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**THE VILLAGE HEALTH WORKER APPROACH TO RURAL HEALTH CARE:
THE CASE OF SENEGAL**

Robert E. Hall

Rural Development Committee
Center for International Studies
Cornell University

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PREFACE

In cooperation with the U.S. Agency for International Development, the Rural Development Committee of the Center for International Studies at Cornell University has undertaken research on the role of paraprofessionals in rural development. Throughout the world there is increasing interest in using paraprofessionals in various capacities as frontline development workers to provide services which are acceptable and accessible to the rural poor who often have not been reached by development programs. However, there is minimal empirical knowledge on which to draw for program planning and guidance. Our study has sought to remedy this need by analysing several existing paraprofessional programs to determine which factors affect the paraprofessional's effectiveness. Field studies were conducted of illustrative programs in Guatemala, Bolivia, Senegal, Upper Volta, Sri Lanka and the Philippines. We hope the results of these field studies will provide program planners and administrators as well as government decision-makers with well-documented cases of how and why paraprofessionals function in various contexts.

For research purposes the Cornell team decided to define paraprofessionals generally as workers (1) with no more than 12 months of pre-service or technical school training; (2) who have direct service contact with rural dwellers; (3) and who play a semi-autonomous role in making day-to-day judgments and decisions; (4) while operating as part of an organized private or public sector agency. The typical paraprofessional is likely to be indigenous to the service area and to have no more than a primary school education.¹

An extensive literature search that preceded our field work suggested a number of general propositions: (1) development objectives in the agricultural and health sectors in terms of communication and adoption of improved practices can be achieved efficiently (measured in unit cost and time require) through use of paraprofessionals; (2) the effectiveness of paraprofessional programs depends upon the adoption of appropriate program practices regarding selection, training, supervision, compensation, etc.; and (3) the effectiveness, efficiency and responsiveness of paraprofessionals will vary directly with their success in linking with participatory local organizations.

¹R. Colle et. al., Concept Paper: Paraprofessionals in Rural Development, (Ithaca: Cornell University, Rural Development Committee, March 1979), p. 9.

While the research was guided by these general propositions, our intent was to derive principles of operation and to identify useful operating practices in an area where there is scant knowledge. Consequently, the research effort was designed to be reasonably open-ended and comprehensive to ensure incorporation of many kinds of useful knowledge. Since the paraprofessional cannot be viewed in isolation, it was necessary to focus attention broadly on the relationships among the paraprofessional, the community, and the delivery system.

In accordance with the objectives of the study, it was deemed more appropriate to study in-depth the dynamics of a program in a particular area rather than attempting a summary overview of a program in an entire country. Thus, the major research effort consisted of two months in-depth field work in a limited number of villages within each of the six countries. Including a larger sample of villages would have provided a better basis for generalizations about the program, but the examination of paraprofessional performance would have been more superficial, the quality of data less certain, and the realities of implementing a paraprofessional program less clearly detailed.

To ensure comparability of the results each of the six field studies was guided by a checklist of topics and questions. However, in an effort to obtain frank responses and empirical detail, the studies employed primarily open-ended interviews and participant observation methods. The field work was supplemented with documents and reports that touch upon experience with the paraprofessionals, and with interviews of officials either directly or indirectly involved in the respective projects.

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INTRODUCTION

On August 22, 1977, the Government of Senegal and the U.S. Agency for International Development signed a project agreement announcing a collaborative effort to create a new and more extensive layer of health services to serve the needs of Sine Saloum region's rural population. The stated objectives of the Sine Saloum Health Care Project are: "(1) to establish a network of village health posts (huts) staffed and supported by community level personnel throughout the region; and (2) to improve and strengthen the support infrastructure of the Government of Senegal for services to health centers." This agreement calls for the establishment of 600 health huts to be located in villages throughout five of the region's six departments. Each health hut is to be staffed by a team of three village health workers—a first-aid worker, midwife and hygienist—who are to receive rudimentary training in curative and preventive health care, environmental sanitation and health promotion. Village health care activities are to be maintained and supported through the active participation of local community members. Upon completion of the project, this new system is to serve the majority of health care needs of over 800,000 rural people.

The Sine Saloum Health Care Project involves the selection, training, maintenance, support and supervision of over 1,800 village health workers located in scattered, sometimes isolated rural communities. The potential influence of the new system on the health status of rural people is equally great.

Numerous factors encouraged us to select Senegal as one of the sites for a case study:

- The description of the village health workers who staff the health huts matched closely our definition of paraprofessionals. They receive a brief training prior to assuming their tasks in the village where they offer their new skills on a day-to-day basis and receive occasional contact by agents of the supervising and support organization.
- The project places an emphasis on the self-sustaining potential of the village endeavor through community commitment and participation. Village members are responsible for the selection, compensation and support of the village health workers, the construction of the health hut, and the management and operation of health care activities.
- The scale and complexity of this region-wide demonstration effort presents a context of operation within which practical insights and generalizations may be sought. Research findings would thus be of utility not only in extending the general model to other regions of Senegal, but also in planning similar projects in other countries.

This report is not an evaluation of the Sine Saloum Health Care Project. Rather, the intent was to conduct a detailed case study of the application of the paraprofessional concept to the provision of basic health care services. The study focuses on the interactions among elements of the community context, paraprofessional characteristics and program structure as they affect paraprofessional performance. Field research was conducted during a three month period, October 1979 to January 1980, most of which was spent in villages in the Department of Nioro du Rip located in the southern part of the region. (See map)

Rather than attempting to visit each of the 200 villages actively involved in the health care program, a more intensive research strategy involving a small number of active villages was chosen. This strategy is based on the assumption that greater analytic clarity into the village-level dynamics of programs using paraprofessionals may be gained by living in a village, speaking with a broad assortment of community members and observing interpersonal behavior than would result from the standard survey-by-Landrover method.

Nevertheless, the intensive case study method and the brevity of the research experience have imposed certain limitations on the scope of analysis. It was not possible to analyze adequately the administrative and managerial issues which arose in the course of implementing this large-scale rural health care effort. Similarly, some readers may be disappointed by the absence of an analysis of the cost-effectiveness of the village health worker approach as compared to more common clinic-based systems of service delivery. Finally, it is indeed unfortunate that the purview of analysis could not be expanded to include a study of indigenous concepts of health, of health practices and practitioners. The results of such an undertaking would contribute greatly to the efficacy of communication of health information among health professionals, paraprofessionals and community members. The need for continued research is obvious.

Structure of Analysis

Three specific foci for analysis appear when we think of a large-scale effort to enhance the quality of health care in rural areas by using village members as health paraprofessionals. First, it is evident that project organization will have some influence on the quality of results obtained at the local level. That is, one area of analysis of central importance is the structure and operation of the delivery system fashioned to provide basic health care services in the village. The adequacy of referral

services, timeliness of stock replenishment, regularity and quality of supervision will all act to impair or facilitate the performance of paraprofessionals. Similarly, the amount of support available at higher levels of the health care infrastructure, the level of competence of personnel, and the character of communication within the organizational hierarchy affect the efficiency and efficacy of operation of the service delivery system.

A second analytic domain is the realm of paraprofessional attributes, activities and achievements. What influence do characteristics such as age, sex, occupation and education have on the acceptability of village health workers? How do variations in the value of any of the five central policy variables—selection, qualifications, training, compensation and support/supervision—affect paraprofessional performance? A thorough study of the paraprofessional in action and of the paraprofessional as a configuration of characteristics or attributes is necessary for deriving a clearer understanding of the value and limitations of the village health worker approach.

Finally, at the heart of the paraprofessional concept and of the village health worker approach to primary health care lies the constitutive framework of community participation. Community initiative and involvement in the establishment, operation and management of the village health care effort are essential to the sustained functioning of the project. What aspects of the local social milieu obstruct or enhance widespread community participation? Which factors condition the acceptability of new health care concepts and practices? Why are village members in one community more responsive and supportive of health care activities than villagers in another community? The answers to such questions are important to an understanding of the relationship of community dynamics to village health care efforts, and may be suggestive for planners involved in other sectoral activities which operate at the village level.

It should be emphasized that these analytic foci retain their separate clarity only when viewed abstractly. In the realm of practice, however, these domains merge and attention is drawn not to each distinct area but to the interrelationships which exist among them. Paraprofessional performance is not determined by the structure and content of any one of these domains, but is a function of the interaction of all three over time.

This emphasis on interrelations and interactions among analytic domains is reflected in the format selected for the following chapters. Chapter I presents a brief description of the country and of the village milieu in which the project is operating, followed by an outline of the health sector in Senegal. The Sine Saloum Health Care

Project is described in greater detail in Chapter II. The analysis is presented in a manner which follows the evolution of the project from its introduction to the Department of Nioro du Rip (Fall and Winter 1977), through the stage of implementation and on to the period of operation during which research was conducted. In a concluding chapter, the implications of the experiences in Sine Saloum for related endeavors are discussed.

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Chapter I THE PROJECT SETTING

Country Sketch

Senegal is the western-most point along the coast of Africa, bordered on the north by Mauritania, on the south by Guinea and Guinea Bissau, and on the east by Mali. With a territory of some 196,000 square kilometers (slightly more than one-third the area of France), Senegal contains three distinct climatic zones. The Sahelian zone in the north and east is characterized by semi-arid conditions. A short and erratic rainy season of rarely more than three or four months allows an average rate of precipitation of less than 500 mm. Agricultural production in this area favors livestock as well as short-cycle varieties of millet and sorghum.

South of this area and extending to the border of The Gambia stretches the Sudanese zone where rainfall ranges from 600 to 1,100 mm per year and comes during the four months from mid-June to mid-October. This area is appropriately called the peanut basin since groundnuts have been the major cash crop since their introduction in the 1840's. Soils are loose and sandy and rapidly decline in fertility. In the southern part of the Sudanese zone, cotton cultivation is increasing in importance. Livestock remains an important part of the rural economy, although rising population density and land scarcity are exerting increasing pressure on herders to find new pastures.

South of The Gambia rainfall increases to an average annual rate of 1,100 to 1,600 mm and the rainy season lasts at least six months. This is the sub-Guinean or tropical climatic zone which includes the majority of the region of Casamance. Mangrove swamps and forested areas are found in the southern section of this zone. Rainfed rice, tuberous plants and crops not found in other areas of Senegal are cultivated here. Trypanosomiasis, which is endemic in this region, hinders the realization of the area's great agricultural production potential.

Senegal's population of over five million inhabitants is characterized by ethnic diversity. Six major groups constitute roughly 90% of the total population. They are the Wolof, Serer, Peul, Toucouleur, Diola and Manding. The Wolof are the largest ethnic group, accounting for over a third of the population, and the Wolof language is spoken with some degree of fluency by 80% of the population. There is little inter-ethnic strife although ethnic membership and local allegiances remain important, especially in rural areas. Only 20% of the population speaks French, which remains the official language. The rate of literacy is estimated at 10%.

Eighty percent of Senegalese are Muslims. Although Islam entered the region from the north in the eleventh century, it was not until the 1800's and French colonial penetration that a solid and massive foundation for the religion was established. Most Senegalese Muslims are members of the three major religious brotherhoods—the Qadiriya, Tidjaniya and Mouridiya—which have come to play an important social, economic and political role in the life of the country. For example, it is estimated that the Mouride sect, which is ethnically dominated by the Wolof, controls as much as one-third of national groundnut production.

The population, 70% of which reside in rural areas, is centered in western Senegal. The Cap Vert region, which includes the capitol city of Dakar, accounts for almost 20% of the total and two-thirds of the urban populations. Rural migrants pour into Dakar, straining municipal services and swelling the crowded shanty towns.

Senegal is one of the more politically stable and formally democratic countries in Africa. Political thought since independence in 1960 has largely reflected the views of President Leopold Sedar Senghor. Formerly a one-party state, Senegal has turned to multi-party politics since 1976. The Union Progressiste Senegalaise (now the Parti Socialiste) headed by Senghor continues to dominate the political field which includes three opposition parties each of whose ideological position is constitutionally defined.

Despite President Senghor's dual emphasis on African Socialism and negritude as a political and philosophical alternative to the rationalism of the West and the alleged suppression of cultural and personal freedom which has come to characterize Marxist-Leninist socialism, the government has tended to favor a technocratic orientation to development and depends heavily on foreign investment and international funding to finance large-scale development projects. As part of its colonial inheritance, the country repatriated a flood of Senegalese functionaries of the former French West African Federation. A top-heavy governmental structure and massive bureaucracy imposes an increasing drain on the state's limited operating budget.

The nation is divided into eight regions each of which is headed by a centrally appointed governor. The regions are subdivided into departments administered by a prefect and arrondissements which are managed by a sub-prefect. Since passage of the Administrative Reform of 1972, a new administrative unit—the Communaute Rurale—has been created and serves as the most local unit of government. The participatory organ of the Rural Community, the Rural Council, disposes of its own funds raised through a rural tax and other sources and may benefit from the resources of the National Solidarity Fund which was created to alleviate disparities among Rural

Communities. This attempt at administrative decentralization is to result in the assumption of greater responsibility by rural people in determining local priorities and in managing development activities.

The most important development agency at the local level is the rural extension center (Centre d'Expansion Rurale). Each center is staffed by a polyvalent team of specialists representing agriculture, livestock, forests and water, construction, teaching assistance, special programs e.g. health and nutrition and other areas. The rural extension center operates at the arrondissement level and falls under the authority of the sub-prefect. It provides advisory services to the rural population within its area of operation and assists in the management and control of development activities chosen by local participatory bodies.

Farmers are organized in cooperatives which control the marketing of their produce, provide materials and offer credit as well as other services. The cooperative system is presently under the authority of the National Organization for Commercialization and Development Assistance (ONCAD). The ONCAD structure has come under serious criticism in recent years for charges ranging from mismanagement of local cooperatives to widespread corruption throughout the organizational hierarchy.

The major force for community mobilization and social development is the Human Advancement Service (Service de Promotion Humain) which evolved from the Animation Rurale movement in 1971. Promotion Humaine is involved in the motivation and education of rural populations to undertake local projects aimed at community development and self-reliance.

The economy is supported by the three pillars of agricultural production, light manufacturing and phosphate mining. The agricultural sector in recent years has contributed 25-30% of the GDP and accounts for over 60% of export earnings. Seventy percent of the labor force is employed in agriculture. Groundnuts are the single most valuable economic resource and world groundnut prices serve as a rough indicator of the general strength of the national economy. Senegalese exports account for 40% of the world peanut oil supply.

