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**MARTIN LUTHER KING, JR. HOSPITAL/  
CHARLES R. DREW MEDICAL CENTER**

HEALTH PLANNING IN AFRICA:  
STATE OF THE ART ANALYSIS

Denise G. Fairchild  
Ofc. of International Health and Economic Development  
Charles R. Drew Postgraduate Medical School

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## 1. INTRODUCTION

This document reviews the state of the art in health planning in Africa. The purpose of the review is twofold. First, it summarizes theoretical and practical developments in the field. Second, it advances the state of the art by identifying gaps between and within health planning theory and practice.

A critical need exists to bring order and perspective to the international health planning literature, which includes a host of both theoretical and empirical studies. The theoretical underpinnings for health planning are scattered throughout the international health, planning, and development bodies of literature. Empirical studies are equally diverse in focus, encompassing epidemiological, anthropological, economic, sociological, and other analytic perspectives. No study, however, has collated this information to provide an adequate view of the state of the art, especially as it applies to the African continent.

New paradigms of international health planning are also needed at this juncture. Planning theory and practice are evolving without any assessment of their value and relevance to the problems of health and development. On the one hand, planning is inappropriately viewed as the sine qua non of health development, but at the same time, governmental planning lacks the multidimensional approach required for the health needs faced by African countries. This paper not only discusses, but analyzes

current trends with a view to establishing a framework for future planning, specifically addressing three questions deemed critical in any assessment of health planning (Bergwall, 1974):

- 1) Are we adequately planning for changes that will solve existing health problems?
- 2) Have planning techniques been used successfully?
- 3) Have the products of planning been successfully implemented?

Thus, a general literature review merges with information specific to Africa to satisfy the following study objectives:

- To define the context for planning by examining health problems of Africa;
- To identify the major strategies being proposed and used to address the problems of health development;
- To identify apparent deficiencies in current practices in the context of planning and development theory;
- To propose a planning framework based on deficiencies and future implications of current planning practices.

### Scope of the Report

This analysis specifically examines the status of national health planning in Africa. In the effort to provide an accurate accounting, however, the review traces the historical antecedents of contemporary planning practices. Moreover, while the report centers around national planning efforts, it also discusses innovations in health planning, predominately found at the project and private

sector levels. Finally, planning trends in international development agencies, and to a lesser extent, in other developing countries, are discussed to advance a better understanding of health planning in Africa.

It must be added that a more thorough analyses of planning practices must be obtained by detailed case studies or survey analyses. This is especially true given that the countries of Africa differ from each other. Nevertheless, current trends in health planning are clearly indicated.

#### Report Format

The analysis reviews the literature pertaining to health problems, health development theory, and planning of health systems and programs. The literature review is divided into four sections.

Section 1: African Health Problems/Needs defines Africa's health problems and the perceived role of planning for improving the health status of the population. Section 2: Conceptual Development discusses extant development policies and health priorities that have been variously prescribed for meeting health development needs of the African population. Section 3: Methodological Developments, describes the techniques used in the planning and development process.

Section 4: Organizational Developments discusses the structural support and process used to implement health plans/and the planning process. Section 5: Conclusion and Recommendations summarizes and evaluates the current status and projected future of health planning in Africa, especially as related to health problems (both current and projected). Program planning and training implications are also suggested.

## II. HEALTH PROBLEMS AND HEALTH DEVELOPMENT

This section reviews the health problems and the role of health planning in Africa, establishing the analytical framework and providing the context for the report. Specifically, a discussion of health status, disease problems, and disease influences illustrate the magnitude and scope of the problems that must be addressed. A review of the role and status of health planning describes an increasingly important administrative tool, used to improve health status.

