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SOCIOCULTURAL ASPECTS OF PRIMARY HEALTH CARE DESIGN:  
THE CASE OF LIBERIA

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## SUMMARY AND CONCLUSIONS

The Liberia Primary Health Care Program aims to extend basic health services to 90 per cent of the population by the year 2000. The LPHC project, assisted by USAID, is part of the national program, will extend community health services to the four southeastern counties of Grand Bassa, Sinoe, Grand Gedeh and Maryland, which are currently the least served and will aid in administrative reorganization and reorganization of backup services.

A broad network of primary care clinics will serve as nuclei for training, supplying and supervising village level health care workers who will undertake preventive, curative and promotional tasks in conjunction with Village Development Councils.

The Republic of Liberia is a small, mainly humid, tropical country which lies on the western bulge of Africa between Sierra Leone, Ivory Coast and Guinea. The physical environment varies with altitude and distance from the coast. A sandy, low-lying coastal belt with mangrove swamps gives way to interior forest, rolling hills and plateaus. Long monsoon rains from May through October hinder road transportation in the winter. Liberia's approximately 1.8 million people are culturally and linguistically diverse. While several important mining and agricultural concessions operate in the interior, the dominant occupation of the hinterland peoples is hand cultivation on small plots of land. Both the family food supply and small amounts of cash crops destined for export are grown.

Population is growing at about 3.3 per cent annually and the urban population at 8-10 per cent, reflecting increasing

migration from the rural areas, principally to Monrovia. The migration of young men in the 15-34 age group leaves women, children and the elderly to assume the heaviest responsibility for agricultural production. Yields per household of staple crops are declining across much of the nation. To date, however, there is only limited research knowledge about socioeconomic conditions in the four-county area of the southeast which is destined to receive comprehensive primary health care services in this five-year program. This area is the most sparsely populated and the least well-served.

Such information as is available about health care problems in Liberia comes mainly from the northern and western counties with higher levels of population density and access to health services.

Surveys of infant mortality report rates reaching 137, 159 and even 171 per thousand live births. At least twenty-five per cent of all children die before the age of five. Deaths are due primarily to preventable diseases such as diarrhea, malaria, pneumonia, measles, tuberculosis and malnutrition in combination with other infections. An estimated sixty percent of all children between the ages of six months and five years are anemic, as are the majority of pregnant and lactating women. Malnutrition is aggravated by the presence of helminthic infestations and enteric infections which result in further loss of nutrients.

Infant, childhood and maternal mortality could be substantially reduced and health status markedly improved by a broad spectrum community health program. Needed health measures include clean water, improved sanitation, immunization, clean deliveries, first-line treatment for simple illnesses, increased health awareness and effective supporting services.

Increased popular health awareness is essential to effective implementation and requires socioculturally sophisticated adaptations of existing health services technology with concerted attention to modification as the program unfolds.

Efforts to extend health services in a limited portion of Maryland County indicate that people in this area are desirous of receiving health services and will adapt their behavior to utilize services which are effective, convenient and culturally acceptable. Hence, attention is given in the Social Soundness Analysis to sociocultural aspects of health care.

#### Sociocultural Feasibility

The overall sociocultural feasibility of the proposed Primary Health Care Program has already been demonstrated by the success of pilot projects ongoing in several areas of Liberia. The report points to a number of topics in need of special attention during implementation and offers some suggestions based upon a general perspective. However, many questions could not be answered with precision due to a lack of information. Special, detailed knowledge should be provided by research into subjects such as:

- patterns of social differentiation and community ecology
- local sociopolitical organization
- household resources and economics
- community economics and development potential
- changing concepts of health and illness in relation to health behavior
- composition and functioning of Village Development Councils

- recruitment and roles of Village Health Care Workers
- practitioner/patient relationships
- functioning of health care teams
- roles of women as patients and providers
- appropriateness of health technology and education
- informal organization of the national health care system
- articulation of traditional and biomedicine
- modalities of technical collaboration

This research is particularly urgent given the lack of baseline data and the declared intent of the Government of Liberia and the Ministry of Health and Social Welfare to use community health as the point of departure for self-reliant integrated rural development in the hinterland. The points which follow are offered as general observations.

a. Traditional Practitioners

Traditional healers include: herbalists, bone setters, midwives, diviners, and other types of religious healers. These practitioners may be expected to relate to the primary health care system in various ways. Some will be members of the Village Development Councils or work as Village Health Workers. Empirical midwives will be trained and supervised by the project. Patients may be expected to use both traditional and modern services, sometimes simultaneously. Since the Village Health Worker is indigenous to the tribe, his awareness of local beliefs and customs is invaluable for making appropriate decisions about interfacing traditional and modern medicine.

b. Local Leadership System

Traditionally, village councils play an active part in decision making. In the pilot Public Health Care Program in Maryland

County, Village Development Councils did not disrupt traditional leadership roles, and have provided an acceptable and effective means of village participation in primary health care and other areas of community development.

### c. Selection of Village Health Worker

The Village Health Worker is a community resident selected by the Village Development Council. Being a member of the traditional society, the Village Health Worker is expected to follow customary rules of deference and demeanor. In pilot projects, Village Development Councils have monitored Village Health Worker's performance and have replaced those found to be unsatisfactory for reasons for attitude or competence. .

## 2. Beneficiaries and the Role of Women

The direct beneficiaries of the project will be the rural populations of Grand Bassa, Sinoe, Brand Gedeh and Maryland Counties. Although many programs are directed toward mothers and children, individuals of all ages and sex will have the opportunity to benefit.

Rural women, who constitute the majority of adult patients will benefit from improved, more accessible services. They will benefit from general community improvement and from special activities undertaken by and for women. Rural women will participate in community decision making and will be trained to upgrade their skills and knowledge as traditional birth attendants. Opportunities for training as physician attendants, as well as certified midwives, have been extended to women. Throughout the Ministry of Health and Social Welfare, women hold positions of authority. For example, the Minister of Health and Social Welfare and several assistant ministers are women. This will no doubt continue. The Government of Liberia has indicated its commitment to expanding the role of Liberian women by creating a Division for the Advancement of Women within the Ministry of Health and Social Welfare.

## 3. Spread Effects

The significant spread effects of this project will be by design, rather than by chance diffusion. While some spontaneous service will doubtless occur, given the creation of the expanded county health departments and the high interest in health care, the constraints of inadequate manpower and

commodities in the other five counties will be a barrier to additional service development until additional resources are available.

It is the intent of the Ministry of Health and Social Welfare to actively develop other funding sources to enable continuing progress in the extension and penetration of primary health care in Liberia.

#### 4. Replicability

This first phase of the program is, in fact, a replication of lessons learned during earlier pilot projects. The proposed system is considered to have proven its value. It may need modification but the concepts upon which it is based have already been proven valid in Liberia. As shown in other parts of this proposal, the replicability of the Primary Health Care Program depends not upon its social soundness; it is sound, but upon the commitment of Liberia's leadership to the program.

SOCIOCULTURAL ASPECTS OF PRIMARY HEALTH CARE DESIGN:  
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Brooke G. Schoepf and Amanda Guannu

INTRODUCTION

Health care is increasingly viewed as both a legitimate human right and an instrument for social and economic development. Formerly given low priority because of its contribution to rapid population growth, a human resources approach to development is gaining vogue; thus primary health care is receiving new attention as a means of mobilizing rural labor. "Health care for all by the year 2000" has become the declared goal of many third world governments and major development agencies.

In order to approach this goal, many national primary health care systems are being designed and implemented which particularly aim to serve rural populations. This is the case in the Republic of Liberia, where the Ministry of Health and Social Welfare (MHSW) has recently completed a planning exercise in collaboration with a team of US based consultants funded by the United States Agency for International Development (USAID). The analysis presented here explores from an anthropological perspective issues involved in introducing technological and social change in the context of the Liberia Primary Health Care (LPHC) project. It is intended to contribute to discussion of issues of health planning in Africa and social soundness analysis in general.

As a strategy for meeting the basic health needs of Third

World populations, "primary health care is defined as essential health care provided in the community by relying upon community resources." It is proposed "as the most promising solution to the problem of geographic access ... to the most cost effective elements of modern health care" (Golladay and Liese 1980: ii). As first line care, technically appropriate to the prevention and treatment of a broad spectrum of health problems, it must also be acceptable to the intended beneficiaries. Its effectiveness assumes the existence of adequate referral services, training and supervision, supplies, transportation and administration in support of local-level efforts. Thus, while community resources must be mobilized, these are hardly sufficient to assure effective primary health care. Furthermore, since nutritional stress is implicated in many disease processes, improved health requires improving the nutritional status of poor rural and urban populations. The LPHC program's full success depends upon the success of agricultural development efforts, which at present are constrained by a number of socioeconomic factors to be discussed briefly below.

The LPHC program aims to extend health services to 90 percent of Liberians by the year 2000. The purpose of the LPHC project is to assist the Ministry of Health and Social Welfare (MHSW) to implement its National Primary Health Care Program. It is a country-wide program intended to provide the masses of low-income rural families with basic curative, preventive and promotive health services while fostering a self-reliant approach to commu-

nity development. The program includes ministerial reorganization, the provision of a supporting infrastructure and strengthened secondary level referral services as well as local level, first-line care. This ambitious program is seen as a necessary basis for agricultural and rural development in Liberia.

The project will provide support, training and technical assistance for the provision of village and intermediate services in four counties: Grand Bassa, Sinoe, Grand Gedeh and Maryland, located in the southeastern region of Liberia, as well as for the MHSW Central Office in Monrovia. Furthermore, the joint design team recommended that the project finance garage and warehouse infrastructure and hospital renovations in each of Liberia's nine counties. A broad network of Health Centers and Health Posts will be established, equipped and staffed in the four southeastern counties. Primary care at the village level will be offered by village health workers trained for preventive, curative and promotional tasks, working in conjunction with Community Development Councils to be established by the project.

#### THE SOCIOCULTURAL LANDSCAPE

Located just north of the Equator, on the Guinea Coast of West Africa, Liberia's 38,000 square miles encompass some 1.8 million people of varied origins who have been the actors in several historically distinctive migration and development streams. Sixteen major ethnic groups of peoples with marked linguistic similarities are identified. Historically in constant flux, the present ethnic topography is recent, dating only from the second

half of the nineteenth century. Many cultures are located astride the national frontiers with Guinea, Ivory Coast and Sierra Leone.