Despite a rather high (by West African standards) estimated GNP per capita of \$340,¹ the majority of the rural population lives at or slightly above the subsistence level. Annual per capita incomes range from as low as \$20-30 among the pastoral Peul

¹World Development Report, 1980, (Washington, D.C.: The World Bank), p. 110.

population to upwards of \$150 during non-drought years among the more prosperous farmers in the central zone of the peanut basin.²

Agricultural production is limited by the low level of development of productive forces, declining soil fertility in the peanut-growing areas, an inadequate transportation infrastructure, underdeveloped water resources and erratic rainfall, among other factors. The plight of the peasant has been worsened by the series of severe droughts which have afflicted the Sahelian region since the late 1960's, weakening the national livestock herd and reducing the groundnut and food grain harvests.

Although total agricultural and food output has increased during the last decade, per capita food production has not kept pace with the rate of population growth.³ Food production shortfalls are exacerbated by dietary patterns in urban areas where rice and wheat have become integrated into the daily food regimen. These factors combine to create a large demand for food imports which account for one-fourth of total imports.

To reduce the country's dependence on food imports and to strengthen the overall viability of the agricultural sector, the development strategy for the Fifth Plan (under which Senegal is now operating) calls for a reduction of cereal imports through increased domestic production and the substitution of local staples for imported cereals such as rice and wheat. Due to the inherent vulnerability of a single export crop economy, the need for agricultural diversification is acute. Thus, the government is placing increasing emphasis on the cultivation of irrigated and upland rice, vegetables and tropical fruits, wheat, corn and sorghum.

The accomplishment of these objectives of expanded production, diversification, and food crop self-sufficiency is to be accelerated through the activities of five specialized development entities which are responsible for the development of a region or a specific commodity. These semi-autonomous agencies engage in a broad range of activities which may include extension, marketing, credit, and provision of inputs, infrastructural development and other services.

Although Senegal faces many of the problems which commonly confront both poor and rich nations, its outlook for the future is not particularly dim. The potential for increasing agricultural production through irrigation along the Senegal River and Casamance is encouraging. The south-eastern section of the country contains abundant

²Country Development Strategy Statement, FY 1981: Senegal, (Washington, D.C.: USAID, January 1979), pp. 6-14.

³World Development Report, 1980, p. 110.

land and receives sufficient rainfall to support a dynamic agricultural population. The industrial sector is steadily increasing its contribution to export value. Dakar's port facilities make the area an important center of regional and international trade.

The stability which has characterized Senegalese social and political life since independence provides a context in which progressive social and economic policies, if adopted, may be implemented. The educational system, despite its elitist orientation, urban concentration, and the persistence of French language instruction, is capable of producing well-trained cadres to carry out the important tasks of development. Most important, the amazing industry and solidarity of the otherwise heterogeneous population promise impressive possibilities for concerted action. The potential, indeed, is there . . .

View from the Village

Senegal's multi-ethnic population and diverse agro-climatic conditions present the outside observer with a great variety of residential patterns, agricultural practices, and forms of social organization. The description which follows is based on the situation found in Wolof communities in rural areas of the region of Sine Saloum. The general characteristics of village life, however, are common to almost all regions and ethnic groups.

The majority of the country's population continues to reside in small villages averaging 300 to 400 inhabitants. Family compounds containing from 10 to 12 or more members are generally arranged along a network of paths leading out to the fields. Huts are constructed primarily of local materials--mud and thatch--and may be of a round or square design. Living quarters are often cramped and modestly furnished. Meals are prepared over open wood fires or charcoal stoves and are served in large communal bowls.

Social life in the village tends to center around three points: the deep wells, the raised wooden platforms under large shade trees and the village mosque. Early in the morning and throughout the day women gather at the wells which range in depth from 10 to 50 meters in the west and from 100 to 200 meters in the eastern part of Sine Soloum. Water is drawn by hand in small buckets or spliced sections of inner tubes attached to long ropes. Animated conversation generally accompanies the task of filling the 20 liter tubs which women use to transport water to their compounds.

A central gathering spot for men is the ubiquitous platform of logs beneath a towering baobab or other shade tree. A refuge from the mid-day sun and a comfortable

place to relax after evening prayers, this is the site where the day's labor, village concerns and local and national politics are discussed.

Islam is an important force in this predominantly Muslim country and even the smaller villages will have a mosque or central place for prayers. The local marabout (religious leader) is influential in village affairs. In areas with substantial concentrations of adherents of the Mouride religious brotherhood, the power of local marabouts is a force of considerable importance. Since the Mouride leaders often control large landholdings as well as the labor of their followers, the success of development activities is often dependent on the approbation of these religious leaders.

The tempo of village life in rural Senegal, as in agricultural areas throughout the world, varies according to the season and the needs of the agricultural cycle. Every spring, from April onwards, the fields are cleared of straw stalks and brush. Since millet stalks are used for fence-making and construction of hut walls, the major task is the uprooting of the understem. This is accomplished with the use of the daba, a long pole tipped with an iron blade.

After preparing the seedbed, and with the onset of the short rains in mid-June (in Sine Saloum), the major food crops (millet and sorghum) and the cash crops (peanuts and cotton) are sown. From mid-June through July is the period of peak labor demand. This is also the period of soudure when the supply of food from last year's harvest is almost depleted. The threat of hunger combined with the physically exacting work of sowing and weeding foster a serious danger of malnutrition, especially among women and children. With the coming of the heavy rains in mid-August, malaria and influenza become major health problems.

Millet is harvested from the end of August through September and food stocks may once again be replenished. Groundnuts and cotton are harvested in October and November and the period of commercialization begins at the end of December.

Although animal traction and the use of simple mechanical implements have become widespread throughout the region and in other areas of the country, the provisioning process continues to demand much labor from the rural inhabitants. In village society the old and the young, men and women are expected to work and, indeed, must do so if their subsistence is to be assured.

Women are responsible for a vast range of daily tasks which include pounding millet for the day's meals, drawing water from deep wells (often at a substantial distance from their compounds), taking care of infants, cleaning the compound and tending small animals such as chickens, sheep and goats. Women are also expected to

contribute labor to their husband's fields or to those of the head of the compound. They may also have small fields of their own as well as garden plots to provide produce for the market and to supplement the family diet.

Men are responsible for the major tasks of crop production and control the use of draught animals and machinery. During the dry season when agricultural tasks are few, men (and increasingly women) may seek employment in nearby towns as laborers, tailors, guards or in other occupations. Seasonal migration is a fact of life in most villages. Young men with some formal schooling or vocational skills are particularly susceptible to the allure of urban areas and the promise of even a small cash income.

The seeming continuity of life-ways in rural areas masks the many fundamental transformations that have occurred in the last few decades. Traditional patterns of political authority, social organization and agricultural practices have undergone significant change. Social attitudes and individual aspirations and needs have changed as village society has become more closely linked to national political, economic and social institutions.

The village authority structure, once dominated by the traditional land chief (borom daye) and leaders of important local patrilineages, is being challenged by members of an emerging class of capitalist entrepreneurs, the borom barke. This term, formerly applied to someone who had achieved special status through the meticulous performance of duty or to the head of a large family, has more recently come to mean one who has obtained wealth and is rich in land or possessions. The borom barke wield substantial influence in traditional Wolof institutions and in the affairs of local cooperatives and political organizations. More important perhaps is the fact that former slaves and members of other low caste groups are among the borom barke.

Even the most remote village is influenced by the actions of government programs, local cooperatives, extension services and party organizations. The establishment of a local level of territorial administration (the Rural Community) and the authority to adjudicate land disputes and to initiate local socio-economic development activities granted its participatory body (The Rural Council) offer an important opportunity for popular participation in local affairs.

The monetarization of the local economy and increasing availability of consumer goods have created a demand for cash on the part of all segments of the population. Women (at least among the Wolof) are often expected to pay the costs of basic health care for their children. They may also purchase condiments for the relish which accompanies the main dish, household items such as soap and material for clothing. The

traditional bridewealth formerly paid in livestock, seed or other agricultural products frequently assumes the form of radios, cloth and cash today.

Many traditional practices, forms of social organization, norms and beliefs retain their relevance for Senegal's rural population today. The thumping of wooden pestle against wooden mortar still resounds in the early morning air as women prepare the millet for the day's repasts. Villagers attired in flowing boubous and colorful pagnes may be seen carrying produce along sand paths as they travel to market. Yet it is not uncommon to hear the staccato popping of a small gas powered hammermill as it pounds the hard berries of millet into the flour favored by the women who encircle the machine.

Young men sporting t-shirts imprinted with the image of the popular Jamaican reggae musician, Bob Marley, may be seen in even the more remote villages. And as the last "Allah o Akbar" of the evening prayer winds its way along twisting village paths, past the thornbush enclosures of family compounds and into the stillness of the night, the rhythmic strains of Prince Nico or Bambeya Jazz—or perhaps a discussion of preventive health care practices—may issue forth from a battery-powered radio.

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Chapter II
HEALTH CARE IN SENEGAL

Senegal's rapidly growing population is vulnerable to a wide variety of health problems. Poor nutrition and an unhealthy environment are prime factors contributing to high levels of morbidity and mortality. The Fifth National Plan for Economic and Social Development, released in 1977, estimated that infectious and parasitic diseases were responsible for 85% of morbidity among infants and 70% of morbidity among adults. Yet, curative medicine absorbed 75% of the total health budget.¹

The national health care infrastructure is largely incapable of meeting the current and future health needs of the population. Health services in rural areas are characterized by inadequate and deteriorating health facilities, insufficient medical personnel, chronic shortages of medicine, and severe environmental sanitation problems. It was estimated in 1976 that the most local unit of the formal health care system—the secondary health post—reached only 20% of the entire population.² The major hospitals and specialized services are concentrated in Dakar. Similarly, the vast majority (76%) of doctors are located in the heavily urban region of Cap Vert. While the ratio of inhabitants per doctor has declined for the nation from 16,351 in 1976 to 15,560 in 1977, the regional variation ranges from a low of 3,985 in Cap Vert to a high of 142,175 inhabitants per doctor in the region of Louga.³

Health sector financing as a percentage of the total national budget has declined significantly over the last decade. From a high in 1969/70 of 9.2%, the share of the health sector had dropped to 6% in 1978/79. Urban-based health facilities and programs consume a disproportionate amount of the national health budget. As of 1976, 44% of the health budget was absorbed by the major hospitals, which in light of the centralization of hospital facilities in Cap Vert, corresponded to 45% of the total

¹Cinquieme Plan Quadriennal de developpement economique et social, 1977-80, Tome III, (Republique du Senegal: Ministere du Plan et de la Cooperation, June 1977), pp. 125-27. One authoritative source suggests that 95% of actual budget outlays are consumed by curative services.

²SYNCRISIS: The Dynamics of Health, Vol. XIX: Senegal, (Washington, D.C.: U.S. Department of Health, Education and Welfare, Public Health Service, 1976), p. 83.

³Statistiques Sanitaires et Demographiques du Senegal, Annee 1977, (Rep. du Senegal: Ministere de la Sante Publique, December 1978), p. 2.

national health budget for this one region. In comparison, the most populous region of Senegal—Sine Saloum—received only 8.6% of the health budget.⁴

The preceding remarks highlight the problems confronting the health care system. The central features of the health care situation will be treated in greater detail in the following sections.

Population Characteristics and Health

The estimated population growth rate of 2.7% to 2.8% will result in an increase from 5.1 million inhabitants (1976) to approximately 9.8 million in the year 2000. By 2016 it is estimated that the population will have almost tripled reaching a level of 13 to 14 million inhabitants.⁵ Forty-four percent of the population is under the age of 15, a fact which virtually assures the maintenance if not the increase of the current high rate of population growth.

There are slightly more women (50.8%) than men (49.2%) in the population.⁶ According to a 1976 report, 98.9% of men between 20 and 24 years of age were single, compared to 12% of the women in that age group.⁷ Early marriage for women contributes substantially to high rates of fertility. The crude birth rate is estimated at 49 per 1,000. The rate of mortality for the population as a whole is set at 22 per 1,000 inhabitants,⁸ but rises to 36 per 1,000 among the rural majority.⁹ The average estimated life span is 45 years for women and 42.8 years for men.¹⁰

Although there are few reliable epidemiological studies for Senegal, due in part to the limited coverage of health services, a general picture of health problems may be constructed from official reports. The major causes of morbidity and mortality include illnesses linked to nutritional deficiencies; parasitic diseases such as malaria,

⁴Cinquieme Plan . . ., p. 128.

⁵Croissance Demographique et Perspectives de Developpement au Senegal, (Rep. du Senegal: Ministere du Plan et de la Cooperation, May 1978), pp. 4-7

⁶Statistiques Sanitaires . . ., p. 2.

⁷SYNCRISIS, p. 19.

⁸World Development Report, 1980.

⁹SYNCRISIS, p. 25.

¹⁰Croissance Demographique, p. 6.

schistosomiasis and onchocerciasis; gastro-intestinal and diarrheal diseases; tuberculosis, venereal diseases, and several types of influenza.

Health problems are especially severe among infants and children in rural areas. Perinatal tetanus, malaria, diarrheal and gastro-intestinal infections are major causes of infant mortality. Poor nutrition, especially after weaning, dramatically increases the vulnerability of infants to disease. Forty percent of all children die before reaching the age of five.¹¹

In a recent report of the Ministry of Planning, the unfortunate conditions of life confronting the Senegalese child are forcefully presented:

A child born in 1978 has practically one chance in two of reaching the age of entry to primary school; his chances of survival are much weaker in rural areas than in the cities, due to disparities in sanitary and nutritional conditions. Seven out of ten survivors will continue to be affected, throughout the course of their lives, by malnutrition, or the scarcity of quality food products in times of drought, as well as by the insufficiency of health infrastructure in rural areas. Upon reaching the age of six, he will have one chance in three of receiving schooling...¹²

Infrastructure and Personnel

Senegal is divided into eight medical regions, each of which is to have a regional hospital. By December 31, 1977, there were 11 hospitals in the country, four of which were located in the region of Cap Vert. Neither the recently formed region of Louga nor the region of Senegal Oriental were listed as having a hospital. The regions are composed of a number of circonscription medicales (CM) which follow roughly the territorial boundaries of the administrative sub-regional unit, the department. Each CM has a Centre Medical or Centre de Sante which is usually a clinic or small hospital. A maternity ward and a dispensary are attached to the clinic. Ideally, each of these health centers should include a maternal and child health clinic (PMI).