### Health Status and Disease Problems

It is generally known that health conditions in Africa are far worse than anywhere else in the world. Every index of health status reflects this, including a higher rate of birth, death, infant mortality, and a lower life expectancy at birth. Mahler (1980) identifies the extent of the deprivation:

Whereas the average life expectancy at birth is some 72 years in the developed countries, it is about 57 in the underdeveloped world as a whole; in Africa it is only 49, in Southern Asia, 51... Whereas, the death rate for children between one and five is less than 1 per 1,000 in most developed countries, it averages about 6 in Latin America, 10 in Asia, 30 in Northern Africa, and greater than 30 in Africa south of the Sahara. (Mahler, 1980:64)

Disease problems span all the main disease groups as described by Eshuis and Manschot (1978), namely: 1) genetic (inherited),

2) deficiency (shortage of intake of essential ingredients), 3) degenerative (due to wear and tear of the body), 4) malignant (change in cell growth due to mainly unknown causes), and 5) environmental (most commonly due to biological organisms).

Among these, environmental diseases are most prevalent in Africa (and other developing countries). It has been determined that more than 40% of deaths are typically due to infectious, parasitic, and respiratory diseases, as compared to 10% in a typical industrial country (Mahler, 1980). For example, the prevailing diseases found in Somalia are tuberculosis, malaria, vesical schistosomiasis, venereal diseases, intestinal parasitosis, and nutritional deficiency conditions (Abbas, 1979).

Despite the severity of these disease problems, such environmental maladies are preventable. The following mortality statistics indicate, for example, the preventable deaths in Ghana per year.

Table 1  
Deaths and Preventable Deaths in Ghana

	<u>Deaths</u>	<u>% Preventable*</u>	<u># Preventable*</u>
Deaths in children under 5	120,000	75%	90,000
Deaths in adults and older children	80,000	50%	40,000
Total	200,000	65%	130,000

\*Those that can be prevented through adequate primary care at cost Ghana can afford.

Source: Kaiser (1977).

Determinants of Disease

Unfortunately, health indices and data regarding disease distribution do not totally describe the problems of health in Africa. The scope of the problem can only be defined in epidemiological and historical terms in order to provide the real prescription for improvement.

It has generally been posited that increased trade contacts with Europe and Asia, settled village life, and (especially) colonialization substantially aggravated the disease environment as we know it today in Africa. Hartwig and Patterson's (1978) historical account of disease in Africa described the influence of settlement and colonialization. In general, village life increased physical contacts and intercommunication among people, which in turn facilitated the spread of disease.

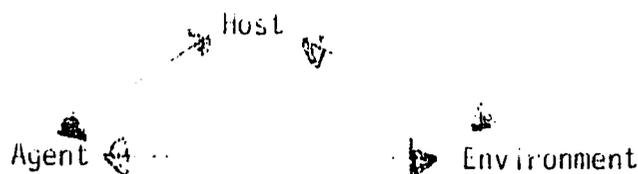
Similarly, economic and agricultural policies, as well as development schemes of the colonial period such as labor migration (forced and voluntary), cash crop production, and urbanization unleashed serious health problems. This included new episodes of "smallpox, measles, VD, tick-and louse-borne relapsing fever; and familiar diseases like malaria, schistosomiasis also claimed more victims ." (Hartwig and Patterson, 1978: 6) In fact, the colonial period (particularly between 1890-1930) has been described as the unhealthiest period in all African history.

This influence of westernization in Africa is a critical, yet rarely discussed aspect of the disease problem. Africans lost control of the relative equilibrium with their disease environment achieved over time through various adaptive mechanisms. Hartwig and Patterson (1978) state that while man's biological and cultural protective mechanisms (including traditional forms of health care technology) have only been partially effective in controlling disease,

Unless man/parasite-vector relationships were altered by such factors as contacts with strangers and their diseases, changes in settlement patterns, movement into new ecological zones, alteration in modes of transportation, or dramatic change in life-styles the epidemiological and demographic situation could have been expected to remain roughly stable. (p. 4)

It becomes apparent, therefore, that problems of health go beyond the prevalence of disease into social, economic, and political influences of health. Planning must consider these factors; moreover, development strategies must reinforce indigenous efforts to restore control over modern-day disease environment through new relevant adaptive mechanisms. (e.g. health services, improved nutrition, new hygiene practices).

