probably two men--a retrained junior field man with access, for advice and supervision, to an experienced professional."[70] There are multiple levels of sophistication in agricultural research--from very simple trials for which visual assessment suffices—to the most complex endeavors in plant breeding and pathology. It is the simple trials that paraprofessionals and extension agents can perform. More complicated development of new technology can, as we have seen in FSR programs now underway, make good use of farmer paraprofessionals, but the paraprofessionals must work in close collaboration with research center with multidisciplinary teams of specialists. An "ideal" system would include widespread testing and feedback which is well linked to site specific FSR technology development. Farmer groups, with their paraprofessionals, would be integrally involved in both.

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[67] A. H. Moseman, "Research Systems," in M. G. Blase, ed. Institutions in Agricultural Development (Ames, Iowa: Iowa State University Press, 1971), pp. 141-142.

[68] Leonard, op. cit., p. 31.

[69] See Stavis, Making Green Revolution, op. cit.

[70] G. Hunter and J. Jiggins, eds. Stimulating Rural Development (London: Overseas Development Institute, 1976), p. 29.

Several projects proposed or recently underway include these approaches. USAID's Zaire North Shaba Maize project which was begun in 1976 is one.[71] Local level Farmers' Research and Training Centers were planned. Farmer leaders were to be used as consultants in development of new maize technologies. Paraprofessional extension workers were included. Quoting from the project document:

> The project plans to use farmer leaders in the project area as consultants to the Research and Training Center, especially in the process of identifying improved traditional practices that can be quickly introduced to other farmers in the area.
>
> Developing a system of paraprofessional "extension workers" will help the diffusion of improved practices shile reducing the burden on the government to support extension operations.
>
> The project also provides training to the Presidents and other members of the Frmer Councils on a short-term basis, particularly as improved practices are identified for recommendtion to farmers. In essence, these leaders can be considered paraprofessional extension workers...[72]

USAID's Small Farmer Development Project in Colombia and its Small Farmer Technology Project in Paraguay are two others.[73]

Summary

Much of this appendix has been devoted to exploring recent ideas for use of paraprofessionals in agriculture, especially farming systems research and group extension. In our view, the use of paraprofessionals in agriculture has suffered from being part of misconceived programs: top-down research, poor integration of extension and research and programs which do not aim to develop farmer capacity to help themselves. FSR, participatory and decentralized research and group extension have arisen in response to these issues; they all make significant use of paraprofessionals.

But Farming Systems Research and group extension, and their integration and use of paraprofessionals are ideas under development. The verdict is not in. More programs of this kind can be expected. Sensitivity to factors that seem important in the effective use of paraprofessionals, as well as awareness of past experiences with paraprofessionals in agriculture, will increase their chances of success.

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[71] See USAID Project Paper No. 660-11-199-059, North Shaba Maize Production/Zaire.

[72] Ibid.

[73] See USAID Project Papers: No. 514-0203, Small Farmer Development/Colombia and No. 526-0109, Small Farm Technology, Paraguay.

Appendix II

CASE STUDIES

Bolivia

Guatemala

Philippines

Senegal

Sri Lanka

Upper Volta

Bolivia

The National Community Development Service, known as SNDC by its Spanish initials, is an agency of the Government of Bolivia. It was first organized in 1964. Since its inception it has provided physical and social infrastructure programs in the rural areas of Bolivia. Current physical infrastructure projects include small bridges, access roads, health posts, schools, and irrigation systems. Its efforts at improving the social infrastructure of rural areas have centered on the formation and ongoing development of mothers' clubs, providing agricultural demonstration plots, and assisting communities in gaining access to needed health and agricultural services.

SNDC projects rely heavily on the use of paraprofessionals who serve as a liaison between rural communities and the SNDC. The paraprofessionals, or promoters as they are called, are responsible for organizing community dialogues on local needs and their possible solutions, and for assisting community leaders in project planning, budgeting and implementation. This assistance is particularly important because communities contribute labor and materials needed for projects. The paraprofessionals also supervise efforts to maintain completed projects and encourage initiation of subsequent projects by the community itself.

The paraprofessionals are required to be from a rural background and fluent in the indigenous language spoken in the area they serve. They work full-time and they are salaried. Most of the promoters are middle age men of average economic means by rural standards who have little formal education or technical training. During their work on a project they reside in or near the communities they serve.

The SNDC has been successful in its efforts to improve the physical and social infrastructure of the rural areas. This success can partly be traced to the fact that the SNDC has always been used by the central government of Bolivia as a means of gaining support in the rural areas. However, success also stems from the use of paraprofessionals who effectively organize community support and participation for the SNDC's projects. The efforts of the paraprofessionals are hampered by excessive reporting duties, inadequate supplies and low salaries. Nonetheless, the paraprofessionals have demonstrated that they can be effective in organizing communities and providing services to the rural poor.