The secondary health post and rural maternity operate at the next lower level of the health care system. These facilities are generally located in the administrative seat of the arrondissement, formerly the most local level of the administrative system. Since passage of the Administrative Reform of 1972, which called for the creation of a

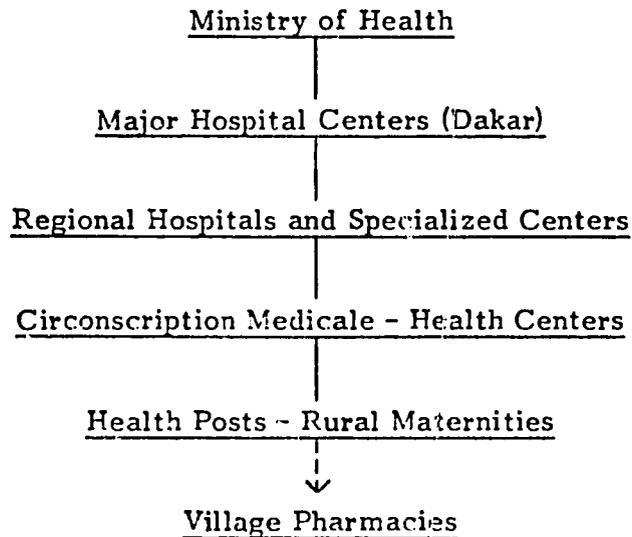
¹¹ SYNCRISIS, p. 25

¹² Croissance Demographique, n. 28.

bottom rung in the administrative ladder, an increasing number of health posts are being constructed in the administrative seats of these new entities (the Rural Community).

Two additional organizations should be included as part of the overall health care infrastructure. The Endemic Disease Service is the Senegalese unit of the West African Organization for Coordination and Cooperation in the Control of Major Endemic Diseases. This organization has nearly 50 years of experience with combating major endemic diseases, such as yellow fever, cholera, smallpox, leprosy and tuberculosis. The SGE is involved primarily with disease surveillance and mass immunization campaigns. Finally, as part of a UNICEF project to improve drug availability at the local level, a number of village pharmacies have been constructed in some areas of the country. In Sine Saloum for example, UNICEF has attempted to create one village pharmacy staffed by a local person in each Rural Community. The components of the health care system are presented in Figure 1.

Figure 1: National Health Care System



The number and regional distribution of health facilities, both private and public, as of December 31, 1977, are presented in Table 1. The number of maternities is seriously understated since a substantial number of rural maternities were not included in the Ministry of Health report.

Table 1: Health Infrastructure by Region - 1977

Regions	Hospitals	Health Center	Maternities		Health Posts		Leprosariums	Units of Endemic Disease Service	PHI Centers	
			(Public)	(Private)	(Public)	(Private)			(Public)	(Private)
Cap Vert	4	2	10	10	41	25	--	1	21	3
Casamance	1	6	8	4	67	15	4	2	7	--
Diourbel	1	3	3	--	22	3	--	1	3	--
Fleuve	3	5	9	--	59	5	1	1	6	--
Louga	--	3	6	--	24	1	1	--	3	--
Senegal Oriental	--	3	3	--	31	2	1	1	3	--
Sine Saloum	1	9	10	3	67	18	2	--	10	--
Thies	1	5	9	--	35	22	2	1	6	4
TOTAL	11	36	58	17	347	91	11	7	59	7

(Source: Government of Senegal, 1978)

Staffing of existing facilities is a serious problem, especially in areas outside of the capitol city. The number of physicians has increased slightly in recent years, due in large part to an influx of foreign medical personnel (especially Chinese) provided through technical assistance programs. Of the 334 physicians in Senegal in 1977, 162 were foreigners. The University Hospital Center absorbs 79 of the 334 and 97 of the total are in private practice. There are 85 physicians in the public health sector (not including those in the University) in Cap Vert which leaves a total of 73 physicians distributed throughout the other seven regions where over 80% of the population resides.

The region of Sine Saloum, with almost 20% of the entire national population, is served by one hospital, nine health centers, 10 public maternities (rural maternities excluded), 67 public health posts, and 10 maternal and child health clinics (PMI). For a population of over 1 million there are only 11 physicians or 4% of the national total, 11.6% of the total number of registered midwives, 8% of male registered nurses and 12% of female nurses.¹³

The unequal distribution of public health personnel assumes its most dramatic form at the level of the secondary health post. These facilities, which are to be staffed by a state nurse, a sanitationist, an orderly and one or more midwives, assistants or "matrones" (traditional midwives), rarely operate with a complete complement of personnel. Few of these facilities have electricity or running water, nor do they have a dependable system of transportation for the evacuation of patients or for the replenishment of medical supplies.

Health Sector Financing

The health sector budget is woefully inadequate, both in terms of total resources and in light of the internal structure of expenditures, to meet the pressing needs of a burgeoning population and the recurrent costs of the existing physical and human health care infrastructure. Despite the government's formal recognition of the importance of health care to the economic and social development of the country, the Ministry of Health has been unable to maintain its share of national funding over the last decade.

The historic orientation of health sector resources toward curative care, urban- and hospital-based facilities, sophisticated medical technologies and specialized services has not and cannot be expected to contribute substantially to the well-being of

¹³ Statistiques sanitaires, pp. 19-26.

the majority of the Senegalese population. This historic emphasis, however, has had devastating consequences for the internal structure of the health sector budget.

Expenditures for personnel as a percentage of the total health sector budget have increased from a low in 1968/69 of 62.6% to a high of 71.0% in 1975/76.¹⁴ An informal estimation placed the cost of personnel for 1979/80 at 75% of the total budget.¹⁵

The heavy commitment of funding to cover personnel costs has resulted in a general decline of resources for medicines. From a high of 16% of the health sector budget in 1965/66, expenditures for medicines plummeted to 9% of the budget a decade later. This corresponds to a drop from 137 FCFA to 109 FCFA per inhabitant in 1976. Since the price of pharmaceutical products doubled during that time, the budget outlay in constant francs went from 137 to 54 (25¢ U.S.) per person. Even this figure is misleading, due to the existence of severe regional and sub-regional inequalities in the distribution of financial and material resources. Thus the Prefect of one department in Sine Saloum stated that government outlays for medicine in his jurisdiction amounted to only 2 FCFA per person.¹⁶

Although the share of medicines in the total health sector budget has increased in recent years, the chronic shortage of pharmaceutical products in rural areas has not been noticeably ameliorated. Health post personnel report that their stock of supplies is quickly depleted and that their facilities may remain without adequate stock for as long as nine months of the year.

The structure of allocation within the health budget reflects past decisions and priorities in the use of investment funds. This pattern of investment remains in force in the provisions of the country's Fifth Economic and Social Development Plan (1977-1981). Forty-four percent of health sector investments are scheduled for hospital construction, equipment and slated activities which will serve primarily urban areas.¹⁷ Such investments will further contribute to the problems of regional inequality in health sector financing and the disproportionate share of the operating budget consumed in recurrent costs for personnel.

¹⁴ Statistiques Sanitaires, pp. 9.

¹⁵ Personal communication with an official in the Division of Personnel, Ministry of Health, Dakar, December 1979.

¹⁶ Cinquieme Plan, pp. 127-28.

¹⁷ Cinquieme Plan, pp. 246-51.

Health and Development: New Directions

In light of the staggering scope of health needs presently unmet by national health services, the critical constraint of limited resources and an unfavorable structure of expenditures, the government of Senegal is searching vigorously for alternatives. A dramatic expansion of the present system so as to reach the majority of the rural population is unlikely given the fiscal crisis in which the state is presently enmeshed. Furthermore, the desirability of such a strategy is to be seriously questioned in light of the predominantly curative orientation of this system.

Many of the health problems which commonly afflict rural people may be traced to an unhealthy environment and poor nutrition. Infectious and parasitic disease, the scourge of village life, can be controlled most effectively through preventive measures such as improving the water supply, disposing of waste safely and improving the nutritional quality of local diets, especially of infants and lactating women. Preventive health care when linked to curative and promotional services provides the basis of an integrated system which can be adapted to meet the basic health care needs of rural people.

Chapter III THE SINE SALOUM RURAL HEALTH CARE PROJECT

In an attempt to improve health care services for the rural population of the Sine Saloum region, the Government of Senegal and USAID have undertaken a joint effort to upgrade existing health care services and to establish a network of village-level health huts in each Rural Community of five of the region's six departments. The project is a demonstration effort to establish a model health care delivery system which emphasizes both preventive and curative medicine and that can be sustained through community support. Three village health-workers (VHW) are to be selected, compensated and supported with full community participation. These part-time VHWs are involved in health education and promotion, preventive health care and curative medicine.

A health hut is constructed in each active village using local materials, community labor, and a 10,000 FCFA (\$50.00 U.S.) grant for cement. An initial supply of medicine is donated to each village and is maintained and replenished through the efforts of village members. The training of VHWs, their supervision and support are to be performed by local personnel of the Ministry of Health through the secondary health facility - Health Post and Rural Maternity.

To enhance the efficiency of operation of the entire rural health care system, strong efforts have been made to upgrade both the staff and facilities of secondary health posts, to establish a sound system of procuring and distributing medicines to village health huts and to elicit the support of local administrative and popular participatory bodies. Existing health care structures have been renovated and new ones constructed in an attempt to provide at least one health post for each of the region's 76 Rural Communities. The health post is the lowest unit of the formal health care system and serves as the link with the village health huts and VHWs. (See Table 2) In addition to the expansion and renovation of facilities, the Government of Senegal has promised to secure a full staff of trained personnel in each health post to train and supervise VHWs and to handle referrals from village health huts. Special courses have been provided to Chefs de Poste (health post chiefs) to enhance their technical and pedagogic skills for the tasks which they assume as part of the new layer of health care activities.

Local response to the expansion of existing health services through the establishment of a village health care project has been very favorable. The initial estimate of five to ten health huts for each Rural Community (roughly coinciding with the number of large villages) has had to be revised due to the high level of local demand

Table 2: Health Infrastructure

<u>Area</u>	<u>Services</u>	<u>Supply System</u>	<u>Supervisory Personnel</u>
Region	Regional Hospital Specialized Centers	Regional Warehouse (in use)	Medecin Chef Regional Super- visory and Training Team
Circonscription Medical (Department)	Centre Medical Clinic and Maternity	Depôt (proposed)	Medecin Chef de C.M.
Arrondissement	Health Post		
Rural Community	Health Post Rural Maternity	Depôt (in use)	Chef de Poste Agent Itinerant
Village	Health Huts - VHs	Health Huts	Comite de Gestion Villagers

to participate in the project. In the two departments where the project has become fully operational--Kaolack and Niore du Rip--8 to 12 health huts have been constructed in each Rural Community for a total of 90 and 110 respectively. The three remaining departments are being incorporated in project activities according to a sequential implementation plan. If the level of participation experienced in the first two departments is maintained in the others, there will be close to 800 "active" villages (36% of the total number of villages) in the region when the project is fully implemented.

The accomplishment of a project of this scale requires careful planning and coordination of activities at all levels of administration. The decentralization of administrative authority and the development of management capabilities at the local government level provided by the Administrative Reform of 1972 has been a central factor in the progress of the project to date. (See Table 3) Central Development authority has been placed in the hands of the regional Governor; a lower unit of local government, the Rural Community (with a population of 10-15,000 inhabitants), has been created with semi-autonomous financial authority; and participatory bodies have been established to represent the interests of rural citizens. The Administrative Reform was extended to Sine Saloum region in 1974.

Table 3: Regional Infrastructure

<u>Area</u>	<u>Technical Structures</u>	<u>Administrative Structures</u>	<u>Participatory Structures</u>
Region	Regional Dev't Committee (CRD) Technical Groups & Regional Commissions	Governor Technical Services	Regional Council
Department	Department Dev't Committee (CDD)	Prefect Technical Services	Departmental Council
Arrondissement	Center for Rural Expansion	Sub-Prefect	Arrondissement Council
Rural Community	(Promotion Humaine?) (No permanent branch of services)	President of Rural Council	Rural Council
Village		Village Chiefs	Village Meetings

(Adapted from: Rural Health Services Dev't; Project Paper - USAID)

Primary authority for project execution is vested in the office of the Governor, through an Executive Committee chaired by the Governor. Members of the committee include: the regional Adjoint for Development, the heads of regional services for Promotion Humaine, Literacy, and Public Works, representatives of the Ministry of Health, departmental administrative officials, a representative of the population and representatives of USAID/Senegal. Participation in decision-making by the rural population has been encouraged at the level of the village, the Rural Community (through the Rural Council), and the Department (through the Department Council). A particularly important role has been accorded to the Rural Council which is responsible for the selection of "active" villages, the collection of orders and funds for restocking village health huts, and the support required for sustained operation of health activities in villages of the Rural Community.

The logistics of medicine restocking are particularly problematic in Sine Saloum's rural areas due to the poor quality of transportation infrastructure, the high cost of fuel

and limited availability of vehicles, and the inadequacy of existing facilities for storing drugs. Project planners have attempted to overcome these problems through the establishment of a regional depot for project supplies and similar facilities at the level of the Circonscription Médicale and the Rural Community. A special Comite de Gestion (Management Committee) is to be established at each level to oversee the financing and the ordering of supplies. This system had yet to be formalized at the time of this field study and health huts in some areas were beginning to experience ruptures in resupply.

The Village Health Workers

The pivotal element of the village-level health care network is the village health team. The three members of the team--the first-aid worker, the midwife and the hygienist--serve as the link between village members and the formal health infrastructure. The VHWs also serve as the catalyst for the deliberate transformation of the local health situation through the participation of the members of the community.

The responsibilities or tasks which have been defined by the project for the first aid worker include: management of the village health hut; administration of records and payments; monitoring of medicines and supplies; diagnosis and treatment of the most common ailments; treatment of simple wounds; and explanation to the villagers of causes and methods of avoiding the most common ailments. Health problems which surpass the technical competence of the first-aid worker are to be referred to the secondary health post. The first-aid worker is the central figure on the village health team and is responsible for promoting collaboration among team members. He is involved in service delivery, management, health education and promotion activities.

The midwife is to provide basic pre-natal and post-natal care, assist with deliveries, detect potential delivery problems, refer women to the secondary health care facility when necessary, and provide information on personal hygiene and nutrition education. The hygienist is in charge of organizing voluntary efforts for environmental sanitation tasks such as digging latrines or refuse pits, and clearing brush. He is also to promote a better understanding of personal hygiene and environmental sanitation among the village population.

Among the numerous factors which may affect the performance of paraprofessionals, at least five can be singled out for special consideration. These policy variables include: the selection process, VHW qualifications, training,

compensation, and supervision and support. Analysis of the literature on paraprofessionals indicates that the character or value accorded to these factors by a particular project may have significant consequences for the ability of VHWs to perform their tasks effectively and for project success in general. The relationship (and interrelationships) of each of these variables to paraprofessional performance and community participation will be elaborated in detail in following chapters.

The Role of the Community

The sustained operation of a village-level health care effort is dependent upon the quality of community involvement, initiative and support of local health care activities and of the VHWs chosen to serve the needs of the village. According to an early project document, community participation is to consist of "the selection of village health workers, the construction of village health huts; the management of the sale of basic medicines at cost and subsequent restocking of same." The village is also responsible for the support (i.e. compensation and assistance as requested) of the village health team.

A management committee is to be formed in each village to oversee local health care activities. The committee consists of a president, a treasurer and an assessor who are to be selected by the community. The activities of this group are clearly restricted to the domain of financial affairs: the monitoring of health hut receipts, taking inventory of stocks, ordering and paying for new stock as needed. The committee does not have a promotional or mobilizational role.