Thus, the following disease model as depicted by Eshius and Manscot (1978) is also a model for health and health planning:



The host, whose health is affected by disease agents and the environment, must also be a prime actor in any real effort to change these disease variables. This cause-effect relationship is similar for the other two elements in the disease cycle. Effectiveness of health planning and development, therefore, can be measured only by the extent to which a balance is achieved among these health variables.

### Planning for Health Development

Planning describes a process by which available resources are directed to achieve a specific objective. Rooted in the budgeting process, planning mixes qualitative and quantitative analyses to guide decision-making. In other words, it is reasoned judgment based on: 1) available information, 2) logic of analyses, and 3) evaluation of consequences of alternative decisions. Thus, experience and/or political dogma complement the assorted analytical tools used in each step of the planning process:

- 1) identification of problem
- 2) inventory of resources
- 3) analysis and selection of alternatives
- 4) priority determination
- 5) implementation
- 6) evaluation

While planning is a fairly standard and objective process, its use varies according to political and economic environment. Elling (1971), for example, stated that health planning can be used to achieve either social change or broad system maintenance.

Social change and broad system maintenance are typically antithetical approaches. Systems maintenance is generally regulatory and constraining. It functions to limit health demands, to distribute scarce health resources and to make only marginal adjustments in existing health conditions. In this way, resources are freed for other national priorities, such as the military, agricultural, and industrial development.

Planning for social change, on the other hand, seeks to ensure long-term lasting improvements in health status and disease problems. This requires a depoliticized assessment of the problems, a comprehensive assessment of development alternatives, and an objective, realistic determination of priorities within resource constraints.

In general, health planning is a potentially valuable tool to change the health status of the population. It can tackle short-run health and health-related problems, such as the lack of a health delivery system or basic medical care. It can also help develop effective strategies to establish equilibrium between the host-agent-and-environmental disease triad.

Health Development Planning in Africa

To assess the state of the art in health planning in Africa, one must review conceptual, methodological, and organizational developments, each representing a critical aspect of planning and intricately relating to one another. They have attained, however, different levels of development since the post-colonial period, and this hinders a concise accounting of the state of the art.

There is typically a significant lag between health development concepts and health planning, as well as health planning and implementation. Segall (1972), for example, notes these discrepancies in the health policy, plans, and programs in Tanzania. As a socialist-oriented country, Tanzania maintains a strong government controlled service delivery approach to health despite its precepts of social and human development through community participation. Moreover, while the country espouses development of preventive and rural services, resources are planned and directed into curative, hospital services. Such discrepancies exist throughout Africa, as evidenced by extant health plans and budgets (e.g., USPHS, 1976).

The state of the art, therefore, consists of varied theoretical and strategic approaches to health development. Health philosophies and policies are predetermined by the prevailing political processes of the country, and even more realistically by international development concepts formulated by multi- and bilateral development

agencies. Health plans and programs, on the other hand, reflect the varying organizational and methodological resources of Health Ministries and National Planning organizations. There is no approach to planning health development which consistently matches health needs, health priorities, and health resources.

The following sections describe the conceptual, methodological, and organizational developments in national health planning in Africa, centering around the assets and deficiencies within and among these three dimensions of planning. The policies and priorities, techniques and implementation strategies for health development are encompassed within these subtopics.

## CONCEPTUAL DEVELOPMENTS: HEALTH POLICIES AND PRIORITIES

Greater strides have been made in the area of health development theory than in either the organizational or methodological aspects of planning. The literature reveals the existence of primarily three health development concepts: 1) the health service/infrastructure approach, 2) the ecological approach, and 3) the human resource approach. Each purports to improve the health status of the population. They differ, however, with respect to perspectives on health needs and development strategies, resulting in an amalgamation of policies and priorities.

The three conceptual perspectives on health development emerged in evolutionary fashion. Different historical, political and economic realities underlie the conceptual differences, which are in general, manifested in the transition of health planning from a professional-industrial to social mode (Levin, 1981).

Despite their evolutionary origins, these health development concepts exist concurrently, and together represent the state-of-the-art in the definition of health policies and priorities for planning purposes. Moreover, each can be viewed as necessary and legitimate for addressing the multiple, complex health problems of African countries. In fact, Smith (1975) discusses the value of defining priorities from both user and provider perspectives, and within the context of need, felt need, and demands. Substantial work must be done, however, to blend these concepts into a coherent health development planning strategy.