Guatemala

Standard health indicators, such as mortality and morbidity rates, show that the people of Guatemala in general endure a very low level of health and health services. The problem is particularly acute in the rural areas. The single most important cause of the low level of health care in the rual sector is the overwhelming poverty of the rural populace. The Guatemalan government, however, has found it difficult to meet the health care needs of rural Guatemalans using conventional doctors and hospitals: dependence on doctors and hospitals has resulted in an urban and curative biased health care system. This maldistribution of resources is aggravated by logistical support systems which lack sufficient material and manpower resources, and by a population growth rate of 2.8%, which stretches public social service resources to the limit in spite of a rapid increase in the GNP in recent years.

Against this background—and in response to it—the Guatemalan government in the early 1970s initiated its Program to Strengthen Rural Health Services, with subprofessionals (Rural Health Technicians) and paraprofessionals (health promoters) as its unique and important elements. The rationale for the creation of these new levels of auxiliary personnel was to meet the lack of trained personnel in general, and to have personnel trained specifically in public preventive health care. With the assistance of USAID the plan has been implemented.

Communities provide a volunteer who receives an intensive one-month training course and subsequently works as a village health promoter. Basic health care is provided that includes preventive, promotive and simplified curative services. Most health promoters are middle-aged men of average economic means, although there are some young men and women who serve as health promoters. For a number of reasons these health promoters provide a varied and uneven level of service. They have demonstrated, though, that with proper supervision, and minimal logistical support, they are accepted by rural villagers and can provide basic health services that are otherwise unavailable in many rural communities.

The other new level of health personnel—Rural Health Technicians--have proved apt supervisors of health promoters; however, their number has not been sufficient to provide adequate coverage. Also, there has been a problem with inadequate logistical support. Local organizations have been employed to foster community participation, and have in at least some communities helped provide necessary support for the health promoters' activities, both by activating local publics and by helping to mobilize necessary community resource contributions. This support is best achieved when encouragement and incentives are provided by adequate supervision and logistical support for the health promoter. There is little community involvement, though, in the management of the paraprofessional program.

Guatemala's experience with rural health paraprofessionals suggests that paraprofessionals can, at a relatively low cost, provide basic health care services which are otherwise unavailable. Local organizations can help stimulate community participation. However, in order for paraprofessionals to realize their potential they must receive adequate supervision and a minimal amount of logistical support. Thus, while paraprofessionals are an example of "self-help," active government support is necessary for their success.

The Philippines

The Farmer Scholar Program and the paraprofessional support component of Samahang Nayon cooperatives are both village level efforts to increase the production and incomes of small rice farmers. These farmers have long suffered poor yields and low incomes due to inadequate technology, credit, market power and knowledge, as well as exploitive tenure arrangements. Both programs were designed to overcome these problems.

The Farmer Scholar Program of the International Institute for Rural Reconstruction, a private research and service organization, began in the early 1970's. Knowledge and assistance is provided to farmers by fellow farmers trained at the Institute. These paraprofessionals are taught selected specialized techniques--modern hog production, vegetables, etc.—and they are expected to teach 3-5 fellow farmers, who in turn were expected to teach 3-5 more. The paraprofessionals also act as links between the village and the Institute staff specialists. The paraprofessionals are typically males 20-30 years of age but some are over 50. In cooperation with an overseeing village committee, they select the farmers to be taught. All of the farmers in the project are low income, though all hold access to land. Incomes of the paraprofessionals and participants sometimes increased substantially by adopting the techniques which were taught. The benefits were not spread widely over the villages as a whole, however.

Paraprofessionals were used on a limited basis to assist selected Samahang Nayon cooperatives for 1-2 years. They were typically recent college graduates who were trained for one month by the Bureau of Cooperatives and worked in their own or neighboring village with the Samahang Nayon. Working with up to three cooperatives, they helped train cooperative leaders, build bodega meeting and storage places, and operate threshers. The farmer cooperative members were primarily small landowning or leaseholding farmers. Membership was required for recent agrarian reform beneficiaries. This use of paraprofessionals who in effect were otherwise under- or unemployed college graduates was an effective way to make use of their talents. However, the program was planned for a maximum of 50 cooperatives. Given the expense of paying a paraprofessional to work with 1-3 cooperatives it was not feasible for the program to reach the country's 15,000 Samahang Nayon cooperatives.