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Chapter IV INTRODUCING THE PROJECT

The intent of the Senegalese government to assist local communities in the establishment of a network of village health huts was announced to rural councilors in the Department of Nioro du Rip in the late fall of 1977. The departmental representative of the Service of Promotion Humaine (PH), accompanied by the political officer of the arrondissement (Sub-Prefect), explained the objectives of the demonstration project, the amount of financial assistance to be provided, and the responsibilities of participating villages. The Rural Councils could accept or refuse to take part in the effort at this time, although none did so. The rural councilors returned to their villages and presented the idea to village members.

In the smaller villages that I visited, the initial introduction of the project was made in a village-wide meeting. In the larger villages, this occurred through a process of smaller quartier or ward meetings where quartier leaders discussed the plan with residents and then reported back to village leaders. In either situation it was difficult to determine the level of understanding or the amount of information which was available at this stage. It was evident, however, that the majority of villagers in most of the villages which I visited had only a rudimentary understanding of the new project.

Village Selection

A second meeting of the Council was called to determine which villages would be selected to participate in the project. Project officials anticipated that five to ten villages per Rural Community would be chosen. The actual average was close to ten active villages in each Rural Community of the Department of Nioro. Community leaders were evidently determined to take full advantage of the offer of assistance, regardless of the area's capability of supporting a full complement of health programs. Accounts of the manner in which villages were selected vary among rural communities. In some cases, it appears that the local administrative officer (and sometimes the local MOH official) played a central role in determining which villages would be allowed to participate. In other cases, the decision was left with the rural councilors. Regardless of the method of village selection, it is obvious that local politics was at least as important a factor in the final decision as were considerations of need, geographic location, or likelihood of strong community support.

From a planning perspective, the spatial distribution of health huts in some areas is far from optimal. In some cases, an active village lies less than one kilometer from the health post. Since treatment at the secondary health facility is free, the level of demand upon the services of the village first-aid worker is usually quite low. In other cases, active villages are located in a cluster, thus reducing the potential population which each might serve. (It was initially expected that most health huts would incorporate a number of smaller villages within their sphere of operation.) In one area of the west-central part of the department, for instance, there are four health huts all within three kilometers of one another. The population size of these villages ranges from 100 to 500 inhabitants. Two of the four health huts incorporated at least one other outlying village in their action area. In no case, however, did the total population served exceed 700 inhabitants. Even this number is misleading inasmuch as it reflects a theoretical maximum rather than the actual population size. Since few of the hygienists and midwives actively pursue their tasks in outlying villages, the notion that these villages are incorporated in health care activities applies primarily to the services of the first-aid worker. In some cases, members of nearby villages may seek the assistance of this worker. In the case of the four-village cluster, none of the health huts received enough patronage to allow the VHWs to receive more than 500 FCFA (\$3.00 U.S.) per month.

The consequences of clustering health services for the problem of VHW salaries may be seen by examining the financial records of one of the health huts in this area. Health services were first offered in Village X in the fall of 1977, as part of a UNICEF-sponsored program to establish one village pharmacy in each rural community. A young man (the nephew of the local Chef de Poste of that period) was chosen to staff the pharmacy and to treat the health needs of the local population. According to the statements of this worker, he performed only curative services and did not attempt to educate villagers in health care matters or to encourage them to adopt preventive practices.

Since Village X is located along a major sand road leading to a small town with a weekly market, the health worker received a substantial amount of requests for his services from residents of neighboring villages. During his first year of operation, he received an average of 65 patients per month, most of whom returned for additional treatments for the same illness. The first-aid worker estimated (and his records confirm) that he grossed an average of 10-15,000 FCFA per month, of which he was allowed to keep 10% as his salary. Since June of 1979, when the three health huts in

neighboring villages began operation, he has seen fewer than 20 clients per month and averages less than 500 FCFA per month as his share of the receipts. His records listing the home villages of patients during the first 18 months indicate that many of his visitors were from the villages which recently became active in this project.

A second aspect of village selection which came under criticism by outside observers and local medical personnel was related to the scope of the project. Specifically, some members of the health service charged that too many huts had been constructed and that it was difficult for some villages to sustain enthusiasm for the project. The issue of the scope of operation is particularly relevant to a discussion of local participation. The creation of 110 village health huts and the selection and training of 330 VHWs in the Department of Nioro du Rip required a massive effort in village animation or sensitization of villagers. Responsibility for this was placed in the hands of the Service of Promotion Humaine, an agency with a specialized staff and governmental mandate to work on issues of community or rural development.

The staff of PH in the Department of Nioro consists of one official located in the department's administrative seat. This agent, assisted by local officials, was to visit each active village, assist them in selecting VHWs and in forming the village Comite de Gestion, while ensuring that the majority of village members understood the structure and objectives of the health care effort. The health post staff was faced with similar difficulties in that the addition of eight to twelve health huts for which they were to assume supervisory responsibility constituted a significant demand on their resources. The suggestion was made on several occasions that the number of active villages could have been reduced in half in the initial stages so as to allow for a more concerted effort in village animation and to work through problems as they arose. More villages could become active in the following years, it was recommended, as village members demonstrated interest in participation and willingness to assume the responsibilities of monitoring medicinal stocks and ensuring regular resupply.

Sensitizing the Community

The Service of Promotion Humaine was charged with the task of animating and assisting villagers to prepare for the establishment of health care activities in their villages. The departmental representative of PH was normally accompanied on visits to chosen villages by the President of the local Rural Council, an arrondissement-level administrative officer, and the local Chef de Poste. Staff members of the local rural extension center (CER) were often involved in subsequent animation visits.

These initial attempts to communicate project objectives and operational requirements to village members were hampered by manpower shortages as well as the usual difficulties attendant to a large-scale effort to reach scattered villages often accessible only by sand paths and rough trails. With over one hundred communities to visit, the time spent in any one village was necessarily brief. In the villages that I visited, only a minority of the village population (usually just male leaders and heads of compound) had a clear understanding of the objectives of the project, the responsibilities of the community or the mechanics of remuneration of VHWs and medicine resupply.

Two factors may be singled out as being of particular importance in the communication of information to the village population. First, the approach taken by outside authorities is usually to meet with the leadership of a given village, discuss the reason for the visit, and then depart with the assumption that the leaders will continue the discussion with the rest of the village population. On occasion, an outside agent may ask that a village assembly be called to which he will present a description of his particular mission. The primary network of communication, however, is viewed as emanating from the village chief, through the other village leaders and on to the general population.

This particular approach of communicating through the authority structure tends to result in the centralization of information. The effects of this were particularly obvious from conversations with women. Few of the women interviewed had even a general understanding of the operating principles of their local health hut. As a rule, women in Wolof society do not participate actively in village decision-making although they can and do speak out during some village meetings. Women may be asked to respond to a particular issue or proposal if the subject is seen (by men) to fall within the domain of women's affairs. Thus, in most villages women were asked to nominate one of their number to be trained as a midwife for the health project, but rarely was the system of remuneration of the VHWs discussed with women since this was viewed as a technical or economic matter and therefore beyond the boundaries of women's affairs.

It should be emphasized that the actors responsible for village animation were not totally free to choose their method of approach. In all cases when entering a village it is essential to address the village chief and village leaders. The decision to call a village assembly lies entirely within the authority of village leaders, although they will usually oblige such a request. Even when an impromptu assembly was called, attendance was often sparse according to some reports.

Other reports of the manner in which the project was proposed to villagers indicate that relatively greater emphasis was placed by outside actors upon the benefits to be derived from the health care project than on the responsibilities to be assumed by village members. Although this imbalance in the content of what was communicated may have been due merely to poorly contained zeal for the project on the part of local authorities, it is also quite probable that these actors were motivated by a desire to meet the "quota" of active villages for their administrative unit. The failure to adequately communicate the range of both benefits and responsibilities to villagers from the outset has resulted in misunderstanding and, in some cases, in discouraging local initiative.

The history of development efforts in Sine Saloum and the testimony of villagers tend to strengthen this observation. Unless public authorities are willing to engage members of the rural population in a dialogue which seeks to enhance the level of understanding of both parties--rather than to convert or convince the subordinate group to accept the objectives of the dominant party--a balanced relationship cannot exist. Similarly, participation at the local level will not occur unless the objectives of an activity are meaningful and fully understood by the population.

The second factor affecting the success of efforts to inform and motivate village populations lies in villagers' attitudes toward government interventions. Sine Saloum Region is located in the heart of Senegal's peanut basin. Relations with external authorities were far from congenial during the colonial period. Even with the winning of independence, government officials are often viewed as outsiders. Government interventions in agricultural production and marketing have often earned the hostility rather than the cooperation of rural cultivators. Other government efforts, e.g. construction of wells, donation of millet machines, and building of fixed facilities (schools, dispensaries, community centers), have been received in the spirit of gifts rather than as planned efforts for achieving local development objectives. Wells are poorly maintained. Millet machines often break down during the first few months due, in part, to infrequent servicing of the engines.

The point here is not to accuse the rural population of maintaining "improper" attitudes toward government. Rather, the objective is to underscore the existence of a tendency to view government actions in a way which denies community responsibility for the maintenance and continued operation of an externally-sponsored intervention. This tendency has been reinforced by a history of government actions in which the role of the local population was dictated from above. Public authorities were unwilling to

relinquish control over a program even though it was carried out through the efforts of local residents and was allegedly designed for their benefit.

Thus, if efforts to sensitize and motivate village members are to be successful in gaining their active participation, public authorities must stress the central role of the community in managing their own affairs. These authorities must also be willing to share and ultimately to relinquish control over the operation of the project at the village level. The distinction that is being made here is that which exists between "administered participation," in which the community only meets the requirements determined for them by outsiders, and "active participation," which involves the community's right to take part in major decisions which affect the lives of village members.

Chapter V LOCAL PARTICIPATION IN IMPLEMENTATION

Although a full understanding of the objectives of the project and the role of the community in its operation may not have been established at the outset, the eagerness with which the villagers took part in implementation activities is an indication of the high value they place upon the improvement of health. Both village members and project officials attest to the high level of motivation and involvement displayed in the villages.

One of the first tasks to be performed by the community was the construction of a small two or three room facility to serve as the health unit. Villages were provided with 10,000 FCFA (\$50 U.S.) to defray the cost of cement for the floor. The rest of the hut was to be built of local materials. Villagers had the option of using either the traditional thatch roof or buying metal sheets. Many of the villages decided upon metal roofing and collected money from village members to purchase the necessary materials.

In most of the villages that I visited, the health hut was the only or one of the few structures sporting a metal roof. Due to the high price of metal roofing relative to farm income, few cultivators are able to afford this material which has come to indicate social status and material well-being. The decision to invest in a luxury good is indicative of the pride which villagers take in their new health activities.

The health hut has taken on many different functions in village life. In some cases, it is used as a sort of community center where group meetings are held. Since some of the first-aid workers do not live in the villages where they work it is not unusual for them to sleep in the health hut during the week. If the first-aid worker is a congenial person (which I usually found to be the case) his friends may drop in during the evening to visit. As long as these alternative uses of the health hut do not interfere with the treatment of patients, such multiple usage of the facility should be encouraged. If the health hut is viewed as a community center and not just as a treatment center, the VHWs will be better able to discuss and promote preventive health care practices with the villagers.

Selecting the VHWs

In the literature on paraprofessionals, questions regarding the role of the community in VHW selection assume critical importance. It is generally held that paraprofessional performance is a function of the degree of community involvement in

the selection process. A strong community role in selection is linked with the acceptability of the paraprofessionals and the likelihood of community support for their activities. Local participation in the selection of VHWs is thought to foster community acceptance of responsibility for the maintenance, management and sustained operation of a community project.

Some practitioners sound a cautionary note on the role of community participation, however. They point out that what to the outsider appears to be "community participation" only masks the operation of elite control of the decision-making process. Experience has shown that the individual selected is often the relative of a village leader. When this is the case a reasonable fear of unequal distribution of project benefits is raised. Another concern which surfaces in the literature is that the person selected may not be respected by his or her fellow villagers, but was chosen because s/he was viewed as being the most dispensable member of the community. This problem arises most frequently when the selection process takes place during a period of peak labor demand.

Due to these and other possible distortions of the selection process, it is sometimes recommended that final authority for accepting a community's nominee be placed in the hands of project officials. In most cases, the candidate would be accepted, but if it should occur that an individual is obviously unfit for the task, the community would be asked to review their decision. The most obvious objection to the use of this strategy of screening is that it could result in the introduction and domination of biases of outside authorities. (In a later chapter it is shown that just such a bias did operate in some instances in regard to the selection of first-aid workers.) Nevertheless, a screening mechanism is advisable, as long as authorities keep uppermost in mind the fact that it is the community which must live with their VHWs and with whom the decision to retain or replace an individual ultimately resides.

The method of selection which was commonly used involved either one or a series of village meetings where candidates were nominated and discussed by the assemblage. The choice of VHWs was always presented as a collectively attained decision. However, it was not always clear how the candidate came to be nominated. Responses to this question varied among and within villages. In the case of the person chosen for the position of village midwife, it often appeared that women were asked to select someone of their number. In the Department of Nioro du Rip, this person was usually a traditional midwife who was no longer involved in child-bearing. Since project officials placed an emphasis on French literacy for the person to be trained as the first-aid

worker, the pool of eligible village members was severely restricted. In the case of the hygienist, it was clear in some villages that the young men's organization played an important role in supporting an individual from their group.

The First-Aid Worker

The methods and criteria of selection of the first-aid worker deserve special attention. This person tends to be viewed by program officials and villagers alike as the most important member of the village health team. He provides the most visible services and is expected to assume primary responsibility for the functioning of the local health program. Because of the emphasis placed on literacy in French, the first-aid worker is almost always the only literate member of the team. He is responsible for keeping records of visits and financial receipts, as well as monitoring the supply of medicine. Primarily due to the preference for French literacy, first-aid workers were often recruited from outside of the village in which they were to serve.

Although I was unable to verify the exact proportion, it would appear from my experiences that the majority of these workers are not native to their project village. Rather, they usually come from a large town in the arrondissement and, in some cases, from villages over 15 kms away from the village in which they serve.

When villagers were unable to produce one of their own members who fulfilled the literacy requirement, village leaders were forced to turn to outside authorities for assistance. In several instances, a person was recommended by the local health post chief. The person recommended would often be an educated youth who had worked at the health post. The village leaders would then interview the candidate and present their impressions to the village. Although the candidate usually came to the village prior to the final decision, in no case did I find evidence where the person was presented before an all-village meeting.

Two distinct issues surface from this discussion of the first-aid worker. The first issue is that of French literacy. The insertion of this criterion for selection was depicted by one high project official as sheer "social class favoritism." Over 90% of adult males residing in rural villages in Sine Saloum are not literate in French, although a substantial minority can both read and write the local language (Wolof) in Arabic script. Those young people who have acquired basic French language skills usually leave the village in search of employment opportunities.