### Health Services/Infrastructure Approach (HSI)

The prevailing health improvement strategy found throughout Africa today focuses on developing Health Services and/Infrastructure (HSI). Western concepts of health care, juxtaposed to a glaring absence of modern health services and service systems, forced this developmental perspective. Moreover, the availability (or lack) of medical care services and other health resources readily lend themselves to conventional development planning techniques. In essence, the HSI approach primarily focuses on the demands for an organized form of health care as the more legitimate and easily quantifiable indices of health needs.

### Health Development Perspective

The health services/infrastructure approach views the quality of medical care services and its support system as the major determinants of health status. The tenets of conventional development planning, which permeate all sectors of the economy, greatly influenced this perspective. This is in addition to the tropical medicine concerns that flourished in the earliest periods of international health development. These traditional concepts of health and development, while waning in importance in theory, still underlie the current thrust of national health planning in Africa.

Coombs (1980) aptly describes the assumptions of conventional economic development concepts that have influenced the HSI approach to health development.

- By concentrating development efforts on the modernization and industrialization of major urban centers, shockwaves would soon radiate out across the countryside, triggering a dynamic and self-sustaining process of rural development and thereby minimizing the need for direct government intervention and investment in rural areas.
- Agricultural development was the essence of rural development and should be given top priority in any rural investments.
- Economic and social development represent distinct and separate processes, and that sizable progress on the former must precede any significant progress on the latter.
- Villages and villagers are all more or less alike, hence solutions appropriate for one would be appropriate to all.
- The most effective and efficient way to organize and deliver rural services was by separate specialties, each having its own independent "delivery system" running downward to the rural areas from a specialized ministry and its subdivisions in the capital city.

The application of these principles within the health sphere has had far-reaching implications. Specifically:

- 1) The goal of economic efficiency predominates in this health development thrust, given that the bulk of available resources goes into other economic sectors.
- 2) A provider-consumer dichotomy in health development prevails owing to an isolated, narrowly defined view of health in the development process.
- 3) Upgrading health facilities, manpower, technology,

drugs, and other resources constitutes the primary task, given the capital/physical investment perception of development and the perspective that basic health needs will be met by large-scale development in other sectors.

Finally, the heavy influence tropical medicine has had on international health development keenly influenced the health service priorities of the ISI approach. Specifically, the principles popularized by tropical medicine were that (Scrimshaw, 1974):

- Agents of disease are sufficient to understand its causation and to design programs for its prevention;
- Programs of preventive medicine and public health are a luxury until medical care has been provided for acute conditions;
- Modern health care is a priority need in all societies, and is responsible for reduced mortality rates;
- Poor people have time to wait in clinics.

The validity of these traditional concepts have been denounced in recent years. Substantial evidence exists demonstrating that not only have they failed to improve the quality of life for the population, but they have also exacerbated the problems. The indices include, among other things, greater rural-urban disparities, high unemployment, and increasing numbers of families living in absolute poverty (Coombs, 1980).

While the perspectives and even some practices have changed, current efforts still focus on improving medical care and the health

infrastructure. They represent important components of the health development process. Both the availability and utilization of a modern health delivery system are essential to improved health.

#### Scope of Work

The HSI development process is multidimensional in scope. Over the years, different geographic and demographic sectors as well as forms and techniques of health care and infrastructure development have had priority. Gish (1979) traces three major development trends: 1) hospitals and medical schools, 2) immunizations, and 3) rural dispensaries. Each thrust has its own resource demands. Moreover, both the traditional and contemporary approaches preoccupy the national planning efforts of Health Ministries even today.

Modern Health Infrastructure Development. A modern health infrastructure, with sophisticated facilities, manpower, and other resources has traditionally and continues to be the chief health development concern of Health Ministries. Historically, these urban-centered, hospital-based, curative medical care systems, designed to satisfy the demands of the well-to-do (Webster, 1969), were later justified by conventional development concepts based on the philosophy that major capital investments in the form of modernization in all sectors would improve the health status of the general population through a filtering-down process.