For many centuries the peoples of this area lived at the periphery of the great savanna kingdoms of Mali, Ghana and Songhai. Extensive trade, cultural and political relations linked the central West Atlantic region to the Sahel and across the Sahara to the northern littoral, to the West Coast at Dakar, and south to the Niger Delta. In the fifteenth and sixteenth centuries, wars in the Sahel stimulated a vast movement out from the Futa Jalon in Guinea, as the Mande speaking savanna peoples established kingdoms among the forest villages (M. Massaquoi, cited in Sawyer 1973). At the same time European trade began on the Atlantic coast; this development would eventually turn the focus of economic life southward (Skinner 1964). During the seventeenth and eighteenth centuries, infiltration and invasion by Akaan speaking peoples from the east, in Ghana, pressed the Kwa speakers into the forest. These movements of peoples continued into the nineteenth century. Recent ethnographic analysis stresses the dynamic aspects of early economies in the region and the complexity of sociocultural changes (cf Isaac and Dorjahn 1979).

The African languages spoken in Liberia are grouped into three subfamilies of the extensive Niger-Congo family (Greenberg 1966). In the northwest are found the Mande speakers as well as several languages of the southern West Atlantic group. Peoples

of the southeastern region, including the Krahn, Grebo, Sapo, Kru Bassa and other, smaller, linguistic groups, are speakers of related languages classified in the Kru branch of the Kwa sub family of Niger Congo. To some extent linguistic groupings reflect patterns of history and culture.

The four southeastern counties of Liberia to be served by the Primary Health Care Project are characterized by variety of sociocultural forms. Along the coast three urban enclaves serve as shipping points for primary products such as rubber, timber, iron ore and palm oil extracted by concession companies and by large farms in the interior. These are the county seats of Harper, Greenville and Buchanan. Coastal Kru and Grebo speaking peoples have long specialized in maritime occupations, including fishing, seamanship, dock work and trading. At present, however these opportunities are often unavailable. Peoples of the interior are largely farmers or migrants gone in search of work.

Liberia's population is estimated to be increasing at between 2.8 and 3 percent annually. Migration from rural to urban areas is heavy and the population of Monrovia grows at some 8 to 10 percent each year. The rural exodus, involving mainly young aged 15 to 35 years, has shifted the burden of agricultural work to women, children and elder men. This situation is expected to worsen in the years to come. Health services to the rural areas are part of a rural development strategy being elaborated in the hope of stemming the tide and perhaps eventually reversing the migration stream.

Behind the sandy coastal belt with its mangrove swamps and lagoons, the land rises gently to undulating hills separated by narrow plateaus. Much of the tall forest cover has been cut, yet several extensive forests of evergreen tropical forest climax vegetation remain. At the northern frontier, the deciduous forests thin out on the slopes of the Guinea Highlands which rise to 5000 feet. Heavy rainfall, averaging from 75" in the north and up to 180" per year along the coast, falls in a seasonal monsoon pattern. Violent downpours contribute to the rapid leaching and acidification of the soil, particularly where the dense tree cover is removed, while the clearing of steep slopes contributes to rapid erosion of the thin humus layer.

Many areas that support luxuriant forest vegetation do not yield abundant repeated harvests of shallow rooted food crops unless large amounts of soil nutrients and labor are added. Traditional farming systems which restored soil fertility by means of lengthy fallow periods of 10 years and more, left ample opportunity for regrowth of the forest biomass in areas with high heat and humidity. Recent changes in the farming systems, however, have resulted in increased vulnerability to ecological damage. The complex interrelationships can only be mentioned briefly here.

Coastal farming in sandy soils is based on manioc cultivation. In the forest area, upland or dry rice (Oryza claberrina) cultivation is a more recent introduction. It is now the preferred staple food over a wide area and probably has reshaped the

cropping cycle around its requirements, which make timing of cultivation operations more exacting. Upland rice is grown for a single year on fields cleared and burned from the forest during the dry season. Since optimum yields are achieved by early planting, this takes place as soon as the rains begin in earnest. Similarly, harvesting is done during a brief respite between the rains, since rice harvested wet risks spoilage. Thus labor mobilization at the crucial season is the key to group prosperity and even survival. While the kuu system of extensive labor exchanges-- common in the Northwest--is absent in this region, other forms of reciprocal labor exchange exist.

In some areas it appears that significant environmental degradation is likely to result if present trends continue. Due to land and labor shortages, rice is being cultivated on steep slopes from which all cover is removed by slash and burn techniques and fallows are being reduced to 5 and 6 year periods. Two alternatives have been proposed. The first is to replace or interplant rice with manioc cultivated in ridges constructed following the contours of the slopes. However increasing reliance upon cassava may affect nutrition and health adversely unless adequate protein is available and affordable to the rural poor.

The second alternative, now being implemented in the northwest and planned for the southeastern counties, is to introduce the swamp rice cultivation. Public health workers note that this will expose agricultural laborers to increased levels of schistosomiasis infection from which presently known prevention and

treatment technology offer little protection or effective relief. Thus far, their warnings with respect to this serious health hazard appear to have met with little sympathy from production oriented - agricultural specialists.

Why swamp rice cultivation should have been selected as the preferred new production strategy is unclear. Systematic comparative farming systems research does not appear to be available for Liberia. Research carried out in the west, in Sierra Leone, concludes that while technological innovations can increase yields of swamp rice per unit of land, they do so only at the cost of greatly increased labor-time and do not increase substantially the return to labor (Spencer and Byerlee 1976). That is, cultivators must work longer hours in the swamps without obtaining more rice per hour worked. Actually, Spencer (1975) shows that investment of improved seed and fertilizer in upland rice cultivation--that is, in the present farming pattern--offers greater potential for increasing the returns to labor than do either biological chemical or mechanical innovations applied to swamp rice production. It remains to be seen whether these findings are applicable to the areas of Liberia where swamp rice is being introduced.

If the goals of agricultural development are not limited solely to increasing production but also include improving the welfare of the producers, then both the health impact and returns to labor consequent upon technological change must be weighed in policy choices. The study of interdependencies such as these

should be part of the research accompanying the LPHC program in the search for solutions to persistent rural poverty and illness. Failure to confront such issues will lead merely to further "growth without development".

#### SOCIAL ORGANIZATION

As noted earlier, the forest peoples were cultivators and hunters organized in distinctly different manner from the northwestern peoples with their chiefdoms, extensive commerce and emerging bureaucratic systems which served to maintain marked differences of wealth and social status. In the southeast, traditional social organization was based on kinship rather than on territorial organization. Villages were composed of several clan segments grouping people claiming descent from a common ancestor and smaller lineages, formed by men who traced their genealogical links to the founder. Each village or village cluster was politically autonomous and large scale collaborative ventures were rare or absent. The patrilineal descent groups--lineages or clan segments, continue to regulate access to land, marriage partners and social support. Maternal kin traditionally provided alternative pathways to such resources for people who found themselves in conflict within their paternal groups.

Within the larger kin groups, households formed smaller domestic groups that work<sup>ed</sup> together as production units. Ideally, these were made up of an adult man, his wife or wives, children and perhaps one or two other relatives. The large extended households of kin and clients found in the northwest were not charac-

teristic of the southeastern region.

Small clusters of villages, linked by cross-cutting ties of membership in clans and religious societies, formed autonomous but related units. The clans were and continue to be ranked according to the extent to which their claims to primogeniture in descent from common ancestors are recognized by the other clans. In other words, while genealogies constitute the legitimating social charter, as in many societies, these kin links are sometimes fictive. Ritual and political offices were held by the senior men of the highest ranking clans.

This traditional organization is still vigorous today. The highest ranking clan's senior member is the religious leader, the High Priest, Bodio or Dazoo. His authority derives from religious sanctions, rather than from the use of force. He may function as the leader of a single village or of a cluster of villages. The High Priest uses his authority to limit overt hostility and bring about settlement<sup>of</sup> conflicts. Other traditional authorities are the "owner" of the land and, in some groups, the "war chief." These lines of authority cross cut the small kin groups and thus exert a unifying force in the community.

Social ranking was not reflected in differential access to productive resources, such as land, which was available to all by virtue of their membership in the group. Nor was it reflected in political life. While individuals could exert influence as "Big men," the traditional decision-making process involved widespread consultation on matters of public concern. This tradition remains

active today. The lineage elders discuss issues widely with other adults, including women and particularly the "Big Woman" who serves as their speaker. At town meetings a respected senior elder states the issues, presenting the consensus view or his own. Others present alternative views. If the women are concerned, they caucus and make known their decision. The speaker assesses the general will and finally presents the consensus as his own judgement.

For the most part, however, informants stressed the limited authority of village councils. Normally, day-to-day affairs are handled by adult men and women, who make their own decisions. Matters of wider concern such as marriages, funerals and succession are the affairs of kin groups--lineages and the localized clan segments. Births are a family affair and each kin group may have a person who delivers the wives of members.

The autonomy of the villages and their highly representative decision-making processes were subordinated by a settler regime, which used middlemen for indirect rule, taxation, forced labor drafts and finally, instituted a system of political chiefs. The official hierarchy of paramount, clan and town chiefs thus installed could draw no basis for legitimacy from the traditional sociopolitical organization. Powerful in appearance, the chiefs were obliged to seek the assent of the village councils in implementing government directives. They could not openly act against the elders' will. Selected by the councils and appointed by the government, the chiefs were caught in the cross-fire be-

tween conflicting expectations, particularly in the areas of labor mobilization and taxation. The PRC government has abolished the hated "hut" tax. Nevertheless the political chiefs' authority may remain purely formal in many areas.

As noted earlier, the Bodio Priest or Dazoo is the most powerful actor at the village level. He is also the foremost local healer in a system in which treatment for serious illness normally includes the search for non biological explanation of the causes of misfortune. Consequently, the High Priest's assent, important to the success of any local undertaking, is essential in the domain of health services. The introduction of new health technology and behavioral change cannot succeed in the face of his opposition. They would be facilitated by his collaboration and support, as well as by that of the respected lineage elders and the women's leaders.

Despite much socioeconomic and political change emanating from the national level, the cultural distinctiveness of the area's peoples persists. However, in recent years, labor migration, land appropriation, cash crops, commerce and remittances have affected the most remote communities. While detailed assessment of the impact of these changes cannot be made from available data, the findings of a study of the Sabo in upper Maryland County made in 1967 (McEvoy 1971) apply broadly to much of the coastal forest area and may suggest changes now occurring farther north. Some elements are offered here as a set of hypotheses to be explored with respect to their wider applicability.