A competing source of employment for educated youths within rural areas is offered by the local cooperatives. A certified Weigher for the cooperative earns

roughly 20,000 FCFA (\$100.00 U.S.) per month for a six to seven month period. Of the 30 villages for which I have information, there were at least four cases where the village member selected as the first-aid worker quit when a position as Weigher in another village became available.

The rate of turnover among literate VHWs is a serious problem for villagers and project officials alike. The experiences of a similar experimental rural health care project in another department of Sine Saloum tend indirectly to confirm the problem of employing literate VHWs. This project, jointly sponsored by the Senegalese and Dutch governments, did not encourage the selection of literate workers and the record to date would seem to justify this choice.

"Since their (the VHWs) recruitment in December 1977 until this date, November 1978, there have been no defections. One may think that this success is due to good sensitization but (it is also due) to the status of illiteracy of the majority of these agents which is a brake to their mobility. This is obviously not a reason not to promote literacy."¹

The second issue regarding the qualifications of VHWs and, in the Sine Saloum case, of first-aid workers in particular, is whether workers should be selected who do not reside in the project village. The history of the rural health care project in Niore du Rip provides an unambiguous negative response to this question.

First-aid workers recruited from outside the project village have in general proven to be more unstable (in terms of turnover) and more dissatisfied than workers drawn from within the village population. This is not to say that outsiders are less competent or that villagers necessarily disapprove of them. Rather, outsiders face certain limitations and have needs that are not shared or are not felt as intensely by their counterparts from the village.

First of all, the outsider has no other source of income and must live off his salary. The existing system of remuneration, however, is incapable of providing even a subsistence wage. As one VHW stated, "I can't even afford to buy soap and cigarettes with the amount I receive at the end of the month."

Second, few of the first-aid workers drawn from outside of the village have experience or are willing to work in agricultural production. In one village, the first-aid worker explained that he was approached by village leaders with an offer of a collective

¹Dr. Bert Hanekamp, Rapport sur le Project Senegalo-Hollandais de Developpement d'un Service de Sante de Base, (Fatick, Senegal, March 1979; translated by the author).

field which he could work with the assistance of villagers. He would be required, however, to supply the seed and other inputs and to organize the field himself. Lacking the knowledge as well as the capital to purchase inputs, he was forced to turn down an offer which was rarely made to VHWs in other villages.

Third, since he has no other form of employment, the outsider has virtually nothing to do during the day except sit in the health hut. Most of the first-aid workers receive only a few visits each day and thus the worker has only boredom for company.

Finally, the first-aid worker who is not native to the village is typically young and unmarried and quite eager to change this latter status. Marriage in Senegal, however, is usually a costly venture. In the rural areas of Sine Saloum, a prospective husband may expect to pay anywhere from 100,000 to 500,000 FCFA as bridewealth.

Thus the high level of motivation which the outsider brings to his new job gradually dissipates. The young outsider also feels the effects of being alone in a community where he has no relatives, few friends and a very restrained social life.

The Midwife

The role of the midwife in village health care activities is of crucial importance given the intolerably high level of infant mortality in rural areas.

Improved mother and child health, the early detection and referral of potentially difficult deliveries, upgraded delivery practices in non-dangerous cases, and enhanced understanding of child nutrition and personal hygiene were all included among the objectives to be achieved with the assistance of a trained midwife. The type of person who may best meet these objectives is a highly controversial topic among practitioners. No formal qualifications regarding age, marital status or experience were established by project officials, although emphasis was given to the selection of traditional birth attendants. In the case of the Department of Nioro du Rip, three-fourths of the women chosen were, in fact, traditional midwives past their child-bearing years. Discussions with village women indicated that the village midwife was generally well-respected by the community.

However, the relatively greater acceptability of a traditional birth attendant as compared to a younger woman does not necessarily mean that the former is always the more desirable choice. Some practitioners argue that an older woman tends to be more "tradition-bound" and less eager to accept new practices than would be a younger woman. A second criticism leveled against the selection of an older rather than a younger woman involves the question of relative cost-effectiveness. Training costs, it

is asserted, could be spread over a longer time period in the case of the younger trainee. This critique assumes that the trainee will continue to perform her tasks throughout her active life time. The tenability of this assumption is problematic, however, given the virilocal residence patterns among the Wolof, the extremely demanding labor requirements of women with children, and other factors such as migration, illness, etc.

My observations indicate that neither of these considerations obviates the advantages of upgrading the knowledge and skills of a well-respected and active traditional birth attendant. Interviews with women of child-bearing age reflected a distinct preference for assistance during pregnancy provided by a mature woman who had already given birth to her own children. Other merits associated with the selection of a traditional birth attendant are that she is already identified as a person possessing skill in this area and that there is an existing system of reciprocity established between midwife and patient.

The Hygienist

The methods of selection and qualifications for the position of hygienist are the least problematic of the three. Although selection by the young men's traditional organization may be preferred, it is not essential for the worker's ability to perform his tasks as long as the person selected is respected by the community. Villagers in the Department of Nioro du Rip tended to choose young men between the ages of 22 and 35 who were married and full-time cultivators. I was unable to detect any preference in selection for members of a village's ruling families. Those hygienists who were interviewed unanimously stated that it was an honor for them to be selected by the village, and that village members were generally willing to accept their advice and to participate in efforts to improve the quality of environmental sanitation in the villages.

Training

The issues which emerge upon consideration of the third policy variable include: the location, duration and cost of training; whether sessions are held prior to service and whether there are provisions for continuing in-service training; and the methods and content of instruction. As has been mentioned, health post personnel (the Chefs de Poste) received special training to prepare them better to perform the task of communicating health care concepts and practices to village members designated by their communities. Special manuals (Aide Memoire) were prepared for each VHW role

and were fully incorporated in the training program. These manuals, created by technical personnel with the collaboration of a group of Chefs de Poste, are particularly impressive for the clarity of presentation of complex ideas. Emphasis is given to the visual communication of health issues and practices through a multitude of easily comprehended drawings based on everyday experiences of rural people. Explanations in French and in Wolof accompany the illustrations. The VHWs with whom I spoke were unanimous in their praise of the manuals. These materials serve as both a symbol of competence and a practical source of information for health workers.

Village health workers received their training at the secondary health facility—health post or rural maternity—nearest their home village. For most of the trainees, this facility was located in a town with which they were familiar. In many cases, health workers were able to take up residence with a friend or relative in the town. Some VHWs, however, either walked back and forth to the training facility each day, or were obliged to rent a lodging.

Project officials allocated funds to remunerate trainees during this period. This small maintenance wage (approximately \$1.50 per day) was justified on the grounds that the dislocation necessitated during the training period required out-of-pocket expenses for the students. The sum was not always adequate to cover the minimal expenses of the students, however, and some individuals were forced to expend their own scant cash resources or to borrow money from a relative. Nevertheless, I was not informed of any case in which a villager chosen for training was unable to attend due to the attendant costs, nor do I have information to the effect that village members compensated VHWs for costs incurred during training.

Although the duration of training varied among Rural Communities, the average period for first-aid workers was one month. Midwives generally received two months of training—the first month in the health post and the second at the nearest rural maternity. Hygienists received two to three weeks of practical training. VHWs were generally satisfied with the quality of instruction they received. Indeed, most of the health workers with whom I spoke were eager to undertake additional training. In some cases, this interest in training was motivated by a desire to move into a more permanent and better paid job. Yet many VHWs, especially midwives, were interested not because of a desire for job mobility but because of a commitment to improving the skills which they could offer to the members of the village. In-service training is to be provided on a yearly basis at the local health post. Supervisory visits by health post personnel offer an additional means of sharing technical information with VHWs.

The content of training reflected the project's emphasis on preventive health care practices, health education and promotion as well as curative medicine. The importance of aiding villagers to understand health care concepts and practices, rather than merely treating illnesses, was emphasized in training materials. The content of instruction was tailored to the specific task areas of each VHW. Thus, hygienists were instructed in the methods and issues involved in constructing latrines, wells, showers, etc. Lessons on disease causation and transmission, personal hygiene and environmental sanitation were an integral part of this worker's training. Midwives and first-aid workers received both theoretic and practical training. Students were integrated into the day-to-day activities of the health post and rural maternity.

The guiding principle underlying the methods and content of instruction was that training should be oriented to the realities of the village milieu in which VHWs would be working. The village health workers were to be provided with the knowledge and practical competencies which would be most useful to them in aiding and educating their fellow villagers. Most of the VHWs interviewed responded that their training had prepared them adequately to address the majority of health problems with which they were confronted. That is, first-aid workers generally were content with their ability to diagnose most illnesses; midwives expressed satisfaction with their improved ability to detect potentially dangerous birth situations and with their expanded understanding of delivery procedures, child nutrition and hygiene; and hygienists affirmed confidence in their technical skills regarding environmental hygiene, while attesting to a much enhanced understanding of disease causation and prevention.

Technical knowledge was held to be adequate. However, many VHWs stated that their ability to treat illnesses and perform health care tasks was limited by the lack of "proper" supplies. Some midwives, for example, complained that they were not given gloves to perform pelvic examinations or to wear during delivery. During training at the rural maternity, the use of gloves by the local staff had apparently greatly impressed these VHWs. The use of such "supplies" at the village level may not be desirable at present, due to cost, availability, and need. Rather, it would be more appropriate to stress the crucial importance of cleanliness and personal hygiene. Soap and water, after all, serve essentially the same purpose as disposable gloves and the former have the advantages of great accessibility, effectiveness, simplicity, and less cost.

On Compensation

The compensation of paraprofessionals is a major issue in programs using village members to provide services. Further complexity is added when the paraprofessionals devote only a limited but not fixed amount of time to their tasks. If paraprofessionals are to be paid, the following questions must be resolved: Who pays - the state, the community or the individual user of services? How much? In what form? The Sine Saloum project left these matters open to resolution at the local level.

In the early stages of project planning a formal system of compensation for the VHWs was not deemed necessary. Discussions with villagers and authorities indicated that the matter of remuneration would be best left in the hands of village members. Similarly, the community would be responsible for ensuring that adequate funds were collected to resupply the stock of medicines. As the project was being implemented, however, it became obvious that many VHWs expected to receive formal compensation for their services. Rural councilors and government functionaries also came to favor a system of uniform compensation on the premise that although this was a community effort, the VHWs were providing services which merited formal compensation. Thus, a uniform formula was established whereby the needs of ensuring continued supplies of medicine and remunerating VHWs would be met. The formula, as mentioned earlier, called for a 50 FCFA fee for the first visit and a 25 FCFA fee for subsequent visits for the same ailment. The midwife's fee was set at 1000 FCFA. Total receipts were to be divided according to 60% for salaries (each health worker receiving an equal share), 35% for medicine and 5% for maintenance of the hut.

This decision formally elevated the community member selected as a VHW to the status of a paid worker while removing control over the setting of fees and wages from the village. The consequences of this action have been manifold.

First of all, the expectations of VHWs in regard to cash income have become unrealistically inflated, given the means at the disposal of the community and the need to keep the cost of services within reach of all members of the village. While the importance of compensating health workers for their contributions to the collective well-being of the village cannot be denied, the decision to require cash compensation unduly limits the options available for the creation of an acceptable system of reciprocity. The intention of a village-based health care program is to enhance the capabilities of rural people to improve their health status, not to create profitable employment positions for a few people at the cost of the whole community.

A second consequence has been to foster the notion among villagers that this is really a government project and not a program for which they are truly responsible. As was stated earlier, the objectives, requirements and operating principles of the health care project were rarely clearly explained to all village members. Although village leaders may have had adequate information about the project, they often failed to communicate this information throughout the village. The imposition of a fee and compensation formula by outside authorities tended to reinforce feelings of external control while denying to the community the insight and understanding which would have resulted from an attempt on their part to formulate their own system.

Third, the existing fee system does not reflect the cost of the supplies used for treatment. Thus, the cost incurred for treating a headache is the same as that for more serious ailments. Some villagers complained that they must pay 50 FCFA for a few aspirin when they can buy 20 of them at the local market for the same price.

A fourth effect of the decision to establish a uniform and formal system of fees and compensation has been to limit the realm of possibilities perceived by village members in attempting to resolve the problems besetting the operation of the project. Although village leaders are well aware of the fact that the level of compensation allowed by available receipts is not sufficient to meet the expectations of their VHWs, not once was the suggestion to reorganize the existing fee and compensation base proposed as a solution during our discussions.

In all fairness, it must be emphasized that the question of compensation is not easily resolved. The system established by the Departmental Council does assure uniform policies across villages and has the additional virtue of ensuring that the hygienist is granted the importance that his particular contributions merit. Nevertheless, the current system has proven to be untenable in several instances and should be reconsidered.

Two alternatives have been advanced by project officials: the creation of a "users club," and village-wide contributions. The first option should be discouraged on the grounds that it would tend to limit participation to only those members who were economically capable of "joining the system." This would be in direct contradiction of project objectives. The second option is worth pursuing. In most of the villages for which I have information, the collection of contributions from village members for a community project is well established. This has become a common method of realizing village needs such as the digging of wells, or construction of a public building (e.g. a school or mosque). Village members must be clear, however, as to how much of their

contribution is for resupplying the medicine chest and how much is to reciprocate the workers for the latter's aid.

Nor should contributions be limited to cash sums. From the outset some project officials have been encouraging compensation in kind or the contribution of labor to a collective field. Non-cash alternatives are especially important since, in Wolof society, women bear the cost of health care. Although women usually have small plots of their own, they are rarely able to realize enough income to meet their needs for food items, e.g. spices and relish, clothes, and other essential goods, and retain any significant sum for other purposes.

The fee of 1000 FCFA (which becomes part of total health hut receipts) that the midwife is obliged to charge for her services under the existing system imposes a special burden on pregnant women who request assistance. The movement from a locally determined system of reciprocity to a cash fee-for-service may result in non-payment or more importantly, in barring some women from access to medical services. Rather than reciprocating the aid of the midwife by giving grain or a chicken or by performing certain tasks, a pregnant woman is usually forced to ask her husband for money. Interviews with husbands often revealed an unwillingness to pay what they considered an exorbitant sum. Given the extensiveness of polygamy among rural Wolof families and considering the very limited cash resources available to the average farmer in this area, the husband's attitude may be based on a legitimate concern.

The negative consequences of a cash fee on the access of poor women to health services were made forcefully clear in a village in the Rural Community of N'Drame Escale. The midwife is roughly 45 years of age, married and is a traditional birth attendant. She has had several years of experience working at the local health post and rural maternity. In addition to substantial practical experience, the midwife received three months of training by licensed midwives and nurses at the department-level health facility.