Senegal

Sine Saloum region, located in the west-central part of the country, contains 12% of the land area and 20% of the total population of Senegal. The level to gently rolling terrain and slightly sandy soil is suitable for groundnut cultivation and, in fact, the region produces close to 50% of the nation's total groundnut harvest. Eighty-five percent of the population, primarily of Wolof and Serer ethnicity, reside in villages and are engaged in agricultural production at the subsistence or near-subsistence level. Food staples are millet, beans, and cassava.

Villagers are faced with a number of serious problems including inadequate and unsanitary water supplies, often serious food shortages during the pre-harvest or soudure period, high infant mortality rates, and high rates of morbidity and mortality among all population segments. Erratic rainfall and the subsequent variability in agricultural production further jeopardize the precarious balance of survival of the poorest members of the rural population.

In 1977, the government of Senegal, in collaboration with USAID, embarked on a large-scale effort to improve the health status of the rural citizens of Sine Saloum. This demonstration project was to improve the quality of life of the majority of the region's one million inhabitants through the establishment of primary health care services in 600 villages. A team of locally-recruited and trained health care paraprofessionals was to provide basic preventive and curative health services at low cost to the village population. The objectives of the project were to be secured through the participation of local community members.

The village-level health care project in effect establishes a new layer of primary health care services below the secondary health post. These services are provided through a network of village health huts constructed by village members and staffed by locally selected individuals. The village health team is comprised of a first-aid worker, a midwife, and a hygienist (environmental sanitation worker) all of whom receive rudimentary training at the secondary health post by personnel at that level. Training ranges from six weeks to two months for the midwife, one month for the first-aid worker, and two weeks to a month for the hygienist. Preventive health care practices, curative medicine, and health education are emphasized during instruction.

The village health team provides a broad range of skills and services. The first-aid worker is usually the central figure of the team and is primarily responsible for curative services, health education, and the general operation of the health hut. This worker is to keep records, collect minimal fees, and assure the maintenance of medicinal stock. The midwife is to assist pregnant women and mothers in pre- and post-natal care, detect potentially dangerous deliveries, and render aid during delivery upon request. She is also to provide health education, especially in personal hygiene and nutrition. The hygienist is to assist village members in improving the quality of the environment through such activities as latrine construction, the clearing of weedy areas, and the protection of the village water supply. This worker is also responsible for organizing collective projects and for health education in pertinent areas such as food storage, personal and environmental sanitation and compound safety.

The time commitment of each team member to health care activities varies considerably across villages, among health workers, and by season. The average daily time commitment need rarely exceed two hours, however. Services are rendered upon

request and occasional group meetings are held to discuss specific preventive health care issues. Although the scope of services and activities is sufficiently broad to benefit all village members, women and children are particularly likely to benefit from the project.

The village health workers are selected by the local population and are usually members of the village. The hygienist is typically a married man, 25 to 35 years of age, with little or no formal education and a full-time cultivator. The midwife is usually a mature woman who has had several children and is past child-bearing age. In the Department of Nioro du Rip, 75% of the women selected were traditional midwives. The first-aid worker, on the other hand, is frequently an outsider, single and has some formal education. This worker is virtually always a male between 25 and 30 years old.

The village health team is to receive support and supervision from both community members and agents of the formal health care system. At the community level, a Comite de Gestion, or Management Committee, is to oversee the general operation of the project, ensure the maintenance of an adequate supply of medicines, account for receipts of the health hut and payment of the health workers, and provide supervision. In practice, the Comite de Gestion plays a very limited role in the operation of the local health care project. This may be due primarily to two factors--the emphasis on control rather than cooperation and promotion which characterizes the ethic of the Comite, and the composition of the Comite, which is usually dominated by members or representatives of the traditional power structure.

The VHWs are also to receive support, supervision, and in-service training from a staff member of the secondary health post. This task is usually assumed by the head of the health post who is to visit each active village at least once a month. In practice, this supervision and support function is only infrequently realized due to a number of factors, the most important of which are inadequate transportation resources, the difficulty of reaching relatively isolated villages, and time limitations for personnel who are already over-extended. A low level of motivation to perform this (unpaid) function may also be a contributing factor.

Village members are using the new services and appear willing to contribute to the operation of the project. In many villages health care information is being disseminated, latrines are being constructed, the sanitray condition of the village environment is being upgraded, and a reduction in morbidity and perhaps mortality rates may be anticipated. To these positive outcomes should be added the value of enhancing the technical competence and organizational capabilities of village members.