In the nineteenth and early twentieth centuries, the Sabo lived in palisaded hilltop villages. (As in other areas of Africa, defense needs appear to have functioned to provide a comparatively healthy environment). The siting of many villages changed as the widespread introduction of sylvan cash crops--rubber, cocoa, coffee, oil palm, etc.--and private landed property, resulted in the growth of dispersed settlement on isolated farmsteads and small hamlets grouping the members a single large household. Where the large villages persist, there may be several residential neighborhoods, including an old town, a mission quarter and houses grouped around the Government Chief. The residential quarters are headed by elder members of the resident clan sections and the social organization described above remains vigorous. The effects of the money economy and Western-derived education on patterns of community decision-making are not known. In this area, socioeconomic change has many implications for the health status of the rural people which the Village Development Councils might address.

In the years following the opening of the Firestone Concession in the 1920 s, labor migration, formerly focused coastward, began to take a new direction toward the Cavalla plantation in Maryland County. Roads into the area were late in coming, since the people resisted government imposed labor drafts. By the 1960 s the roads brought cash cropping on private farms, increased labor migration and trade. Migration, while it may make

available cash remittances, reduces the labor force available for farming and other tasks such as hunting and fishing, so that the traditional division of labor is disrupted. Since young men constitute a disproportionate share of those who depart, the work that they would have performed in clearing land and obtaining animal protein, is lost to the community. As noted above, with less labor available, fallow cycles are shortened and rice yields reduced. The growing of cassava, which yields a high amount of calories on poor soils, and reduced game consumption, contribute to an impoverished diet. As a result of differential migration, the number of households headed by women is increased--19.6 percent of all households in the Sabo community were female-headed in 1967 (McEvoy 1971 271)--thus increasing the incidence of poverty, and the risk of malnutrition among children in these households.

Similar effects have occurred throughout the African continent wherever the rural areas have been left to serve as labor reserves for export enclave economies. Resources are drawn from the rural economy, improperly termed the "subsistence" sector, to aid in developing the "modern" sector producing for the world market. Looking up from the rural areas helps to focus on the complex changes necessary to improve the condition of the rural poor. The dynamics of socioeconomic change are such that marked improvement in the nutritional status of poor rural families requires a reversal of the processes that have led to rural poverty and underdevelopment. The Government of Liberia formed by the People's Redemption Council following the ouster of the Tolbert regime on April 12, 1980, has declared its commitment to revers-

ing the pattern of uneven development that has fostered rural poverty in the process of economic growth. The national primary health care program is part of an overall strategy intended to mobilize resources for and with the neglected rural areas. The USAID-assisted LPHC Project is part of this program.

#### CURRENT NEED FOR PRIMARY CARE

Some seventy five percent of Liberia's 1.8 million people live in the rural areas and about one million are described as poor and lacking in access to basic services. Settlement is dispersed with eighty percent of rural communities containing fewer than 200 persons. Off the main roads, communications are poor. Many communities can be reached only by footpath and canoe; others are unreachable by motor vehicle during the height of the rainy season. The four southeastern counties of the project area, containing 228,000 rural people, are the most remote, the most sparsely settled and the least well-served in Liberia.

Currently, western-style or "biomedical" health services reach an estimated sixteen percent of Liberia's people and are concentrated mainly in Monrovia and the county seats. The limited existing rural health facilities rarely have adequate supplies and medications. The southeast is particularly disadvantaged in the distribution of health care facilities and trained personnel (figures are provided in the section on administrative feasibility) so that what does exist is inaccessible to many communities. For example, some villages at present are located at two days walk from the nearest clinic. This project will pro-

vide new health centers and health posts as well as a network of village health workers to meet the need for services. The density of coverage envisaged will ensure that no one need walk more than one hour to reach a health post and ambulances will be provided to convey the seriously ill from health posts to hospitals.

Present production systems require heavy outlays of human energy from a population seriously weakened by endemic infections and parasitic diseases. Malaria is widespread; by conservative estimate, adults are subject to one or two episodes of fever each year and children to two or three. Significant reduction in malaria would add substantially to the available labor days and would increase energy levels by reducing anemia, as well. Anemia is particularly widespread among women of reproductive age who constitute some 48 percent of the female population. It is also common among young children, along with malnutrition and worms. These synergistically related conditions contribute significantly to the depressed growth and development curves prevalent among children of the rural poor.

Other common causes of morbidity and mortality include infant and childhood diarrheas, measles, pneumonia and neonatal tetanus. Infant mortality is estimated at 160 per thousand and children under five account for half the deaths each year. Pregnant and lactating women--that is, virtually the entire female population between the ages of 15 and 45 years--are the other high risk group.

Prevention, control and treatment of these conditions at the

local level would diminish their adverse impact upon Liberian society and contribute to prolonging life expectancy, which is currently some 46 to 48 years at birth. The surviving population is subject to the onslaught of many other preventable diseases such as schistosomiasis, helminthic infestations, pneumonia and tuberculosis, eye and skin infections, diarrheal diseases, fevers, and trauma. Inadequate nutrition, poor hygiene, lack of sanitation and clean water are the underlying causes of much of the <sup>disease</sup> load in poor communities. Thus a realistic strategy for improving the nation's health necessarily includes a program of community medicine.

The health problems of rural people usually receive initial care within the family. Failure to respond to treatment at this level leads the patient to a variety of traditional and biomedical healers. As in other parts of Africa (cf Janzen 1979) family members generally constitute a therapy managing group for the sick person.

Villagers throughout Liberia express publicly their desire for government provided health services, sometimes building "self help" clinics and requesting that Government assign staff and equipment to them. The expressed need is for curative services. The LPHC Project will fill this need by training and supervising village health teams, health posts and health centers in the larger market towns. The village health workers will treat these common complaints: malaria, diarrheal diseases and fevers. They will also provide education and leadership in personal, family

and community health including environmental sanitation and clean water supply. They will refer people to the health posts for further services and will be trained and supervised by physician assistants (PAs) assigned to the health posts.

The Government of Liberia and voluntary agencies have provided training for Traditional Birth Attendants since 1950. The LPHC program will systematize their training and supervision by Certified Midwives (CMWs) assigned to the health posts and extend their integration into the national health system. TBAs will be trained to perform the services they currently offer at the village or family level in a safer and cleaner manner. They will continue to provide antenatal delivery and postnatal care and to advise women regarding matters such as childcare personal hygiene and birth spacing. The TBAs will be encouraged to refer people with obstetrical, gynecological and pediatric problems to the health posts and hospitals.

#### PROJECT BENEFICIARIES

The designated beneficiaries of the project are the rural populations of Grand Bassa, Sinoe, Grand Gedeh and Maryland Counties, as well as health workers at all levels in the Ministry. Women and children under five, who together make up the vast majority of the patient population currently seen in rural health facilities, will be among the beneficiaries of the project. Approximately 1,500 traditional birth attendants, mainly women, will be trained to upgrade their skills. Another 500 rural people will be trained as VHWs. This training, to be extended to ap-

proximately 2,000 village workers in all. will expand their skills and knowledge and enhance their status in the community. More than 300 mid-level and 50 professional health workers will receive further training, as will a number of management and supporting staff. The users and staffs of the refurbished county hospitals will also benefit through the upgrading of facilities and services.

Village Development Councils (VDCs) will constitute the social base of the system. They will be made up of individuals respected in the community and will be charged with the tasks of selecting Village Health Workers to be trained of establishing health priorities and of helping to implement public health measures. They will also evaluate the work of the Village Health Team and devise a method of compensation. The Village Development Councils are expected to turn their attention toward other areas of community development as well. This has been the case in Maryland County, where VDCs already have dug wells and built latrines, roads, schools and bridges. In the pilot project, monies raised by the VDCs have been matched by project funds.

The Village Development Councils will be the vehicle for mobilization of the energies of rural people for development and self reliance. The councils will participate in the process of problem identification and solution, select and implement local sub projects and evaluate the work of the project at the local level, monitoring the performance of health workers and the extent to which perceived needs are met. By virtue of their par-

participation and leadership in the VDCs, rural people will acquire new knowledge and skills in addition to enhanced health and well being.

The minimum participator in the project is likely to be a rural man woman or child in need of malaria suppressant therapy, safe water, oral rehydration, improved nutrition and a cleaner, healthier environment, as well as hope in the future and confidence in the community's ability to meet his or her basic needs. The profile of the minimum participator includes no special requirements for education, land ownership, surplus labor or political allegiance. It will be the task of the VDCs to see that all sections of the community are served.

One group which might be adversely affected by a successful primary health care system is the "black bagger," the unlicensed and untrained peddler of antibiotic injections and pills. If local health services are instituted and their effects become apparent his services may be less in demand. This will be most likely to occur when clinics dispensing treatment for conditions --including venereal diseases--that stimulate the activities of the "black bagger" are accessible with respect to their locations and hours of service.

The dearth of information on social structure in the rural southeast renders accurate prediction of the project's social impact impossible. Were any groups to be left out of service benefits, through failure of the delivery system to reach the most medically neglected, they would suffer from an increasing

gap between themselves and the better-served. On-going research is needed to monitor this aspect of health system performance and should be part of the evaluation design. Research findings from neighboring Sierra Leone, where rural inequality is increasing in areas of higher population density and labor shortage (Spencer 1975), offer cause for concern.

Traditional culture and the practitioners of traditional medicine will not be likely to be harmed by the project, which must work in collaboration with local healers. Failure to establish relationships of mutual respect and trust would be likely to result in failure of the project at the local level. The subject will be treated in more detail below.

#### HOST COUNTRY COMMITMENT

The Government of Liberia has taken steps to implement the resolutions of the 1978 Alma Ata Conference of the World Health Organization. One such step is the formulation of a National Primary Health Care Program by the Ministry of Health and Social Welfare. The project is designed to provide support for this program. Pre-planning has involved a broad spectrum of health care workers, village and county level development committees and public officials from areas other than health services. The plan was drafted from recommendations emerging from a Workshop.

Other planning activities has occurred at national and county level.

vels. At present the Ministry of Health and Social Welfare is in the process of reorganizing its staff and gearing up for the implementation of its program. These activities are evidence of the political will to implement the project.