This woman is recognized for her practical competence and technical skill by village women. Yet, since the opening of the village health hut and the initiation of the fee-for-service system, she had been asked to assist at births only twice. When asked the specific reasons that individual women held for not consulting her, she noted a general problem facing all women, namely the lack of cash. This problem is particularly acute during the period before the commercialization of peanuts which usually begins in late December.

Non-payment of the fee required for the midwife's services is also a common problem. In one village in the Rural Community of Medina Sabakh, payment was received in only four of the fourteen deliveries assisted by the midwife. Not only does non-payment threaten the economic viability of the established system, it may also create tension between the midwife who has been told to collect this fee and the patient who is unwilling or unable to pay. The mother may hesitate to call upon the midwife regarding health problems of the infant and the midwife may be discouraged from providing follow-up services such as nutrition education.

A related problem occurs when non-payment of the cash fee is extended into non-reciprocation in the traditionally accepted manner. Although I lack sufficient data to state that this has become a generalized phenomenon, there have been indications that the fee-for-service system may be disrupting the traditional basis of reciprocity without providing an acceptable alternative.

As to the organization of collective fields as a means of ensuring the remuneration of health workers, my observations and the results of other studies indicate that this is not always a particularly effective option. Of the active villages that I visited, only in one case did villagers offer to provide labor for such an undertaking. Although collective labor organizations do exist in Wolof tradition, the purpose for their formation and the constitution of the groups may not be in accord with the need of remunerating VHWs.²

Work groups are composed of specific segments of the village population (e.g. young men or unmarried women) and engage in collective action for defined purposes such as accumulating money for festive occasions, to assist young men in paying bridewealth, as security, and for immediate needs. Rarely does the entire village collaborate in the organization of a collective field. The only instances of this which I personally verified, were for projects related to religious purposes, such as the construction of a mosque or gifts to a particularly well-respected religious leader.

Even if the members of a village had enough time and were willing to take on another collective field for health care activities, experience has demonstrated that such collective undertakings are usually less productive than private fields.

² For a more detailed analysis of "traditional" work groups, see L. E. Venema, The Wolof of Saloum: Social Structure and Rural Development in Senegal, (Wageningen: Centre for Agricultural Publishing and Documentation, 1978; see especially chapter 14); and Jean Copans, "Les Travaux collectifs sur les champs maraboutiques: YASSYMISSIRAH" in Copans et al., Maintenance Sociale et Changement Economique au Senegal, Vol. I. (Paris: O.R.S.T.O.M., 1972).

Furthermore, it is unlikely that villagers would be willing to continue this activity over a period of several years unless the project is seen as truly a community affair.

The idea of promoting collective fields should not be dropped from consideration, however. Rather, project officials should be aware of the limitations of this alternative before deciding to encourage its acceptance as the basis of a system of compensation. Related options, such as contributing one day's labor to the private fields of the VHWs should also be discussed by members of active villages.

Chapter VI PROJECT OPERATION AND PARAPROFESSIONAL PERFORMANCE

Large-scale rural development efforts may be expected to provide a complex melange of clear accomplishments, dramatic failures and subtle problems. The causal forces and influencing factors tend to be equally complex. The Sine Saloum Rural Health Care Project is no exception. Some of the factors which affected negatively the implementation of the project, such as inadequate sensitization of village members and the rather ambitious scope of the undertaking, continued to influence the project once it was underway. Similarly, issues such as the literacy requirement for first-aid workers, the special problems of the non-resident VHW, and the problematic compensation situation retained their importance throughout the project cycle.

In the sections that follow, an attempt will be made to single out those factors which appeared to have the greatest influence upon the performance of VHWs, the types of tasks which they were willing to undertake or tended to emphasize, and the response and cooperation they received from village members. Special emphasis will be given to the crucial issues of service mix (curative, preventive, educational and promotional) and support and supervision.

VHW Activities

The respective tasks of each of the VHWs have been presented in a previous chapter. The actual activities of the workers closely reflect this list in most cases. Although there is a broad range in the amount of time spent and the particular emphasis given to specific activities among VHWs, the general level of performance is impressive. In those villages which still had active programs, the workers remained committed to their new tasks despite the fact that they often voiced concern about the lack of adequate compensation.

The health workers were encouraged to work as a team, to inform the other workers of each one's activities, and to coordinate special projects. This dimension of team work appeared to be closely tied to the level of performance and motivation in the villages that I visited. In those villages where the workers were in frequent contact and collaborated on activities, there tended to be more visible accomplishments and village members were more supportive and positive in their attitudes toward the project. This was often the case when all three VHWs were from the village.

An especially cooperative relationship tended to exist between the first-aid worker and the hygienist. These two workers often reinforced each other's attempts to communicate the importance of environmental and personal hygiene to villagers. The first task of the hygienist was often to perform a census of sanitary facilities in the village. He would report back to the first-aid worker the number of latrines, showers, and cooking area fire guards. The two of them would then work out a program to encourage heads of compounds to improve their facilities. The midwife often tended to be less closely attached to the activities of the other members of the team. This was due in part, no doubt, to the fact that she was usually much older than the others. An additional factor is that her role is relatively narrowly defined inasmuch as she deals primarily with women of child-bearing age.

The time commitment required of VHWs in the performance of their tasks usually did not exceed one or two hours per day. The services of the first-aid worker tended to be in greater demand than were those of the other workers. VHWs usually did not keep established hours, although the first-aid workers in one Rural Community had been requested to open the health hut on a fixed schedule. Since the workers could be found in or around the village at almost any given time, they were able to assist village members when requested while planning special activities according to their own time constraints.

Two Illustrative Cases

In the descriptions that follow, no attempt has been made to provide a detailed picture of village life. Rather, only those aspects of the local milieu which are directly relevant to the functioning of the village health care effort are presented. These two cases are representative of the range of villages which I visited and have been selected so as to highlight the effects of particular factors such as paraprofessional background and supervision on project operation. Both villages are located in the western part of the Department of Nioro du Rip.

Village A is comprised of close to 30 compounds with a total village population of approximately 370 inhabitants. The village lies along a path connecting two important market towns, each about seven kms. from the village.

When the rural health care project was introduced in this area, the village leadership and village members eagerly agreed to participate. A health hut was constructed of local materials, supplemented by 10,000 FCFA (\$50 U.S.) for cement for

the floor. Village members agreed to pool their resources for metal roofing. The villagers selected three of their members to undergo training as village health workers.

The person selected as the first-aid worker later declined the position and took a job as Weigher for a cooperative in a neighboring village. No other village member was literate in French. Another candidate was recommended by the local Chef de Poste and was interviewed by village leaders. Village members agreed to accept the youth in a village-wide meeting, and he underwent training with the other seven first-aid workers of the Rural Community. The woman chosen as midwife was a traditional birth attendant. The hygienist died during winter and had not been replaced at the time of my research. Village leaders affirmed that they would recruit another village member sometime after harvest.

The first-aid worker, a young man of 26, had been living in the market town which served as the administrative seat of the rural community for the last three years. Prior to this time, he lived in Dakar and St. Louis. After his training, he moved to Village A where he slept in the health hut and took his meals in the compound of a village leader. He had no source of income other than what he received from his work with the health care project.

From our discussions, it was clear that he accepted the job as a means of supporting himself. He stated that he had initially planned to work for one year, by which time it would be clear whether the salary would be sufficient to merit his staying. A satisfactory level of pay was fixed at 10-20,000 FCFA per month.

This expectation was quickly squashed, however. The first-aid worker and the midwife each received 780 FCFA the first month, and had received nothing since that time. Total receipts for the first four months were 4,150 FCFA, or 1,245 FCFA for each VHW. The health hut was visited by an average of three patients per day for the four month period. The midwife assisted with the delivery of a child for the first time since her selection shortly before I left the area. Neither of these workers had attempted actively to promote preventive health care activities.

From discussions with the present Chef de Poste of this Rural Community, it was clear that he placed primary emphasis on curative health care. When the first-aid worker offered to assume the responsibilities of the hygienist in the village, the Chef de Poste responded negatively, in saying that "the project" calls for three workers. This refusal to alter the organization of the project was made without consideration of the difficulty of supporting three workers by this small community or of any compelling need for a separate person for environmental sanitation activities. Only two

supervisory visits had been conducted by the Chef de Poste during the five months since the health hut opened.

Some village members were beginning to lose interest in health care activities, according to the first-aid worker, due to the inadequate variety of medicines of which he disposed and the implications of this for the range of treatments he could provide. Conversations with villagers tended to confirm this estimation. It was also said that the first-aid worker was frequently sick or away from the village.

Due to the lack of emphasis on preventive health care practices, the value of the project in the eyes of many villagers had become directly linked to the provision of curative services. When I left this community, the first-aid worker had decided to quit his job. Village leaders were not optimistic about the possibility of finding another VHW who would be willing to stay unless the problems with financing were resolved. No solution had yet been proposed.

In summary, Village A was sufficiently distant (7 km.) from the nearest secondary health facility to justify the payment of a small fee. The size of the community was not adequate, however, to generate a level of receipts which could satisfy the earning expectations of the otherwise unemployed first-aid worker. The curative health care emphasis of the Chef de Poste, and his literal position on interpretation of the project, did little to encourage the promotion of preventive health care practices by VHWs. The midwife, although dissatisfied with the amount of compensation, was not dependent on the earnings from her position and planned to continue to offer her services.

The situation in Village B was markedly different from that in Village A, despite the fact that both villages experienced difficulties in compensating the VHWs. Village B was located 6 kms. from the health post and was roughly twice the size of Village A. All three VHWs were from the village and were actively involved in agriculture. The village health worker was 27 years of age, married and had one child. The hygienist was in his twenties and also had a family. The midwife was no longer of child-bearing age but was involved with family responsibilities as well as cultivating her own fields.

The first-aid worker initially received an average of two to three visits a day. Requests for his assistance were increasing over time. The health team held general meetings with village members to discuss matters of environmental and personal hygiene and disease prevention. The hygienist visited each compound to check on health problems and to speak with people on an individual level. He regularly discussed his activities and observations with the first-aid worker. From August 1979 to December 1979, 17 latrines had been constructed and more were planned for

construction after the peanuts had been harvested. The midwife had assisted at 11 births and had talked with new mothers about infant nutrition and personal hygiene.

The health workers were highly motivated and generally enjoyed their new tasks. They affirmed that the community was supportive of their efforts and that villagers responded favorably to their suggestions. However, three problems were identified as being of concern to both VHWs and village members. The first problem that the VHWs mentioned was that there were insufficient medicines to meet the health needs of the community. When the matter was pursued in discussion, it became clear that two factors were involved. Some villagers were dissatisfied because of the lack of treatment possibilities. That is, their complaint was more a question of quantity than of quality. The other element was a general feeling of inadequacy of medicinal supplies, as voiced by the first-aid worker, and concerned specific drugs, some of which were considered by high-level project officials to be of dubious medical value. Other medicines requested by the first-aid worker were held to be inappropriate for use by unsupervised paraprofessionals.

The second problem voiced by the VHWs in Village B was that compensation was inadequate considering the amount of time their tasks required. The first-aid worker in particular charged that he was behind with his field work and that he had yet to receive any compensation for his efforts. Receipts from the past four months would allow approximately 600 FCFA per month for each VHW. The President of the Comité de Gestion (which is responsible for distributing health hut funds) stated that he was waiting for a visit from the authorities before he would pay the VHWs. Nevertheless, none of the VHWs in this village were considering to quit their new tasks in the near future.

Finally, the VHWs expressed a desire for more regular supervision. They felt that the visits made by MOH personnel were beneficial for several reasons. The presence of an outsider tended to increase the interest of villagers in health care activities. The supervisor could discuss problems with the VHWs and give them technical information on cases which exceeded their knowledge. Supervisory visits also tended to enhance the legitimacy accorded to VHWs by villagers. The first-aid worker explained that the village chief would come to the health hut, speak with the supervisor, and listen to him explain health issues to the VHWs. The chief would then discuss the day's activities with the other villagers.

During the five months of project operation, the VHWs of Village B received fewer than one supervisory visit per month. The "supervisor" referred to above was

usually the department-level MOH official who would stop at the village on his way to one of the health posts in his jurisdiction. The local MOH employee responsible for supervision did not have transportation and visited the health hut only in the early stages of the project.

To what may be attributed the marked difference in VHW activities, motivation, and accomplishments between Village A and B? Observations indicate that the fact that all three workers in Village B were from the village and had both family and occupational responsibilities there was a major factor. Whereas the first-aid worker in Village A had only his job to occupy his time and to satisfy his needs, the tasks and benefits of being a VHW were only one part of the lives of the health team in Village B. Secondly, the absence of a hygienist in Village A left a major gap in the functioning of the health team. Since the team concept is an integral part of the system established in the village, and since the tasks of each VHW are strictly defined, the absence of one member can impair substantially the activities of the other team members. The promotion and education components of the hygienist's environmental sanitation activities provide a basis for and catalyst to related preventive health care efforts by the first-aid worker and midwife. Without this catalyst, there appears to be a tendency to emphasize only curative services. Finally, the relatively more frequent visits by MOH personnel served to boost the motivation of the workers in Village B.

The Problem of VHW Turnover

It may be of interest to view the experiences of Village A and B from the perspective of the administrative territory in which they find themselves. The Rural Community in which both are located is smaller in population and area than the average for the department. Its population of 6,247 inhabitants (1976 estimate) is concentrated in 22 villages. Eight villages were approved by the Rural Council to participate in the health care project. According to the plan, 20 villages would have been within the sphere of action of these health huts. Of these, one health hut never opened because the first-aid worker dropped the position shortly after the completion of training.

At the time of my departure, i.e. six months after the huts had received their stock of medicine and the VHWs had taken up their tasks, two huts were at the point of closing and a third was expected to follow soon after. The reason given in all cases was that the first-aid worker had decided to leave due to inadequate pay, insufficient stock, or too little business to maintain interest. Of the original eight villages, five of the first-aid workers were recruited from outside the village. Of this group four had already

ceased their activities or were considering to do so within a short time. The fifth "outsider" had participated in an earlier health program and had thus been involved in village health care activities over the last three years. He stated that he was extremely discouraged (due to the lack of adequate pay) but would stay on, in hopes that the situation would improve as the other health huts closed down.

The departure of the first-aid worker need not signify the abandonment of the project as a whole. Members of some villages have moved expeditiously to replace a VHW when needed. In most of the cases where this has happened and of which I have information, the replacement tended to be another outsider. The problem of high turnover by members of this group is not resolved by this type of replace action.

It is also possible for the other VHWs to continue performing their tasks, even with the absence of the first-aid worker. However, due to the central role played by the first-aid man in team activities, and in service delivery from the perspective of the village as a whole, it is unlikely that the other VHWs will be able to maintain their motivation and the community's interest. This problem is exacerbated by the rigid task definition provided for each role. There is very little overlapping of functions or of training and thus, when one role is not being performed, an entire dimension of health care activities is left undone.