Yet, the paraprofessional approach to service delivery is also fraught with a host of difficulties and dangers. Compensation issues continue to be a serious impediment to the sustained operation of the village-level enterprise and a cause of motivation problems among many VHWs. Although we cannot conclude that a VHW selected from outside the village is less effective or less well accepted than a village member performing the same function, the experience from Sine Saloum does indicate that the outsider brings along with him or her a whole set of special needs and problems. The selection of an outsider tends to increase the probability of instability, high turnover rates, and the eventual (though perhaps not permanent) cessation of project activites. Finally, the effectiveness of the paraprofessional approach may be seriously constrained by the lack of supervision and support by community members and representatives of the formal organization structure.

Sri Lanka

Sri Lanka is a small island nation, inhabited primarily by ethnic Sinhalese (70%) and Tamils from south India. Buddhism, the predominant religion, has influenced many of the island's cultural and social norms. The large majority (80 percent) of the inhabitants are rural dwellers, with at least half of these involved in small-scale agriculture. Scarcity of conventional employment and income generating activities has contributed to a high unemployment rate, especially among the educated youth, and is a major preoccupation of the government. Nonetheless, despite widescale unemployment and a low average per capita income, Sri Lanka is atypical of most LDC's. It has achieved impressive improvements in satisfying basic needs: literacy is 85%, life expectancy at birth is 69 years and infant mortality is 46 per thousand. Thus, while the majority of the population are far from rich, they are not plagued by the basic existence concerns of persons in many LDC's. Furthermore, the decision of successive governments to minimize inequalities in terms of services and infrastructure between the rural and urban centers has resulted in a well-developed communications network and a fairly equitable distribution of social services.

The Sarvodaya Shramadana Movement, initiated in 1958, is a private, non-profit, voluntary development movement committed to a policy of "helping people help themselves". Development is viewed in holistic terms, embracing the spiritual as well as the material and economic elements, and is focused on the individual as a member of his environment. Active community members, often Buddhist priests, together with village "Saravodaya Workers", are the backbone of the Movement--the initiators of activities--and are supported by a network of administrative and technical units. The use of paraprofessionals (Sarvodaya Workers) at the local level was the natural outcome of the Movement's commitment to fostering grassroots development through the exploitation of local leadership capability. Some 2,500 villages throughout the island, representing the major ethnic and religious groups, have been affiliated with Sarvodaya, and through their involvement, have achieved impressive results in terms of completing self-help projects.

The paraprofessionals (Sarvodaya Workers) fall into two general categories: those involved in service delivery (the day care instructress) and those in community organization (i.e., community leaders, health workers). The day care instructress' responsibilities are well-defined: she manages the day care center, which tends to the nutritional, educational and spiritual needs of young children. She also works with the mothers of the day care children (Mothers' Group) who are delegated the responsibility of looking after the needs and problems of the program. Responsibilities of the community organizers are more diffuse. For example, those in community organization work with members of the entire village in an effort to garner support and participation in locally initiated community projects. Projects embarked upon cater to a wide range of needs and interests, but they are usually self-help in nature and revolve around the principle of "shramadana" (shared voluntary labor). Projects may benefit from the technical expertise of the more experienced staff members at the regional centers, and may be eligible for start-up funds from the national headquarters.

Most paraprofessionals are drawn from the pool of educated unemployed youth who are still unmarried and are supported by a family. Turn-over rates tend to be high, as the youth take on the responsibilities of a family or find full-time employment. Day care instructresses are invariably female, while the community organizers are either male or female.

The village unit is the focal point of the Sarvodaya Movement and is where the Sarvodaya Workers work and reside. Since its inception, the Movement has developed an extensive administrative network, with branches at the district, regional and national levels. These units exist to provide material support and guidance to the village programs, to extend technical advice and to conduct training programs for both paraprofessionals and villagers. The Sarvodaya Workers' most direct link to the administrative structure is through the district office, which is responsible for guiding and coordinating local programs. The links between the district centers and the villages are two-way: field workers based at the district offices visit the village workers, and vice-versa.

Sarvodaya Workers are selected by some or all members of the community, and personal characteristics such as motivation, good personality, and integrity rank high in selection criteria. Thus most workers are well-respected and liked members of their community. Their ability to gain greater respect for their performance as a Sarvodaya worker depends on their ability to "lead" the Movement in that village. Often they receive the backing of local influentials, notably the village priest, which significantly enhance their chances for success.

The performance of Sarvodaya Workers has shown that the use of paraprofessionals as front line extension workers can successfully extend the scope of development initiatives beyond that normally achieved by conventional delivery services. The reliance on such workers, locally selected and indigenous to the community, has provided greater repect and credibility to the Movement. Yet, however commendable the motivation and achievement of the Sarvodaya Workers, it appears that they are having difficulty expanding beyond projects of a localized self-help nature, which have little impact on the village economy, to schemes able to have a broader impact on the economic well-being of the community. Given the average dweller's preoccupation with the rising cost of living, greater attention to more economically-beneficial endeavors would seem essential if the Movement is to maintain its momentum. The Movement's past responsiveness to the need to undergo change and to develop new strategies make such changes appear feasible.