#### ACCESS TO HEALTH SERVICES

Cost or affordability is a major factor in the accessibility of health care to poor populations. In the National Primary Health Care Program, the guidelines of which will be followed by this project, health services will not be subject to any government charge. Health workers point out that to tie the Village Health Workers' services to a fee-for-service would lead to an emphasis on curative care to the detriment of health promotion. Visits to Health Posts and Health Centers during the regularly scheduled times are free. The minimal charges for inpatient services at the County Hospitals can be waived for the needy. Thus, the design is intended to minimize cost barriers to accessibility.

Distance from service posts has been a major impediment to obtaining care. The overwhelming majority of patients come from communities located at less than an hour's walk to the facility and most come from the town in which the clinic is located. The distance to care will be greatly reduced by the project, since many new clinics will be opened while the Village Health Worker system will provide some services in the home community. The project will provide free ambulance services to carry patients from clinics to hospital. In some areas, lack of roads will con-

stitute a barrier, making it likely that some VDCs will consider road-building an urgent priority. Transportation costs may also constitute a barrier to accessibility among the poorest and most isolated ambulatory referral patients--a need to which VDCs may respond. Another solution envisaged is for the clinical supervisor to treat patients on rounds in the villages, making such treatment part of the continuing education process.

Although precise data do not exist, many rural communities in Liberia are stratified in terms of economic and social status. As noted above, the extent to which stratification is present in the southeastern villages and its potential effects upon decision making and health care delivery are not known. Further study is indicated, since the government of Liberia has stated its commitment to serve all the people. Where communities are grouped into what were formerly referred to as "country" and "kwi" towns the location of health services may become an issue. In Maryland County, where this was the case, PHC Project workers decided that new services, such as the clinic and the water pump should be located in the poorest and most populous quarter. This practice is recommended for other areas faced with similar situations.

Peak season agricultural labor demands require long hours of toil. During these seasons, cultivators--women particularly, since they must also perform the household maintenance tasks--have little time to seek health services. Late afternoon hours may be least inconvenient for such persons and their children. Clinics should be located in market towns and situated as close

as possible to the market. Clinics located in towns with Saturday or Sunday markets should be open on these days to be available to people from outlying villages. All feasible accommodations should be made to fit health activities and services into established patterns of rural social life. Toward this end community groups, and particularly poor women with large numbers of small children should be consulted.

#### ACCEPTABILITY OF PRIMARY HEALTH CARE

Multi-faceted primary health care is a new concept to most populations in Africa as elsewhere. However, because their world view frequently includes non-biological concepts of disease etiology, this does not mean that African peoples are necessarily irrational in their health behavior or closed to learning new ways of maintaining family and community health. Curative health care in the biomedical mode is readily acceptable to, even sought after by the population for many illnesses--provided that a modicum of confidence is established. Western drugs, and particularly injections, are highly regarded by most people (cf A.R. Massaquoi 1980:272ff for a review). However, some conditions are popularly defined as untreatable by biomedicine and patients who might be helped fail to reach the system. Often, too, patients who seek service fail to follow through on recommended treatment. Sometimes they misuse prescription drugs; sometimes they leave the biomedical services; sometimes they employ both biomedical and traditional therapies simultaneously. Only rarely are spread effects from curative care to health promotion achieved. Not in-

frequently preventive measures, such as vaccinations or the use of latrines, are actively or passively resisted and their promoters, detested.

Several--often interrelated--elements are responsible for these failures of the biomedical system to elicit positive response from the populations designated as the intended beneficiaries (cf Schoepf 1976). Among these are:

- conflict with existing health actors, beliefs and values;
- lack of demonstrable relationship between environment behavior and health outcomes;
- failure to demonstrate respect for service clientele;
- use of coercive measures;
- limited resources (time, labor, materials, cash);
- failure to design and produce culturally appropriate technology adequate to the purpose;
- lack of knowledge and practical methods of application on the part of providers.

Too often, the results of failure to adapt the biomedical delivery system to the environment in which it must operate are blamed on the recipient population. Sometimes the people can even be induced to blame themselves, as for example, in this exchange:

Expert: Why don't you people build latrines?

Villager: I guess we're just lazy.

Sometimes the change process is conceptualized by professionals as a battle against tradition. This, too, has been the cause of repeated failures of technological transfer.

A collaborative, problem-solving approach is crucial in the attempt to adjust services and behavior to meet local needs. The Village Development Council--Village Health Worker strategy adopted by the Ministry of Health and Social Welfare holds great promise of success, yet will not unfold without problems. Several physicians and other professionals within the Ministry expressed awareness of the flexibility that will be required, and of the need to act in harmony with culturally prescribed expectations while at the same time introducing change. A great deal will need to be done to support this awareness and facilitate its implementation, particularly in the training of lower-level staff and in structuring the conditions of their performance, as well as that of upper echelon staff. Accountability at all levels is imperative.

In order to achieve spread effects from curative to preventive and promotive health measures, the PHC delivery system must make a strong impact upon major perceived health problems. It must do this in ways that enhance people's self-esteem and the community's confidence in its ability to alter the environment. Access to quality referral services through PHC entry points will be one such measure. In addition, people must be able to perceive, in terms meaningful to them, that they and their children are growing healthier. This entails not only an absence of disease and needless death but a positive sense of health and well-being. However difficult this may be to measure in western societies, many African societies in Liberia and elsewhere have a

set of popular criteria ready at hand. These include plumpness, robustness and vigor, as expressed in the presentation of self. This suggests the working hypothesis that if children are perceived to grow sturdier, if adults--especially women--are perceived to grow plumper, (to become "fine") and more energetic, then the project will benefit from popular credibility and its counsel will be considered wise.

The language of treatment and supervision is an important aspect of acceptability and effectiveness in the delivery of primary health services. The village health workers and traditional birth attendants will be members of the communities they serve; thus there should be no linguistic barrier at this level. It is also essential that all physician assistants and certified midwives speak the local language in order to assure adequate communication in treatment training, supervision and community development work. Efforts will be made to recruit train and assign clinic workers to areas where they speak the local language(s).

At the same time, it is recognized that clinic workers may wish to work elsewhere than their own home communities, in part so that they may avoid demands which contravene professional norms. The preferences of staff members should be taken into consideration in making assignments, as their satisfaction (or dissatisfaction) is an essential aspect of role performance. Matter-of-fact, yet tactful, discussion of such problems is recommended as a step toward their solution.

## HEALTH CARE TEAMS

The functioning of local services depends upon quality of work performed at the health posts and centers. This work has social, as well as technical aspects and both must reach adequate levels. Visits to a number of clinics and villages revealed problems which will require attention and suggest that others may exist or arise from time to time. Although difficult to put into practice, the principle that much conflict is due to role strain and competing interests rather than to personal ill-will and incompetence is an effective starting point for conflict resolution. Already it appears that the focus of supervision revolves about in-service training and facilitation, rather than administrative control. These positive features will be strengthened by the national PHC programs's problem oriented management at the county level.

One category of health workers--the Health Inspector--tends to be perceived as a problem by both health workers in other categories and by the population. The recent change of title from that of Sanitary Inspector apparently has not resolved this problem. Inspectors frequently are viewed as oppressors of the people and, in some areas, do not fit into the health team. Fines and punishment must be abolished and cooperation sought instead, by adopting a problem solving approach with the VDC's and Village Health Workers. The role of the sanitarian should be that of a resource person rather than a policeman.

## HEALTH WORKERS, PATIENTS AND VILLAGE DEVELOPMENT COUNCILS

The PHC delivery strategy adopted by the Ministry of Health and Social Welfare is based upon local self-reliance and collaboration with professionals, beginning with community identification of needs and proposed solutions. Liberian health workers interviewed are aware that success depends upon the achievement of mutual respect and trust. These can only come from concrete demonstrations that they (the health workers) are serving the people. They highlight the need to follow customary rules of deference and demeanor in order to convey respect, as well as to listen attentively to patients, presenting complaints, to take adequate medical and social histories and to offer explanations in terms understandable to patients and their families. These problems are understood in a very general way. How to structure the delivery system so as to ensure that constructive behavior in fact is supported and negative behavior discouraged, merits further study. The suggestion that VDCs be encouraged to identify and discuss problems as they arise, rather than waiting for non-compliance to build up and/or conflict to erupt, is well advised.

VDCs are intended to serve as mobilizing force for community health action, offering guidance and fostering positive change. Therefore, what types of persons should be members and leaders of VDCs is very important. Liberian health workers with experience in the ongoing pilot projects agree that in the interest of efficacy and equity, Chiefs and their relatives should not be VDC leaders, although they may sit on such committees as members.

Not should they be trained as members of the Village Health team. Several practical reasons were offered:

in some areas Chiefs lack legitimacy and will not be followed in health matters, which are outside their sphere of activity;

in some areas Chiefs attempt to dominate decision-making and to channel resources toward themselves and their clients;

people will hesitate to disturb Chief's relatives at night for emergencies;

people will fear revealing information which might be used against them by relatives reporting to Chiefs.

In sum, the consensus is that Chiefs should be visited first out of courtesy and kept informed but should not be allowed to use health resources as a means to enhance their prestige or increase their power. At the same time the idea that community residents should be the ones to choose their councils and VHWS was argued strongly. There was recognition that background and motives are complex and no easy predictors of VHW performance are available:

Sometimes the opportunist make good VHWS while some of the seemingly dedicated people do not.

Therefore, provisions must be made for training replacements for VHWS who are judged by the community to be unacceptable.

#### WOMEN PATIENTS

In many Liberian cultures, women do not customarily discuss matters of personal hygiene, pregnancy, childbirth, postpartum events and such with men. Therefore, the TBAs or Village Midwives (VMWs) who exist in every community will be trained in order to upgrade the level of care which they currently provide. In the clinics visited, Certified Midwives (CMWs) provide treatment and where indicated accompany female patients who re-

quire the Physician Assistant's services. If this practice is a general one, no problems of acceptability are foreseen at this level. Hospital care by male physicians is accepted. However, it would seem advisable that dressers and aids who work with female patients should be females.

#### PARENTS AND KIN

The parents of sick children may have different motives for accepting biomedical services and exercise different levels of authority as well. In many African societies, the mother is blamed for her child's illness, particularly when there has been conflict in the family. This occurs frequently in patrilineal societies, where children belong to the father's kingroup. Consequently, many mothers may prefer to use biomedical services in order to avoid the "confusion" or blame-casting that is involved when diviners seek to identify a guilty party whose moral transgressions are considered responsible.