Concern over the long-term effectiveness of using non-native workers has prompted project officials to reconsider the qualifications required for this position. At the time of the termination of this study a proposal to replace VHWs who were not residents of the project village and to establish new criteria for selection of first-aid workers was under discussion. The following categories of individuals would be excluded from the position, according to this proposal:

1. young men under 30 years of age;
2. unmarried men and those without children;
3. merchants, unemployed persons, etc. Only active cultivators would be considered.

Acceptance of these criteria would have the effect of reinstating community control over the health team, control that was weakened when an outsider recommended by public authorities was selected to head the community health care operation. The other major consequence of this proposed revision of qualifications would be to enhance the likelihood of sustained performance by the first-aid worker, since the criteria would tend to select out the more mobile elements of the rural population.

The Curative-Preventive Dilemma

From the outset, project planners were cognizant of the fact that the health status of rural people could not be improved solely through the extension of curative services. Preventive health care practices were given special emphasis in the designation of VHW task areas and in the training program. A concerted effort was made to limit the number of medicines made available at the local health hut to a list which would be capable of responding to the most common ailments. No symptomatic medicines or expensive specialty drugs were included in the list. The austerity concept in basic medicines was followed so as to avoid overburdening the financial resources of rural families by the sale of expensive medicines, while demonstrating to village members that a limited number of medicines could effectively meet most common health care needs.

The medicines and supplies provided to the village health huts included: aspirin, chloroquine, aureomycin dermic and ophthalmic, antiscabies (ascabiol), iron gluconate, piperazine, rehydration powder, gauze and bandages. Alcohol, scissors and tweezers were also made available.

The supply of medicines was held to be inadequate by many villagers and VHWs. A commonly voiced complaint was that VHWs could not give shots, a form of "treatment" which many villagers consider to be highly desirable. Other villagers stated that they always received the same medicine when they visited the health hut. Some MOH employees declared that the medicinal stock did not reflect local needs. During a training session for Chefs de Poste which I attended, a heated debate was sparked by a reference to the purpose behind a uniform list of basic medicines. Many of the participants in the debate vocally disapproved of the alleged inadequacy of this list. One regional MOH official voiced indignation over what he considered to be the elitist and paternalistic bias behind drug selection. He specifically mentioned the lack of an anti-diarrheal, a medicine which is commonly administered to children in wealthy urban areas. Although such medicines may halt the symptoms of diarrhea, they are considered to have little curative value by most international public health specialists.

Whether this list was, indeed, adequate for the purposes for which it was devised cannot be decided here. The key point which emerges from this debate, is that villagers and some health officials are likely to encourage the expansion of curative services. This tendency should be actively countered by project officials. The objective of the village health care system is not to increase attitudes of drug dependency nor is it to accelerate the process of socialization of rural people into the (medical) drug culture.

An associated problem involves the lack of a sound nutrition education component in the service mix provided by the village health workers. The exceptionally high levels of morbidity and mortality among infants and young children in rural areas are clearly related to nutritional deficiencies, often in combination with infection. Although the relationship of nutrition to health was mentioned in the health manuals and in the training program, it was not a central component of the activities of any of the VHWs.

Discussions with midwives revealed a certain hesitancy in providing nutrition information. Two factors emerged from our conversations and from observation which influenced the attitudes and actions of midwives. First, in several cases midwives stated that they were waiting for the delivery of sacks of fortified flour which had been promised to them by local health personnel. This dietary supplement is provided free of charge, or at very low cost, as part of a Ministry of Health nutrition program. The formal purpose of the specially prepared flour is to supplement the dietary intake of high risk groups, especially infants during and after weaning. In practice, the flour is often used to entice women to participate in nutrition education programs.

The fact that some midwives were waiting for the flour during a time of local foodstuff abundance indicated either a general misunderstanding of the tremendous nutritive value of local foodstuffs, such as groundnuts, or the early signs of a debilitating dependence on external resources (flour supplement) for their symbolic "power". Regardless of the intent of providing a dietary supplement, it would seem to be a low priority measure for this region in general and especially during the period after food crops have been harvested.

The second factor that may have influenced the underemphasis of nutrition education involves the issue of role expansion. This is especially pertinent in the case of the traditional midwife whose role is expanded or redefined by the project intervention and through formal training. Performing the role of traditional birth attendant is much more than just providing a service. A role performer is a social mediator. The traditional midwife is privy to a specialized store of knowledge, as well as to the norms, values and attitudes which correspond to the role. Her conduct and comportment are subject to the monitoring of other social actors, since the standards for role performance are part of the common stock of social knowledge. By expanding the role, the applicability of these intersubjectively agreed upon norms and expectations are thrown into question. New standards must be evolved, and the tendency would seem to be to include standards of performance drawn from the roles of "professionals."

Thus, the first-aid worker may wear a white smock when receiving patients or the hygienist may act in an officious manner while "inspecting" the sanitary conditions of a neighbor's compound. But in the two cases above, these actors are performing roles which are distinct from their previous positions as cultivator or student. The midwife, on the other hand, is caught fully in the ambiguity of role redefinition. Her comportment (behavior, dress, etc.) usually remains the same as before her selection and training. Now, however, she is expected to perform new duties (e.g. nutrition education) and to charge a cash fee for her assistance.

Her willingness to perform new tasks is dependent upon the amount of support she receives from the community. If village women express interest in learning of ways to improve the health of their infants, the newly trained traditional practitioner will be less reluctant to expand her former activities. Such an interest on the part of village women may be stimulated by the activities and encouragement of the other members of the health team and by supervisory personnel.

The preference demonstrated by many villagers for curative over preventive health care practices is a serious issue and should be addressed through all means possible, including local radio programs. As to the acceptance of preventive health care practices by village members, it was evident that those innovations which conferred status or prestige to innovators were the most readily accepted. Thus, the construction of latrines was eagerly pursued by many heads of compound, whereas the construction of a fireguard for the cooking area was rarely taken up. Similarly, several first-aid workers indicated that village members were not inclined to take anti-malarials until after they had become ill. Nevertheless, it was clear from my conversations with VHWs and village members that important progress has been made in many active villages. Although some ideas had not been put immediately into practice, village members were usually willing to participate in sessions held by their VHWs and often requested information on specific problems.

The Supportive Role of Supervision

Health post personnel were assigned the task of supervising the VHWs and health hut activities in their Rural Community. Each active village was to be visited at least once a month. The initial conception was that an "itinerant worker" would be selected from among the health-post staff. This person would ideally be a graduate of the Khombole School of Public Sanitation, the facilities and curriculum of which have been improved as part of the Sine Saloum health care project. The itinerant worker was to

be supplied with a horse and cart to facilitate travel to remote villages while allowing for the transportation of medicinal stock to local health huts. The upkeep of the horse was to be provided through contributions from the Rural Community.

Despite the care taken by planners to establish a system of supervision and support that would overcome logistical obstacles while providing competent personnel to carry out these functions, this system was largely inoperative in the Department of Nioro du Rip. Few health posts were fully staffed. The Khombole graduates had yet to be assigned to each health post, and in some cases this sanitary agent had been brought in to replace a departing Chef de Poste rather than to augment existing local medical capabilities. Thus, supervision largely became the responsibility of the Chef de Poste.

The most serious obstacle to the efficient functioning of the system of supervision was not simply insufficient manpower. Rather, the majority of supervisors (i.e. Chefs de Poste) affirmed that the lack of adequate transportation prevented them from visiting the active villages in their jurisdiction. Horses had yet to be supplied to health post personnel six months after the activation of VHWs in the Department of Nioro du Rip. Supervisors were dependent upon the cooperation of local authorities who had access to a vehicle, this being in most cases the Sub-Prefect and the head of the local branch of the technical services organization.

Even the provision of horses, however, may not increase the regularity and frequency of supervisory visits in some Rural Communities. Although all of the Chefs de Poste interviewed accepted the importance of regular supervision and expressed willingness to perform the task, there was general consensus that the established system was unworkable. The reason most frequently advanced was that this mode of transportation was too slow and would require an inordinate amount of time away from duties at the health post. In some instances, the distances involved and the location of the active villages one from the other are such that the supervisor would have to make at least six separate journeys to reach each on a monthly basis. The weight of the sturdy steel-frame cart and the intense heat of mid-day further limit the range of each trip.

The tasks of supply and supervision will undoubtedly prove more difficult to overcome in the sparsely populated eastern section of the region (Department of Kaffrine) and in the western part of the Department of Foundiougne. From discussions with local health officials it would appear that the horse-cart is an appropriate form of transportation only in smaller territories. It should be emphasized that "appropriate" in this case is not solely a technical consideration. Some health post personnel made it

quite clear that the horse-cart was acceptable neither in status terms nor in terms of comfort and convenience.

A strong desire and need for supervision was expressed by many of the VHWs with whom I came in contact. Supervision was viewed as a means of maintaining contact with members of the health administration, as a source of technical assistance and problem-solving, and most importantly as a mechanism for enhancing the legitimacy of VHWs in the eyes of villagers and for encouraging the latter to take an active role in health care activities. Furthermore, the degree of initiative and flexibility assumed by the local MOH employee can have a marked affect on paraprofessional performance and on the relative emphasis given to specific health care activities.

The legitimating function of supervision was forcefully presented in a discussion with a respected young village leader. According to him there were two groups of people in the village: those who were concerned about health care, the cleanliness of the village, and the means of disease prevention; and those who were unaware of even the basic ideas of health care and of the relationship between cleanliness and good health. The majority of village members fell into the first group, but even some of these people were hesitant to accept new ideas advanced by VHWs.

To underscore the problem of VHW acceptance, this villager recited a Wolof proverb: "A fish lives in water. All the other fish know this. He can do anything, go anywhere. But he is always in water." The man then explained the meaning of the proverb by relating it to the case of the village midwife. The villagers have known this person for many years. She goes away from the village to receive training for a short time, and then returns to work in the village. Everyone knew her before. Everyone knows her now. Could a few weeks outside have changed her so much?

To overcome these questions of the legitimacy of the recently (and briefly) trained villager member, this man said that it was necessary to have an outsider come to work with the VHWs. Furthermore, he stated, it should be done openly so that the villagers could see the VHW discussing issues and receiving information. Gradually, he concluded, this would build confidence among the villagers.

Regular supervision is also important in maintaining the morale and motivation of VHWs. Since formal compensation is limited, visits from outside authorities assume an important role in enhancing the status rewards of VWH service. The relatively isolated VHWs come to feel that they are part of a larger effort. The special problems which they confront in the performance of their tasks may be discussed with an outsider and information needed for problem-resolution may be obtained.

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Chapter VII
EXPANDING THE PARTICIPATORY BASE

The special importance attached to the promotion of preventive health care practices, and the fact that the village is largely limited to internally generated forms of financial support, act together to accord responsibility for the long-term success of the project to the quality of community participation. The areas of participation referred to in preceding sections include community involvement in building the health hut, in selecting the VHWs and in performing certain tasks such as the construction of latrines and clearing overgrown areas in the village. In few of the villages was there evidence of collective involvement in ongoing village health care activities. Rather, the character of relations existing between the local health care project and villagers, and between village members and VHWs, was highly individualized. Responsibility for the management and long-term operation of the local effort was left in the hands of the VHWs (especially with the first-aid worker) and village leaders. As was mentioned in another chapter, there was a tendency among some village leaders to transfer responsibility for the resolution of problems to outside authorities.

The village health worker approach to rural health care relies heavily on community involvement, initiative and management. It would appear naive to assume that these aspects of community participation would emerge automatically with the construction of a health hut and the training of three health workers. Yet it was not uncommon to hear project officials attribute the success or failure of a particular village effort to the presence or absence of "will" on the part of village members.

The quality of will, however, does not exist independently. Rather, there is a dialectical relationship between will and potential. This latter quality has both a subjective and an objective dimension. Village members individually and collectively must perceive that they have the potential to transform their environment, to alter existing situations. This requires that villagers understand the objectives and principles of operation of the local health care effort. This understanding was not adequately promoted at the time of the introduction of the project.

Furthermore, villagers must have the objective capabilities and power to act upon decisions to which they have agreed. Yet, as was stated earlier, the objective capability of altering the compensation system to fit local needs was largely removed from the decision realm of the village and became an immalleable part of project structure. Only if these two dimensions of potential are realized can it be claimed that will is a key factor in the success or failure of an undertaking.

Three key factors affecting the character of community involvement and initiative in the operation and management of village health care activities emerged from my observations and from interviews with VHWs and village members. They are: (1) the role of village leaders and the character of the decision-making process; (2) previous experience with projects requiring sustained community participation and management skills; and (3) the role accorded to the local group or organization which oversees health care activities in the village.

Village Leadership

The role of village leaders in promoting community participation may be viewed from two perspectives. First the structure of authority and the manner in which decisions were made appeared to have a significant effect on the quality of communication among villagers related to the health care project. When authority in the village was highly centralized and when key decisions were made by only a few village influentials (as was often the case, in my experiences), village members tended to have only a partial understanding, at best, of the operation of the project. Information, too, was centralized in such cases, and the majority of the village population merely accepted the new project as a convenient service provided by the government. When, on the other hand, village leaders actively sought the opinions of village members and attempted to explain the purpose and objectives of the health hut and the role of the VHWs during village meetings, community response tended to be more positive and village members were more supportive of the project.

For example, the major decisions and issues related to the operation of the health project in one of the case study villages were discussed primarily within the small group of village leaders. This group consisted of three central actors: the head of the local political party, the village religious leader and his brother, the village headman. Indeed, the religious leader asserted that all village decisions had to receive the approval of only the first two individuals, thereby implying that the elderly headman retained very little authority in village politics. Although village meetings were called to resolve questions such as the building of a new well, the hiring of an Arabic instructor, and the original decision to participate in the rural health care project, it was clear from the religious leader's presentation that the meeting was seen as largely a formal mechanism for approving the decisions of the leaders.

The character of communication between village leaders and village members may either obstruct or enhance the development of a strong participatory base within

the community. If village members are not encouraged to take an active part in discussing the major issues involved with the local health care effort, it is unlikely that they will be supportive of the activities undertaken by the VHWs. Perhaps the concept of participation as being first of all a problem of the structure and organization of communication between public authorities and the peasant masses should be expanded to include the crucial importance of the character of communication between village leaders and other village members.

Closely related to the role of village leaders in promoting communication among villagers, is the role played by leaders in reinforcing the efforts of the VHWs. If local leaders do not participate in the preventive health care activities introduced by the health workers such practices may be less readily accepted by other village members. In one village, for example, the headman seemed to be relatively unconcerned about the general sanitary condition of his compound. Although he did have a latrine, it was in a state of disrepair. The first-aid worker in this village admitted that it was difficult to convince villagers of the value of certain practices, if these practices were not followed by influential members of the village.