Upper Volta

Located in the Sahel region of West Africa, Upper Volta's estimated population of 5.5 million is 90% rural. The landlocked economy is based upon dryland agriculture for domestic use and regional trade. Yields are low, however, as a result of widespread subsistence farming. A poor road system makes marketing costly and greatly limits the rural population's access to goods and services. Rural health services are available to only a fraction of the population and the school system reaches one of the lowest proportions of children in the world. Nutritional deficiencies and endemic diseases are widespread, aggravated by the lack of potable water. Rural areas have no piped water and during the dry season many village wells run dry forcing women to walk as far as 8-10 miles in search of water.

To meet its development objectives which focus on agricultural and human resource development, the Voltaic government realized the need to incorporate rural women into the development process. While women comprised 52% of the active population, they were faced with enormous difficulties and social prejudices which inhibited their full participation in development. Thus, in 1967 with UNESCO support, the government initiated an experimental program aimed at increasing rural womens' and girls' access to educational opportunities. Through the acquisition of knowledge and skills, the Equal Access Project within the Ministry of Education was designed to improve rural females' social position making them more effective contributors to the country's social and economic development.

In order to accomplish this, development officials concluded that locally recruited, trained women volunteers could best serve to transmit information and improved techniques to village women. Each village was to select two women to serve as animatrices (village organizers), and later locally selected birth attendants were included to provide improved midwifery techniques. These paraprofessionals were to receive 2-4 weeks training, work as volunteers, and be guided and supervised by the Project-paid extension agent (monitrice) living in the same village or a nearby village.

Initially, three pilot regions of varying ethnic, economic, and linguistic character were selected for Project activities. The Project was not promoted as a "women-only" project; the main emphasis was on community development through self-help, with women's participation considered a necessary element of that development. Functional literacy classes in ethnic languages were to be linked with education in practical fields such as childcare, sanitation, agriculture, crafts, family economis. A sheer lack of time and energy, however, prohibited women's attendance, so the Project introduced labor-saving devices: wells, mills for grinding grain, carts, sewing machines. From the experience in the three pilot regions, the Project is now being extended throughout the country.

The animatrice is the representative of the village women. They have no set working hours, location for service delivery, or defined tasks. Their main responsibility is organizing and promoting Project activities. It is the monitrice who actually conducts the literacy classes, nutrition demonstrations, health classes, etc. A typical animatrice is middle-aged, past child-bearing, and is a respected woman's leader who is known to be hard-working and able to speak in front of others. Depending upon her personal dynamism and activeness of the women's groups, she may be involved in disseminating information such as notifying women of upcoming child-weighing clinics; organizing and promoting activities such as the adoption of latrines or communal work projects; and stimulating decision-making as the spokeswoman of the village women.

The midwife is often, although not necessarily, a traditional birth attendant. Generally, she is an old woman, according to custom, and is selected by the village Chief. Besides attending all births and practising improved midwifery techniques, they are responsible for managing and resupplying the medicine chest (initial supplies donated by the Project), and indicating need for emergency evacuations. Their role is limited to the technical aspects of midwifery; they are not involved in pre- and post-natal education.

These paraprofessionals are to serve as two-way links, articulating community needs and problems to the project and promoting Project activities and decisions in the village. They are established community members, their roles are based on traditional role models and as such they are responsible to the village. It is the village's responsibility to select their paraprofessionals, to regulate their actions, to support their activities and expenses, and to replace ineffective workers when needed. Given the existence of tightly regulated social systems and the influence of chieftancies in Upper Volta, however, often what passes for community control and participation is determined by the village Chief.

The Equal Access Project experience indicates that local women are performing services and providing leadership for local development that would be lacking without their efforts: women are participating for the first time in village committees, making decisions which affect their welfare, working together in communal groups to earn money and gaining access to medicines and appropriate technologies. What is intended to improve women's effective contribution to development and to increase their self-management skills, however, is often decided and controlled by men, particularly local elites. Careful attention must be paid to assuring that women have direct access to information and hold leadership positions in committees, and paraprofesionals who are willing and able to shoulder more responsibility for village development, represent one way of accomplishing this. They cannot do it alone, however, and the sporadic training and supervision and the often inappropriate activities promoted by the Project merely serve to undermine their credibility and performance.

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