However, health workers in several areas of Liberia find that mothers frequently do not make the actual decisions about when the child should be treated and where. Rather, fathers and their relatives decide. Male and female community and kingroup leaders will need to be convinced to accept PHC services, including immunizations and particularly, in following up on referrals to clinics and hospitals. Village Development Councils can be a key factor in this process.

#### BENEFICIARY PARTICIPATION IN PLANNING: VDCs

Some participation of beneficiaries has occurred during the

planning process and given the Ministry of Health and Social Welfare commitment, can be expected to continue. As noted earlier, in areas where VDCs have already been formed, as in Maryland County, local level planning takes place with them. Members of the joint design team were given an opportunity to attend several council meetings and inquire into their activities. Councils typically include men of various ages and representatives of the women. Some health workers are aware of the need to include more women in decision-making. This should be supported at all levels.

Village Development Council activities to date have included such things as selecting Village Health Workers, monitoring their performance, and requesting that Village Health Workers found by them to be unsatisfactory be replaced. The forms of participation listed above give every indication of drawing increasing numbers of rural people into activities which express and serve their needs. Thus the LEPC program should have spread effects to other efforts to improve the quality of village life. Nevertheless, it would be unwise to view community participation as a panacea.

Already there is a discernible tendency to require the VDCs to undertake measures which are likely to be unpopular with their constituents. The VDCs are charged with finding a means of compensating the workers of the VHT for services rendered to community residents, an activity for which there does not seem to be any precedent in the existing social systems. In addition, the

plan calls for VDCs to conduct a census of their villages with results to be turned over to government employees. Census-taking has historically been associated with taxation and labor drafts. If rural Liberian communities are similar to others in many African nations, census-taking will be highly unpopular and may render suspect those associated with it, even though the census may be explained as a necessary instrument for measuring the effectiveness of health care delivery.

In many areas of the world, including the United States, designs which shift the responsibility for unpopular actions onto local community councils, however representative these may be, have been responsible for increased intra-community and inter-community conflict. The same effects have been observed when community councils have been charged with responsibilities, yet find themselves without resources sufficient to meet these responsibilities on an equitable basis. The organization, representativeness and actual working of the VDCs merits research.

#### VILLAGE HEALTH WORKERS INCENTIVES

The Village Health Worker is a community resident selected by the VDC and trained by the Clinic Supervisor, who may be a Physician Assistant (PA) or a Registered Nurse (RN). He or she will treat common symptoms, promote basic sanitation and health education and refer to the clinic patients in need of further treatment. Working part-time, the Village Health Worker (VHW) will receive supplies and supervision from the PA. Compensation, in cash or in kind, will be provided through the VDC. Most VHW's

who have been chosen thus far are males. The only female VHW we met was the young wife of a teacher assigned to the village school, who is chairman of the VDC. The daughter of a trader who has settled there, she has completed the sixth grade and was said to be chosen because of her demonstrated concern for others.

All Village Midwives (VMWs) currently practicing in the community and who so desire will be trained by the Certified Midwife (CMW). They will be furnished with UNICEF delivery kits to be replenished, as needed, from the clinic. It is expected that customary compensation of VMWs services will continue. The decision to train all VMWs has resulted from indications that where only one is selected for training, conflict detrimental to patients' welfare has resulted. Most VMWs are women; in the southeastern region, however, men can also attend deliveries, and one male TBA was encountered.

The principal incentives to provide health services at the village level are expected to be social ones; the prestige that accrues from access to new knowledge, from the distribution of supplies or medicines free of charge, and from service to the community. While it is recognized that village level workers would prefer to be paid by government, with stipends based on the national minimum wage, the cost of adding 2000 additional workers to the payroll (amounting to \$4,800 000 for four counties for one year) is considered prohibitive. Therefore it will be left to the VDCs to provide some form of compensation for and ensure satisfactory performance from village level workers while the

supervising PAs and CMWs provide technical support. This solution is the only one considered to be financially feasible.

According to the Liberian health workers interviewed, the system may be expected to encounter problems at the outset which will be surmountable with time and effort.

Compensation by the VDC offers several advantages, the first of which is flexibility, for it allows prestations to be adapted to local conditions. It also helps to avoid problems which could result from incorporating the VHW into the central government's civil service structure as a new job category with nation-wide mobility. For example, remaining part of the local community and directly accountable to community leaders, the VHW is less likely to find a comparable position in an urban area. There would also appear to be less likelihood of creating social distance between the VHW and the majority of the rural community which could occur were the role to become more professionalized.

While literature on VHWs in different sociocultural settings is scanty, a significant amount of work has been done on the role and training of VMWs (cf. Newman 1980; Spring 1980; Cosminsky and Schoepf 1981 for anthropological perspectives). The role is a problematic one for several reasons, and requires rethinking as to what its content and structure should be. In the LPHC system, as in other Third World nations, the VMW -- in her own person -- will become a sociocultural interface between health care systems. An independent practitioner who often enjoys respect and high status in the community, the midwife enters

the biomedical system at the lowest rung of an elaborately ranked professional hierarchy. Furthermore, for the VMW without formal schooling or English fluency, there are likely to be several rungs missing in the career ladder to be instituted. Thus cultural sensitivity and careful monitoring of the training, integration and effectiveness of the Village Health Team are indicated.

#### MID-LEVEL HEALTH WORKERS' INCENTIVES

Training programs will be upgraded or instituted in the areas of health care delivery, supervision and supporting services (see Administrative Feasibility). The Ministry of Health and Social Welfare is preparing to institute a system of career ladders for paraprofessional workers and is cognizant of the need to provide special incentives for those who serve in rural posts. Availability of renovated facilities, equipment, supplies and referral back up necessary for delivering acceptable levels of health care will also constitute an incentive to quality performance. Ministry leaders point to the need to finance suitable housing for paraprofessional workers in communities where housing is now unavailable.

The initial effects of change are likely to elicit positive response from most health care workers. The task of institutionalizing quality care will require continuing attention so that the initial thrust is carried through rather than becoming submerged under routine. The county wide health workers meetings already instituted by the Ministry of Health and Social Welfare's

Division of In-Service Training provide a means of using reference group dynamics to ensure continued upgrading of services.

Health workers in the counties emphasize their need "to know that Monrovia has not forgotten us." This phrase is used to emphasize the need for monetary incentives and promotions. However, it also suggests that continued attendance at such meetings by MHSW Central Office representatives can reinforce communication up-the line and provide needed insight, into the actual functioning of the peripheral system. In the final analysis, the task of ensuring quality performance which falls upon the County Health Directors, depends upon their ability to constitute and lead interdisciplinary teams. Their efforts will need to be supported by tangible rewards. Continuing education, housing and special compensation for rural service have been suggested.

#### PHYSICIANS INCENTIVES

Incentives are required to attract and commit Liberian physicians to PHC work at the county-level, as well as to the hospitals providing back-up services. The principal incentive offered by the project resides in ensuring the conditions necessary for physicians to perform at an acceptable level. Administrative decentralization, refurbishing the hospitals, providing supplies and vehicle maintenance and renewed community respect will serve to provide the setting for the delivery of quality health care.

In addition, there will be training incentives in the form of an MPH degree to be obtained by six physicians (probably in the US) and visits to observe the health systems of other nations.

Working together in the same university program, these physicians will be likely to form a solidary reference group, supporting one another in solving problems and maintaining standards of performance. Furthermore, the MHSW salary scale is being revised upward; in the new scale, it is proposed to raise substantially the compensation of entry-level physicians in the public health system.

Initially, these incentives are likely to have positive impact on the physicians trained by the project. Long term effects must also be foreseen. In Liberia, as in many other nations, public health is at the bottom of the status ladder of the medical profession. The high status physicians are those relatively well-paid expatriates and nationals in institutional and fee-for-service private practice and on the University faculty. To ensure the retention of experienced physicians, those working within the MHSW must also have an assured career path. If it is not deemed advisable to award them substantial monetary incentives, it should be possible to provide opportunities for training, research and travel. Senior physicians should be able to look forward to professional equality with physicians working outside the ministry, with opportunities for further development made commensurate with their experience, service and demonstrated talents.

#### SOCIOCULTURAL FEASIBILITY

The overall sociocultural feasibility of the proposed Primary Health Care Project is demonstrated by the success of the several pilot projects now ongoing in different areas of Liberia,

including one in the designated region to be served. Previous sections of the Social Soundness Analysis have pointed to difficulties that may arise from cultural forces operating at the local level. These include;

- patterns of social differentiation;
- concepts of health and illness;
- composition and functions of VDCs;
- recruitment and roles of VHWs;
- access to services;
- practitioner - patient relationships;
- appropriate technology;

Some further sociocultural and administrative aspects of the environment in which PHC delivery will be effected are elaborated upon in the following sections.

#### ARTICULATION OF TRADITIONAL AND BIOMEDICINE

Liberia's National Primary Health Care Program is not entering a social, cultural or technological vacuum. The terrain of medical practice and belief is already occupied by enduring systems of great resiliency and adaptive capacity. Traditional healers include herbalists, bone setters, midwives, diviners and other types of religious healers, many now regulated by Government licensing. How these practitioners will relate to the LPHC system is not yet determined and is a subject of both practical and theoretical interest. Three sets of perspectives are considered here those of biomedical and traditional practitioners and those of users of health services.

Interviews with several Liberian physicians found them to be flexible in their approach to traditional medicine, which in their estimation, constitutes a precious national resource.

Pointing to the present pattern of health resource distribution they note that while biomedical services have been accessible to a portion of the urban population, in many rural areas, traditional practitioners have been the only source of health care for the vast majority. Thus, the aim of the MHSW is to extend PHC services and upgrade secondary level care to alter this pattern, improving the range and quality of care available to villagers. They recognize that high standards of performance and respectful relations with rural people are necessary in order that the population may make effective choices among treatment modes.

Several health workers recognize explicitly that the success of their efforts depends upon collaborative and cooperative, rather than competitive, relationships with traditional healers. One physician described a constructive approach to a community in which the priest healer is the leading sociopolitical figure:

"When you arrive in the village, ready to begin a meeting and you find people sitting around waiting for the Bodio, you wait. You don't begin the meeting. You listen to the people and learn about their problems informally. Then when the Bodio arrives, you can begin your meeting."

He emphasized that success of community health efforts depends upon respectful and considerate behavior on the part of all health workers toward people in the rural communities.