The mobilization dimension of leadership was most evident in a village where the chief and other influentials were strong supporters of the project and regularly informed other members of the village of the results of discussions held with project-related outsiders. The first-aid worker affirmed that village leaders were sensitive to the needs of the VHWs and promoted participation in health care activities. This worker also praised the chief for the latter's attempts to communicate local problems to political and administrative officials.

Experience with Community Projects

The ability of the community to assume effective operational and managerial control of local health care activities appears to be closely related to prior experience with community projects requiring sustained community participation and management. Previous experience with community organization and mobilization and with the management of financial and material resources greatly facilitates the accomplishment of similar operations attendant to the efficient functioning of the village health care project. Such experience, however, is only infrequently found among Sine Saloum's scattered rural settlements.

An example of the type of collective endeavor which affords villagers the opportunity to develop operational management skills is provided by the case of village

cooperatives established under the auspices of ONCAD. Local cooperative members and cooperative leaders are responsible for the collection and storage of peanuts after harvest, weighing and recording the amounts deposited by each member, and the sale of this commodity to ONCAD during the period of commercialization. Yet even here the experience has been less than encouraging. Financial authority and record-keeping are frequently accorded to the Weigher, who is usually the only person literate in French. This person is an employee of the cooperative and rarely comes from the village in which he serves. Charges of graft, financial mismanagement and other forms of corruption are not merely common, but endemic throughout the local cooperative infrastructure and within the ONCAD hierarchy.

The management tasks associated with the functioning of a village health care effort include handling funds, monitoring receipts and medicinal stock, allocating total receipts among VHWs, and re-ordering and paying for health hut supplies. The accomplishment of these tasks requires a certain technical competence, of course, but it is also necessary to resolve specific social and political problems. For example, in some villages individuals were hesitant to accept responsibility for holding health hut receipts. The control over a rather substantial amount of cash made the treasurer susceptible to requests for cash loans from relatives. Rather than be forced to deny the requests of kin, some individuals preferred to refuse responsibility for holding funds in their compound.

The technical skills required to handle receipts and order new stock are by no means insignificant. Village members charged with these tasks must be able to match receipts with the records kept by the first-aid worker so as to discourage any injudicious activities by the latter. Since many villagers lack previous experience in the performance of such tasks, special assistance is clearly desirable.

Community participation is also called for in the supervision of VHWs and health care activities. Because of the irregular and episodic nature of supervision provided by MOH personnel, it is absolutely essential that village members be prepared actively to undertake these tasks. Villagers must provide moral support to their VHWs, while monitoring their activities to ensure equity in the provision of benefits and in the payment of fees. The role of community participation in monitoring the performance of their VHWs is especially important if the system of compensation is to be equitable. A new system for remunerating VHWs should link compensation with the contribution provided by the individual VHW. The existing system provides equal pay regardless of the level of performance or time commitment of the individual. It can be assumed that

the work of the hygienist may diminish over time, as village members adopt the practices which he suggests. The community would be responsible for ensuring that compensation was commensurate with the contribution made by the VHW.

As with the more technical managerial requirements these supervisory tasks are rarely a part of the repertoire of members of the average village who have not had previous experience with community projects. Indeed, in the case of the local cooperatives referred to above, many of the problems were the result of inadequate supervision by cooperative members. When the necessary skills do not exist, village members should be provided with assistance--both moral and technical--to enhance their capabilities in performing these functions.

The Role of Local Organizations

In each active village a Comite de Gestion, consisting of a president, treasurer and assessor, was formed to monitor receipts and stock and to ensure the provisioning of the health hut. Committee members in the villages for which I have information were selected not according to their interest in health care, but were usually members or representatives of village elites. The function of the committee was largely restricted to the area of financial management.

These two factors--elite membership and the restrictive role of the committee--tended to limit widespread community participation in the operation and management of village health care activities. Since the function of the committee was limited to financial control, other important purposes which could have been realized by a multipurpose organization, such as promoting village cooperation in collective projects, assisting VHWs in motivating villagers, and helping to disseminate health care information, were left undone. The elite composition of the group also tended further to centralize authority and responsibility for the sustained operation of the village project.

These obstacles to expanding the participatory base in the community could be overcome if the "management committee" were transformed into a "health committee". That is, the purpose of this group should include not only financial management but the active promotion and support of village health care efforts. Accordingly, membership in such a multipurpose organization should be based on a genuine interest of individuals in health care.

An indication of the potential benefits to be realized by expanding the base of participation is offered by the situation in effect in a village where the village midwife

receives the active support of the leader of the local women's organization. This young woman, although she is not a member of the management committee, has taken a strong interest in the health care project and encourages the women in the village to work with the midwife, to attend discussions on nutrition and child-care, and to improve the sanitary conditions of their compounds.

Thus the management committee, if it were transformed, could fulfill its financial management function while also serving to link existing local organizations and community members in general to the ongoing activities of the VHWs. Such an action would enhance the role of community control over the health care situation while clarifying the image of the project as truly a village rather than governmental endeavor.

Chapter VIII CONCLUSIONS

Health care is a precondition for the realization of a society's full social and economic potential. The high levels of morbidity and mortality which are found in many poor countries today forestall the intellectual and cultural flowering of those societies while acting as a brake on the process of economic development. The liberation of a society from illness and disease requires more than a simple recourse to sophisticated technological "solutions" or the implantation of foreign models of service delivery. The enhancement of the health status of a population requires an analysis of the causes, distribution and levels of morbidity and mortality; a clear assessment of the capabilities and limitations of the existing health care system; and the careful formulation of a realistic plan of action.

The major causes of morbidity and mortality in Senegal have been traced to an unsanitary environment and malnutrition, and are particularly serious in rural areas among infants, children and women. Ill health is closely associated with poverty, illiteracy and inequality. Although important progress has been made in extending health care services to some rural areas, the Senegalese health care system continues to reflect a predominantly urban-, curative-, and capital-intensive orientation.

The formulation of a plan of action to enhance the health status of Senegal's rural population must be undertaken with full consideration of the limitations on government resources and capabilities. The state is presently experiencing a situation of fiscal crisis exacerbated by the shortfalls in agricultural production during the series of droughts of the 1960's and early 1970's, an increasing international debt burden, an unfavorable balance of trade, and vulnerability to domestic and international inflationary tendencies. The consequences of these factors for health planning are intensified by the inequitable distribution of health care resources within the nation and by the unfavorable internal structure of the operating budget of the Ministry of Health, almost three-fourths of which is consumed by personnel costs.

The Sine Saloum Rural Health Care Project was designed to meet the pressing needs of the rural population while remaining within the resource capabilities of the Senegalese government. With its emphasis on environmental sanitation, preventive health care, health education and basic curative services delivered by a network of village health teams this project has been able to address the most serious health problems found in the rural milieu. By relying on community participation for the

selection and remuneration of paraprofessionals and the operation and financing of local health care activities, the demonstration project in Sine Saloum provides the basis of a generalizable model with low recurrent costs to the government.

Factors Affecting VHW Performance and Project Operation

A number of factors which serve to enhance or to impede paraprofessional performance and the operation of decentralized health care services have emerged from the analysis of the Senegalese case. Two aspects of project organization have been identified as having a negative effect on project operation.

First, the scope of the project appears to have been rather ambitious in light of the personnel constraints of the agencies involved at the local level. Since this was to be a demonstration project it would seem appropriate if a more limited number of communities were activated in the early stages, thereby allowing for a more thorough sensitization of village members and closer supervision of village health care activities. The problems and successes experienced in the "pilot" communities could be analyzed and the results and insights applied to future village health care efforts.

Members of other villages in the area would thus have the opportunity to judge these experiences and to determine if they were willing to accept the responsibilities involved. The scale of the project as it now exists suggests that any "demonstration effect" was intended to influence government decision-makers and not the members of rural communities for whom the project was designed.

Second, the methods used to introduce the project and to sensitize village members did not adequately prepare them for participation. There appeared to be a tendency to emphasize the benefits of the proposed project while understating the responsibilities of the community.

The standard approach taken by public authorities of communicating through the local authority structure limited the diffusion of important information throughout the village population, thus restricting the likelihood of widespread participation. In those villages where a more concerted effort was made to speak with a larger percentage of the total population, either through all-village assemblies or meetings with particular population segments (women, young men, leaders, etc.), there appeared to be a clearer understanding of project objectives and of the responsibilities of community members for managing health care activities and supporting the efforts of the VHWs. The best results were attained when both public authorities and local leaders sought to engage community members in discussions of the project and in decision-making.

Of the five policy variables identified at the outset of this study, only the training program passed without serious criticism. The location, duration and cost of training imposed no substantial hardship on either the VHWs or health post personnel. Indeed, many of the local Chefs de Poste indicated that the training of village members had been an enjoyable and rewarding experience. Similarly, VHWs were unanimous in their approval of the methods and content of training and many stated a desire to maintain and expand their understanding through in-service training. The special manual (Aide Memoire) prepared for each VHW served as both a valuable pedagogic device and as an important symbol of competence.

The experience from Sine Saloum confirmed the desirability of placing primary authority for the selection of VHWs in the hands of community members. A major problem arose only in those cases where the imposition of the criterion of French literacy resulted in the exclusion of village candidates and therefore forced the community to seek an outsider to fill the position. Although there was no conclusive evidence to suggest that an outsider as such was less effective or less acceptable to village members than a local person, the fact that an outsider was usually dependent on his share of the meager receipts of the local health program to meet his subsistence needs often resulted in a gradual loss of motivation and contributed to an exceedingly high level of turnover among this group.

The imposition of a fixed set of qualifications for VHWs would appear to be counter-productive when village members clearly understand the objectives of the project and willingly assume responsibility for its operation. In Sine Saloum, village members tended to select mature individuals with established ties to the village. Although first-aid workers and hygienists were generally males, sex did not serve as an exclusionary criterion. In one case the midwife was accepted to replace the first-aid worker who had left the village. Since the majority of "clients" are women and children, it should not be assumed that only males are acceptable for selection.

As to the widely debated issue of incorporating traditional birth attendants into the modern health care system, it should be noted that childbirth is hardly a "modern" phenomenon and that the exclusion of experienced practitioners can only be justified in extreme cases. Since the traditional midwife will continue to provide her services in any case, she should be encouraged to improve her understanding and skills by undergoing training. It may be desirable to encourage community members to select a younger woman to work with the traditional midwife in areas which are not part of her common repertoire, such as nutrition education and personal hygiene.

The most problematic issue to emerge from the experiences in Sine Saloum was that of the compensation of VHWs. The existing system, based on a cash fee-for-service and the repartition of 60% of receipts in equal shares to each VHW, was uniform in its application across all Rural Communities in the department and in the problems which it generated. This system should be thoroughly reviewed at the local level. Alternative forms of compensation such as payment-in-kind and in the form of labor or collective fields should be explored by village members. The desirability of creating a cadre of paid employees at the village level should be carefully scrutinized.

The intent of the village health worker approach to community health care is not to transplant the model of interpersonal relations and professional values which exists in hospitals and clinics. Rather, the objective is to instigate a process of action in which village members work together to transform the existing health situation.

This objective cannot be achieved through the extension of a system which contradicts existing patterns of social relations, values and norms of reciprocity. Nor can such a transformation take place without transcending the limitations of the status quo. What is required is the development of complementary practices and values. Thus, for example, the role of the traditional birth attendant may be expanded to include health education and preventive health care components. However, the basis of reciprocity by which the midwife offers her skill and a pregnant woman acknowledges her debt need not be transformed into a fixed monetary relationship.

The character of supervision and support, the final policy variable, was shown to have an important influence on paraprofessional performance and on the attitudes of village members. A close association between the frequency of supervisory contacts and the level of motivation of VHWs was observed. Supervisory visits provided an important opportunity to combine in-service education with assistance while monitoring program effectiveness and paraprofessional performance. It was also clear from discussions with village members and VHWs that supervision served to enhance the legitimacy of the briefly trained village member in the eyes of the other residents.

The importance of regular supervision and support and the sporadic character of supervision during the period of research support a call for the strengthening of this aspect of the project. However, a cautionary note should be sounded regarding the potential for conflict between the objective of community responsibility and the tendency to assert control by administrative agents. It should be emphasized that the central objective of supervision is to assist community members and VHWs and not to inspect or to wrest control over health care activities from the community.

The village health care project was viewed favorably by almost all village members. The presence of trained health workers, a health hut and medicines was valued both for the practical benefits to village members and as a symbol of progress. Yet it was evident from observation and from conversations with VHWs that many community members offered only tentative commitment and support to the local effort. Participation in decision-making and in the operation and management of the project was often limited to the small group of residents on the management committee and to village leaders.

The three factors which appeared to have the greatest influence on community participation were the level of understanding of village members of project objectives; support of village leaders; and the degree to which the project was viewed as a community as opposed to a government effort. Previous experience with activities requiring organizational and technical skills was found to enhance the ability of the community to assert control over the local project. Finally, the absence of an explicit promotion and support function limited the usefulness of the village organization established to manage the project.

The Dual Character of the VHW Approach

The village health worker approach to primary health care represents an important innovation in the organization of service delivery systems for rural populations. The advantages of this system include the provision of basic services to populations unreached or underserved by conventional programs, and the delivery of services specifically designed for local needs at low cost to the user population and with low recurrent costs to the central government.

More important, this approach is also a method for enhancing community self-reliance and for contributing to community empowerment. With its emphasis on community participation and local responsibility for the operation and management of the village project, this approach promises to contribute to the development of local organizational capabilities and technical competencies. Indeed, the long-term success of projects based upon this model depends in large part on the community's ability to mobilize the technical and organizational skills required to identify and to resolve problems as they arise, to maintain sufficient levels of supplies, to supervise local activities and to provide adequate support, both material and motivational, to those community members who have been selected to provide these services.

The dual character of the VHW approach, as both an organizational innovation and as a strategy for community empowerment, incorporates along with its many advantages a challenge which penetrates to the heart of state bureaucracy as well as to the center of village authority. If this approach is to provide an effective alternative to the technocratic model of rural development, the state administration must be willing to relinquish significant authority over local affairs to village members. The community-level development project must be viewed not as the peripheral but as the pivotal element in the national quest to transform the quality of life of the country's rural population.

The challenge to the local community is equally strong. Village leaders must be willing to open the discussion of village needs and priorities to all segments of the population. The active participation of all village members in decision-making and in collective endeavors to attain common ends must be encouraged. Village leaders and village members must be willing to accept both the authority and the responsibility for the operation and management of local activities.

This challenge will not be easily met. To do so will require both a fundamental change in attitudes toward development and a restructuring of power. Established interests at the international, national and local level will view any effort to substantially enhance the organizational and technical abilities of local people in the management of their own affairs—any attempt to establish a movement toward community empowerment--as a threat to their position of dominance. Community self-reliance in a system which draws its life-force from the perpetuation of relations of dependency is indeed a threat. It may also be the only way to attain the values of social and economic justice espoused by the members of the world community.