It is sometimes assumed that conditions of scarcity render concern with the quality of practitioner patient relationships

superfluous. As a general rule, however, this is incorrect and earlier investigations of the extension of biomedical services into rural areas of Liberia confirm this general finding (cf Welmers 1941; Orr 1968). Furthermore, many patients express the desire to obtain explanation of their treatment in terms they can understand. Studies conducted in other countries conclude that patients' understanding is a crucial element in their willingness to follow therapeutic recommendations (cf Schoepf 1975 for a review).

Despite the prevalence of belief in supernatural disease etiology, anthropological studies show that it is not necessary to conduct a frontal assault on belief systems in order for people to change their health behavior. Nor does such belief preclude incorporation of the germ theory at the level of immediate causation, in explanation of "how" rather than "why" a disorder occurs. Good news travels and an effective PHC delivery system will be a potent stimulus to change.

Several Liberian biomedical practitioners pointed to the efficacy of some types of traditional therapies. They reported referring patients to bonesetters and herbalists, whom they consider expert in treating certain conditions. As in other areas, they themselves have recourse to such practitioners when biomedicine fails.

In addition, western-derived biomedicine still tends to treat the human body as separate from the mind and from society. Many practitioners, working in a traditional therapeutic framework,

explicitly recognize psychosocial aspects of disease etiology take the time necessary to elicit information which reveals the source of many difficulties and mobilize family and community toward putting an end to conflict and dis-ease. Thus, ritual therapies also are seen to have their place in contemporary health care.

Along with these positive aspects of traditional healing, Liberian physicians identify a number of dangers inherent in the methods of traditional practice and in its changing social context. For example, concern with the maintenance of professional secrecy excludes peer review, supervision and consumer advocacy which could help to set quality standards. Reputational criteria highly susceptible to manipulation, remain the sole control on practice. Another frequently cited problem is the administration of medicinal preparations without established controls. Not only are the dosage tolerance levels, side effects and combination effects of many traditional preparations unknown; the ingredients and dosages established through many years of trial and error are being altered radically in the present in both city and countryside, partly in response to biomedical technology and concepts.

Complex relationships between knowledge, power and illness exist in all medical systems, hence there is cause for concern about the use of traditional medicine as an instrument of social control in ways that add to the afflictions of the disadvantaged. For example, individuals who are troublesome to family

and community leaders due to their non conformism may be labeled "mentally ill," or designated as witches or sorcerers and harshly dealt with by medical and/or political authorities. Socio-medical reprisal against women who violate patriarchal norms is found in many male-dominated societies. An example is ritual treatment for "Big Mouth," the correction and punishment of women who are perceived to be loud, insolent and insubordinate (Dennis and Harrison 1979: 33).

Liberian health workers also cited the rise of charlatanism, and particularly the self-serving mystification embodied in the witch finding procedures of diviners. Several persons interviewed pointed to the tendency of healers in the cities to expand the list of conditions which they claim to treat, the entry of incompletely trained individuals and rising fees. In sum, biomedical practitioners distinguish between types of traditional healers and to judge them based upon criteria of therapeutic efficacy rather than dismissing them out of hand.

A consensus appears to be developing to the effect that, despite the difficulties involved substantial practical advantages are to be had from establishing working relationships between the LPHC program and local healers who represent an important element of self-reliant community based activity. Patients will continue to use the different types of health services available, sometimes simultaneously, sometimes in alternation. Friendly collegial relations can serve to convince traditional practitioners of the value of early referral of patients whose conditions

fail to respond to their treatments. They can also motivate traditional healers to advise families to seek biomedical treatment and to continue treatment, even when the <sup>patient's condition shows no rapid improvement. When</sup> simultaneous use of different therapeutic modalities is accepted as a given, biomedical practitioners may find that there are fewer withdrawals from their services. Collaboration may induce confidence, disclosure and mutual learning and, furthermore, local healers may become influential change agents, developing community acceptance of promotive and preventive health action.

Some traditional healers will be members of VDCs. Others, including the TBAs, will be members of the Village Health teams to be trained and supervised by the LPHC project. Since these roles are inherently coopting, many other traditional healers will probably choose to remain outside the system. In either event, modes of relating constructively will have to be developed in the course of implementing the national public health program.

Liberian physicians are becoming increasingly interested in traditional medicine. The evolution of the articulation of traditional and biomedical health systems, which will occur as the PHC delivery system extends into the rural areas of Liberia, should be fully studied both in order to solve immediate problems and to guide further planning. Research should include quality of care assessment in a comprehensive approach, taking into account social as well as technical dimensions (cf Donabedian 1981) of both sets of treatment modalities. Such research will make a contribution to the emergence of modern medicine in Liberia and

in Africa, with features derived from a plurality of health care strategies.

#### COMMUNITY ORGANIZATION

The entire pyramid of the LPHC program rests upon a base of community organization. Careful reading of the technical report, however, reveals that nowhere is it stated that specialists in this area of expertise are to be trained or utilized. While in some areas, physicians and physician assistants have displayed extraordinary skill in community organization, some avoidable errors have also been made. Although space will be provided for a social worker in each of the County Health Department buildings the role that this person will play is not specified. Attention is directed to this problem as one requiring solution. Furthermore, as noted earlier in the review of the sociocultural landscape, the detailed information about local social structure upon which to base community organization and leadership training at the local level does not exist. Since this area remains unprovided for in the project design, it should be included in a separate funding request for research in medical anthropology.

#### SOCIAL ASPECTS OF ADMINISTRATIVE FEASIBILITY

The plan is intended to reorganize the environment and structure of decision-making, resource allocation and supervision, making it possible for peripheral units to act effectively in response to local needs. The need for ministerial reorganization along with the reorientation toward emphasis on the delivery of primary health care has been recognized at different levels in

the system. Planning workshops and discussions have identified a number of specific areas in need of modification. These include the rationalization of the functions of various sections, bureaus and divisions in the Ministry of Health and Social Welfare's central office in Monrovia and decentralization of operational decision-making and resource allocation to the county level. The new table of organization proposed by the joint design team and an accompanying description appear in the section on Administrative Feasibility. If the proposed plan proves acceptable to the Ministry, then its implementation may be expected to proceed as the project evolves.

The attitudes, objectives and capabilities of the Ministry of Health and Social Welfare leadership responsible for guiding implementation of the National PHC Program constitute a key element in making possible a successful project outcome. The issues have been reflected upon over several years; the program is one that the Ministry is committed to seeing to fruition; the Government of Liberia views it as part of its national development strategy. The interventions proposed in the technical report are considered suited to the political, organizational and ideological context in which they will evolve.

Assessment of administrative feasibility raises some unanswerable questions about the informal organization of the health care system and its environment. In many instances, informal processes constitute barriers to project implementation. These processes include various types of subgroup interests, bot-

tlenecks and leakages. Subgroup interests and conflict in the decision-making process can impede the two-way flow of messages necessary for effective communication and commitment to service goals and standards. Should the bottlenecks build up, or individuals in key positions be thought to attend extensively to their personal, rather than to service goals, the success of the program would be jeopardized. While further study of the actual workings of the MHSW would be necessary in order to make predictions and recommendation in this sensitive area, some structural safeguards have been built into the design proposed in the technical report.

Accessibility and timeliness are crucial to the success of health services delivery. Supervisory visits, special services--such as immunizations--and resupply missions must be carried out according to schedule. If mothers are told that the vaccinators will come on a designated day and remain in the village rather than going to their farms that day, only to discover that the team failed to arrive (because its jeep is out of commission or there is no gas, or the vaccines are late in coming), then not only will confidence be eroded and many work days lost, but the village children will suffer in the next measles epidemic. In fact, the absence of logistical support was found to be a major factor in problems of services delivery at the periphery of the public health system.

The joint design team agreed that the County Health Director, a public health physician, is the person most strongly indicated

to ensure the overall supervision of logistic services to the periphery. His or her professional responsibility is engaged in the commitment to provide the health services being designed. The Hippocratic Oath, in itself, is nowhere a sure guarantee of responsible performance. However, other mechanisms, such as the assessment workshops planned within the MHSW, medical and other voluntary associations and the VDCs, together these can be expected to ensure accountability. That is they will provide a basis for setting and enforcing adherence to mutually agreed upon norms and standards. These group processes will reinforce the chain of supervision from the Chief Medical Officer on down the line, as well as allowing for upward feedback.

Decentralization of services is recognized as imperative by all parties involved in the planning effort. The joint design team has proposed a structure in which major responsibility for the delivery of primary health care rests at the county level, where the County Health Director has authority over health care, supplies, and pharmaceuticals vehicles, fuel and equipment maintenance. Interviews in Monrovia and visits to the seven most accessible of Liberia's nine counties convinced the technical consultants of the need for this specific form of decentralization. The plan to establish a full panoply of activities at the county level, rather than to group the counties into regions as proposed in earlier drafts, is based upon several technical and social considerations.

Road access to the interior of Liberia is difficult and time-

consuming, particularly since many roads are of poor quality. Distances which are short as the crow flies are multiplied by the peculiar geographical distribution of transport lines determined by the country's economic history. Liberia, like many other African nations, suffers from a legacy which linked mines, logging sites and plantations in the interior to coastal port facilities. Thus its roads--and the railroads belonging to the concession companies--tend to run north-south, while east-west links are extremely poor. The four southeastern counties which the USAID project is intended to support are the most ill-served in this respect.

The alternative plan to assign vehicle maintenance, spare parts, medical and pharmaceutical supply depots to a supra-county or regional level would short-circuit the accountability processes being built into the health services delivery system. The effect would be to remove these crucial supporting services from the authority of the physician directly responsible for health services. Instead, a new level of authority would be created, apart from and outside of the direct line of medical responsibility. It would open the door to conflicts generated by competition for scarce and valuable resources and to leakages of all sorts. Given its built-in opportunities for malfunctioning, such a structure would be likely to create problems which would jeopardize the functioning of the entire primary health care system.

## TECHNICAL COLLABORATION

Thus far attention has been focused upon Liberian actors in the LPHC system. However, while the general context of the program's success can be specified, the effects of the US technical team remain unknown. The effectiveness of technical collaboration in project implementation will depend in large measure upon the ability of each expatriate advisor to adapt to the sociocultural environment of the host country. This includes not only the rural areas which will be visited for brief periods of time, but Monrovia and the county seats, as well. The reaction of expatriates to strongly rooted sentiments of nationalism, and to impatience with continued dependency and underdevelopment, as these concepts relate to development assistance, are a sensitive area of concern. The qualities demanded of the advisory team: adaptability, resourcefulness, tolerance for ambiguity and frustration genuine, unpatronizing respect for the Liberians with whom they work and for their cultures will have to be demonstrated. These homilies have been restated in many planning documents and are standard textbook fare for overseas Americans (cf Arensberg and Niehoff 1964). There is more to be said on the subject, however.

The new buzzwords "technical cooperation" and "development collaboration" imply more than just a change of name (cf Tshibanda 1981). The quest for collaboration rather than assistance is based on the understanding that the transfer of technology necessarily includes a social aspect and that, most often,

new technology gives rise to, even serves as the pretext for the introduction of new social relations. Special sensitivity is required, since Liberia today is striving to emerge from a rather special set of colonial circumstances which involve the United States rather more directly than is the case in other areas of Africa.

The consultants chosen must be prepared to work in collaboration with Liberian professionals. They must be prepared to accept their leadership and when differences occur, to defer graciously to their judgement. They must come prepared to work under people who may, by virtue of the degrees they hold, be considered by some to be less competent, but who, by virtue of their experience, are actually more competent than the foreign advisors to make decisions for their own nation.

#### DURABILITY, REPLICATION AND SPREAD EFFECTS

The institutionalization and durability of the LPHC program beyond the life of the five year four-county project to be funded by USAID and the Government of Liberia is virtually guaranteed. The plan has been developed by the MHSW over the past several years and in essence is a Liberian plan developed by Liberians for Liberians. As such it is adapted to meet local needs and is capable of being adjusted to regional variations.

Spread will occur mainly by design, in order to maximize the effectiveness of scarce resources. The MHSW intends to approach other prospective donors to obtain funding to replicate the program in the other five counties and provide cover-

age for 90 per cent of Liberians within the next two decades. Ministerial reorganization, training programs, material support, and institution building at several levels are to be achieved as a result of this project. This will enhance substantially the absorptive capacity of Liberia's national public health system. Future extension of the system will occur at lower cost since many of the start up costs will be borne by this project.

Since the LPHC system rests upon the mobilization of self-help efforts by rural communities, it is expected to extend its influence to other spheres of development activity including education, roads and bridges and income-generating projects. The success of the project can be expected to carry its own momentum since popular demand for services will rise with rising expectations.

#### ROLES OF WOMEN

The roles of women as providers and consumers of health care have been considered throughout this paper and will be summarized here. Rural women at present constitute the majority of adult patients and will benefit from improved quality and accessibility of services delivered in an acceptable manner. They will receive improved prenatal, birthing and postnatal care. They will become participants in efforts to improve the community's health and in special development activities to be undertaken by and for women through the MHSW's newly created Division for the Advancement of Women. They will benefit also from knowing that their families, and particularly children, are safe from several major killer

diseases including measles.

Rural women will become increasingly aware of nutrition, sanitation and health practices which can help to improve their lives and increase their productivity. They will build new standards of expectation and through their participation in community development activities develop their skills as change agents.

Some 1500 rural women will improve their knowledge and skills as Village Midwives, whose roles are broadly defined in the program design just as they currently are in practice. Approximately 100 women with some secondary schooling will be trained as Certified Midwives to fill an expanded role in training and supervising VMWs. A few women may also be trained as Physician Assistants and Public Health Physicians. In addition, given the present dearth of PAs, some women nurses may be appointed to positions as clinic supervisors in rural areas. Within the MHSW, women are active at all levels of leadership. Nevertheless, there is evidence of sex role stereotyping among physicians and PAs, as these roles tend to be filled almost exclusively by males. Since Liberian government leaders and the MHSW have articulated the goal of equal opportunity, recruitment of women into training for these roles should be reinforced.

#### APPROPRIATE TECHNOLOGY THE LATRINE PROBLEM

The use of latrines is universally counseled by biomedical health planners and providers as a measure which dramatically reduces the incidence of disease among those now living in unsanitary environments. At the same time compliance with technical

advice and use of facilities meets with great resistance in many parts of the world. This is true in Liberia today, in some communities visited by members of the Joint Design Team, latrines had not been dug; in some they had been built but remained virtually unused. VDC members pressed for explanations replied evasively. To the anthropologist this situation, so frequently encountered elsewhere indicates that present latrine technology and the methods of its introduction are culturally inappropriate. While further investigation of the problem is indicated some tentative findings of the brief field observations and consultation with Liberian health workers are presented here.

The sociocultural factors contributing to reluctance or refusal to use latrines include absence of perceived need; strong odors considered very objectionable; faulty construction leading to accidents; poor location in terms of strongly held values about privacy. The subject of defecation is a tabooed one in many contexts as this excerpt from an interview indicates:

When I was a child I noticed that older people never talked about going to the toilet. They only gave directions for children. So I thought these people never go to the toilet. Then I realized. The man took his cutlass and went out down the road. The women took her lapa over her shoulders and set her water pot on her head and went down the path to the creek. I saw what lengths they went to hide it. And so I, too, learned to be ashamed.

Sanitary inspectors were held in ill repute as oppressors of the people; some are said to have extorted bribes in place of requiring people to pay fines.

Some elements which may contribute toward solving the sanitation problem were gathered during field visits. The starting point is the problem solving process itself. VDCs and health workers need to begin with an experimental frame of mind. Wide community discussion should be involved from the outset. Women's groups should be explicitly sought out, since women are likely to be responsible for cleaning and carrying water. All implementation decisions should be reached by users rather than handed down. The role of the sanitarian is to provide technical assistance helping to adapt the most feasible designs to meet local needs. The use of fines and bribe is counterproductive; VDCs can exercise responsibility for adherence to norms set by the community. The following points are intended merely as suggestions.

1. Location should be determined by the users. They may wish to restrict the number of persons who share a facility; to separate men's facilities from those of women; to dissimulate the entrances; to remove the latrines from the immediate vicinity of houses.
2. Design should maximize privacy convenience and safety; eliminate odors and flies.
3. Health education should be incorporated into the process using visual aids and actual observation.
4. Evaluation should be part of the community health process

carried out by VDC s in collaboration with health workers,  
SOCIAL ASPECTS OF HEALTH WORKER TRAINING

Given the problems of delivering community based primary health care a number of which have been selected for comment in this report, the training of all health workers should include some notions of medical anthropology. Physicians nurses and other paraprofessionals should be exposed to systematic course work in the discipline. Relevant topics include concepts of social structure rural economy and community development in addition to study of traditional and biomedical delivery systems from an anthropological perspective. Case examples drawn from Liberian situations should be used to illustrate general principles and to demonstrate their use in problem-solving. Trainees should be required to carry out short research projects to familiarize them with field survey methods, systematic observation, community diagnosis and report writing.

The work of the Physician Assistants is essential to the operation of backup services in the rural areas where they will train and supervise the Village Health Teams, as well as providing curative services in the clinics and hospital out patient departments. Several of the PAs were held up as exemplary models. At the same time criticism was voiced with respect to the role performance of a number of others. For example, it was said that;

The PA acts like a Mini Doctor laying on hands. He can do no wrong, or so he thinks. He gets too much satis-

faction from having people depend on him. Instead of sharing his knowledge with others, the PA hoards it as a means to assert his superiority....The PA who thinks of himself as a teacher, helping others to help themselves to better health, is a rare individual.

Other commentators mentioned specific abuses of professional responsibility, including venality and retaliation against patients who refused demands to pay for treatment or who asked for receipts.

Such practices indicate the need to rethink the role and training of PAs and the social structure of treatment and supervision. The aim should be to maximize the occurrence of the type of practitioner now said to be rare. It appears that both the technical and social competence of PAs need to be increased at the same time that accountability mechanisms are stressed and the reward system revised.

A team teaching approach, in which a physician and a social scientist collaborate in developing the trainees' understanding of community medicine, should be tried on an experimental basis. (The innovative courses used in a number of U.S. Medical schools might be adapted to serve as a model.) The course would include practice in interviewing, history-taking, team work and communication skills, as well as explore social cultural and economic aspects of health and disease.

At least one professional medical anthropologist should be trained to work in teaching, research and planning within the MHSW.

## REFERENCES CITED

- Arensberg, Conrad M. and Arthur H. Neihoff  
 1964 Introducing Social Change: A Manual for Americans Overseas. Chicago Aldine.
- Clower, Robert, George Dalton, Mitchel Harwitz and A.A. Walter  
 1966 Growth Without Development: An Economic Survey of Liberia. Evanston: Northwestern University Press.
- Cosminsky, Sheila and Brooke G. Schoepf  
 1981 The Role and Training of Traditional Midwives. In Proceedings of the Tuskegee Institute Conference on the Role of U.S. Universities in Rural and Agricultural Development, Brooke G. Schoepf, ed. pp. 173-188. Center for Rural Development, Tuskegee Institute.
- Dennis, Ruth E. and Ira E. Harrison  
 1979 Traditional Healers in Liberia A Review of the Literature with Implications for Further Research. In African Therapeutic Systems, Z.A. Ademuwaḡun J.A.A. Ayode, I.E. Harrison and D.M. Warren eds. pp.81-84 Waltham, Mass. Crossroads Press.
- Donabedian, Avedis  
 1981 Advantages and Limitations of Explicit Criteria for Assessing the Quality of Health Care Health and Society, Milbank Memorial Fund Quarterly 59,1; 99-107.
- Dorjahn, Vernon R. and Barry L. Isaac, eds.  
 1979 Essays on the Economic Anthropology of Liberia and Sierra Leone; Liberian Studies Monograph Series No.6 Philadelphia; Institute for Liberian Studies.
- Djukanovic, V. and E.P. Mach eds.  
 1975 Alternative Approaches to Meeting Basic Health Care Needs in Developing Countries. Joint UNICEF/WHO Study. Geneva; World Health Organization
- Golladay, Frederrick and Bernard Liese  
 1980 Health Problems and Policies in the Developing Countries. World Bank Staff Working Paper No. 412 (August). Washington D.C. World Bank.
- Greenberg, Joseph  
 1966 The Languages of Africa. The Hague: Mouton.
- Harley, George W.  
 1970 Native African Medicine with Special References to Its Practices in the Mano Tribe of Liberia. London; Frank Cass.

- Janzen, John M.  
1978 The Quest for Therapy in Lower Zaire. Berkeley; University of California Press.
- Liebenow, Gus L.  
1969 Liberia; The Evolution of Privilege. Ithaca, N.Y.: Cornell University Press.
- Massaguoi, Abdul R.  
1980 Pharmaceuticals in Tanga. M. Sc. thesis, London; Institute of Child Health.
- Massaguoi, Momulu  
1934 Liberia, Hamburg :
- Mc Evoy, Fredrick D.  
1971 History Tradition and Kinship as a Factor in Modern Sabo Labor Migration. 2 vols. Ph.D. dissertation. University of Oregon, Department of Anthropology.
- Newman, Lucille ed.  
1980 Midwives and Modernization. Medical Anthropology V 1. Special Issue.
- Orr, Kenneth G.  
1968 Field Notes on Tribal Medical Practices in Central Liberia. Journal of Liberian Studies 101:20-41.
- Republic of Liberia  
1975 The 1974 Census of Population and Housing Population Bulletin No.1. Monrovia: Ministry of Planning and Economic Affairs
- Sawyer, Amos C.  
1973 Social Stratification and Orientation to National Development in Liberia. Ph.D. dissertation. Northwestern University, Department of Sociology.
- Schoepf, Brooke G.  
1975 Human Relations versus Social Relations in Medical Care. In Topias and Utopias in Health; Policy Studies. S.R. Ingman and A.E. Thomas, eds. pp.99-120. Netherlands. The Hague; Mouton.  
  
1976 Recherches en Anthropologie Médicale; Theorie et Perspectives Méthodologiques. Bulletin d'Anthropologie Médicale I 2 (August); 20-36.
- Skinner, Elliott P.  
1964 West African Economic Systems. In Economic Transition in Africa. Melville J. Herskovitz and Mitchell Harwitz, eds. Evanston, Ill. Northwestern University Press.

Spencer, Dunstan S.C.

1975 Economics of Rice Production in Sierra Leone; I Upland Rice Bulletin No.1 Department of Agricultural Economics and Extension, Njala University College, Sierra Leone.

Spencer, Dunstan C, and Derek Byerlee

1976 Technical Change, Labor Use and Small Farmer Development Evidence From Sierra Leone African Rural Economy Paper No.15, Department of Agricultural Economics, Michigan State University, East Lansing; Michigan,

Spring, Anita

1980 Traditional and Biomedical Health Care Systems in Northwest Zambia; A Case Study of the Luvale. In Traditional Health Care Delivery in Contemporary Africa, P.R. Ulin and M.H. Segall, eds, pp.57-80. Foreign and Comparative Area Studies, Africa Series XXXV, Maxwell School of Citizenship and Public Affairs, Syracuse University.

Tshibanda, Ntunçamulongo

1961 From Assistance to Cooperation; Pleading for a Change. In Proceedings of the Tuskegee Institute Conference on the Role of U.S. Universities in International Rural and Agricultural Development, E.G. Schoepf, ed. pp.269-275. Center for Rural Development, Tuskegee Institute.

Welmers, W.E.

1941 Secret Medicine; Magic and Rites of the Kpelle Tribe in Liberia, Southwestern Journal of Anthropology 5:268-243.

World Health Organization

1977 Utilization of Traditional Systems of Medicine WHO Assembly Resolution 38,49, Geneva; WHO.

1978 Risk Approach for Maternal and Child Health Care; Offset Publication No.39. Geneva; WHO.

#### OTHER WORKS CONSULTED

- Anderson, Benjamin  
1870 Narrative of a Journey to Musardu, the Capital of the Western Mandingoes. New York: S.W. Green.
- Amachree, T.D., T.B. Ken and J. Tapleh  
1970 Agricultural Innovation in Rural Liberia. Monrovia: University of Liberia.
- Bellman, Beryl L.  
1975 Village of Curers and Assassins: On the Production of Fala Kpelle Cosmological Categories. The Hague: Mouton.
- Bledsoe, Caroline  
1980 Women and Marriage in Kpelle Society. Palo Alto, California: Stanford University Press.
- Bropleh, Nah doe Patrick  
1974 Rural Resources and Liberian Economic Development. Ph.D. dissertation. Duke University, Department of Economics.
- Brown, George W.  
1941 The Economic History of Liberia. Washington, D.C.: Associated Publishers.
- Buell, Raymond Leslie  
1928 The Native Problem in Africa. New York: Macmillan. 2 vols.
- Carter, Jeannette E.  
1970 Household Organization and the Money Economy in a Loma Community, Liberia. Ph.D. dissertation. University of Oregon, Department of Anthropology.
- Cole, Johnetta B.  
1967 Tradition and Wage Earning Labor Among Tribal Liberians. Ph.D. dissertation. Washington State University, Department of Anthropology.
- Church, R.J. Harrison  
1957 West Africa: A Study of the Environment and Man's Use of It. Princeton, N.J.: Van Norstam.

- Currens, Gerald E.  
 1974 The Loma Farmer: A Socioeconomic Study of Rice Cultivation and the Use of Resources Among a People of Northwest Liberia. Ph.D. Dissertation. University of Oregon, Department of Anthropology.
- Dalton, George  
 1965 History, Politics and Economic Development in Liberia. Journal of Economic History 25: 569-591.
- Dawson, J.L.M.  
 1966 Traditional Concepts of Mental Health in Sierra Leone. Sierra Leone Studies, n.s. 18: 16-28.
- D'Azevedo, Warren L.  
 1962 Some Historical Problems in the Delineation of a Central West Atlantic Region. Annals of the New York Academy of Sciences, 96: 512-538.
- Dennis, Benjamin  
 1972 The Gbandes: A People of the Liberian Hinterland. Chicago: Nelson Hall.
- Dennis, Ruth  
 1975 The Traditional Healer in Liberia. In Traditional Healers' Use and Non Use in Health Care Delivery. I.E. Harrison and D.W. Dunlop, eds. pp. 17-23. East Lansing, Michigan: Michigan State University, African Studies Center. Rural Africana no. 26.
- Fraenkel, Merran  
 1964 Tribe and Class in Monrovia. London: International African Institute.  
 1966 Social Change on the Kru Coast of Liberia. Africa 36: 154-172.
- Freeman, H. Boakai  
 1952 The Vai and Their Kinsfolk. Negro History Bulletin XVI, 1: 51-63.
- Genevray, J.  
 1952 Elements d'une Monographie d'une Division Administrative Liberienne (Grand Bassa County). Dakar: Institut Francais D'Afrique Noire, Monographie no. 21.
- Gibbs, James L., Jr.  
 1963 Marital Instability Among the Kpelle, Toward a Theory of Eponogamy. American Anthropologist 65, 3; part 1 (June): 552-573.  
 1965 The Kpelle of Liberia. In Peoples of Africa. J.L. Gibbs (ed). pp. 197-240. New York: Holt, Rinehart, Winston.

Government of Liberia

1949 Administrative Regulations for Governin, the Interior.  
Monrovia: Department of the Interior.

Handwerker, W. Penn

1979 Daily Markets and Urban Economic Development. Human  
Organization, 38, 4: 366-376.

1981 Reproductive Choices and Behavior: A Test of Two  
Theories of Fertility Variation with Data from Monrovia,  
Liberia. Medical Anthropology 5, 3: 261-292.

Holas, B.

1952 Mission Dans l'Est Liberien: Resultats Demographiques,  
Ethnologiques et Anthropomorphiques. Dakar: IFAN.

Holsoe, Svend E.

1967 The Cassava Leaf People, An Ethnohistorical Study of the  
Vai People with a Particular Emphasis on the Tewa Chiefdom.  
Ph.D. Thesis. Boston University, Department of Anthropology.

1974 The Manipulation of Traditional Political Structures  
Among Coastal People in Western Liberia During the Nineteenth  
Century. Ethnohistory 21: 158-167.

1977 Slavery and Economic Response among the Vai (Liberia and  
Sierra Leone). In Slavery in Africa: Historical and Anthropologi-  
cal Perspectives. Suzanne Miers and Ingor Kopytoff, eds.  
pp. 287-305. Madison: University of Wisconsin Press.

Johnston, Sir Harry

1906 Liberia. London: Hutchinson, 2 vols.

Johnson, S.J.M.

1957 Traditional History and Folklore of the Glebo Tribe.  
Monrovia: Department of the Interior, Bureau of Folkways.

- Meillassoux, Claude, ed.  
 1971 The Development of Indigenous Trade and Markets in West Africa. London: Oxford University Press.
- Nesbit, William and Samuel Williams  
 1963 Two Black Views of Liberia. New York: Arno Press and New York Times (reprint of 1955 and 1857 originals).
- Nolan, Jay  
 1972 Culture and Psychosis Among the Loma of Liberia. Ph.D. dissertation, Stanford University, Department of Anthropology.
- Paulme, Denise  
 1954 Les Gens du Riz: Kissi de la Haute Guinee Francaise. Paris: Plon.
- Riddell, James C.  
 1970 Labor Migration and Rural Agriculture Among the Gbannah Mano of Liberia. Ph.D. dissertation. University of Oregon, Department of Anthropology.
- Schulze, Willi  
 1973 A New Geography of Liberia. London: Longman.
- Schwab, George, ed.  
 1947 Tribes of the Liberian Hinterland. Papers of the Peabody Museum, XXXI.
- Seligman, William  
 1969 Report on the Bassa. Ethnographic Survey of Southeastern Liberia. Robersport: Tunman Center of African Culture (mimeo).
- Staudenraus, P.J.  
 1961 The African Colonization Movement. 1815-1865. New York: Columbia University Press.
- Strong, Richard P., ed.  
 1930 The African Republic of Liberia and the Belgian Congo. Report of the Harvard African Expedition of 1926 - 1927, 2 vols. Cambridge, Mass.: Harvard University Press.
- Teitlebaum, Michele M.  
 1977 Contemporary Kpelle Political Organization. Ph.D. dissertation, Rutgers University.

Warren, Dennis M.

1978 The Interpretation of Change in a Ghanaian Ethnomedical Study. Human Organization 34, 1.

Webster, J.B. and A.A. Boahen with M. Tidy

1980 The Revolutionary Years: West Africa Since 1800. London: Longman. (2nd ed.)

Zeiterstrom, Kjell

1969 Preliminary Report on the Kru. Ethnographic Survey of Southeastern Liberia. Robertsport: Tubman Center of African Culture (mimeo).

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