Although its efficacy has long been denounced, development of a sophisticated health sector infrastructure still enjoys popularity as a policy direction. Many countries continue to need and want medical schools, laboratories, and hospitals. Moreover, it is commonly recognized that most available health resources go into developing and maintaining such facilities and services. Ghana, for example, places 50% of its health resources in curative, urban health facilities compared to 12.4% for public health (USDHEW, 1975).

Some health professionals even support the continued development of a modern, sophisticated health sector. The rationale includes: 1) a steadily increasing rural-urban migration which appears irreversible, and 2) the overutilization and understaffing of hospitals resulting from the inadequacy of regionalized referral systems (England, 1978). In addition, physician specialists such as psychiatrists are needed in the face of growing occupational/industrial and urban-related illnesses (Mahler, 1980). Finally, a physician-dominated health system and continued emulation of western health standards will make this option a fact of life for a long time to come.

Immunizations. Immunizations appeared next in the service/infrastructure development process. Initially the only public health service available, implementation of communicable disease control represented a major function of health ministries and international agencies alike. Infectious diseases have been

described as the world's greatest threat (Lancet, 1970). Accordingly, smallpox eradication and other immunization programs were undertaken by the WHO since they were deemed important to worldwide health (Mahler, 1980). Similarly, Ministries of Health planned expanded disease control programs, including malaria, venereal diseases, tuberculosis, and other categorical/vertical programs, administered through occasional rural mobile health units.

This emphasis on disease episodes are still prevalent despite the holistic view of health accepted by WHO more than 30 years ago (Martin, 1975; Waldheim 1975). A survey of health priorities in poorer countries, including many in Africa, revealed overwhelming concern to prevent and control communicable diseases (Smith, 1975). International development agencies also rank this high among their objectives; it was one of four international health priorities of the U.S. Agency for International Development (USAID) in 1980 (AID, 1980). The administration of communicable disease control programs has changed, however, to reflect the latest emphasis on basic health care services on a countrywide basis.

Rural Health Delivery System. Finally, strengthening rural health delivery systems is the most recent trend in service/infrastructure development. African governments have increased efforts to make health care available to all as a matter of right. This emphasis responds to growing health demands of rural populations, coupled with limited resources (WHO, 1971; Rice, 1966;

Fendall, 1963). Specifically, Webster (1969) cites high population rates and high cost of hospitalization as factors which necessitate control in the demand and cost of health care services, and a shift from traditional health care delivery methods.

Unquestionably, servicing the health demands of rural populations represents a major undertaking owing to underdeveloped systems of public health and a model of health care reflecting vestiges of an inherited colonial structure and its values (Kumbaut, 1979).

Specifically, the problems found in Ghana typify those found throughout the continent, including:

- poor management
- maldistribution of facilities and manpower;
- poor planning and evaluation of health services
- shortages of manpower
- lack of supporting services
- uncoordinated public and private health and other sector services. (Kaiser, 1977)

Accordingly, the search to expand health services into the rural areas is a long, arduous one.

To ameliorate these inadequacies within the confines of limited resources, a comprehensive rural delivery system is gradually emerging throughout Africa. This includes a regionalized, hospital-based pyramidal health facility network which increases in

sophistication and level of health care from the periphery to the center. Moreover, integrated health services are developing to replace vertical health programs that typically fragmented the health care delivery process. As in the case of most other African countries, Tanzania has, for example, instituted maternal and child health services, including immunization, general health education, and nutrition evaluation as a prerequisite for curative care (Hart 1979). Finally, just as with Ghana, there is a renewed emphasis on decentralization with responsibility for both the formulation and implementation of plans and budgets placed squarely in the hands of divisional and regional heads of Ministry (Kaiser, 1970). In essence, providing basic health services to a wider cross-section of the population has replaced, at least in principle, previous western-oriented delivery systems in virtually every African country.

In summary, the country-wide development of a basic rural health infrastructure illustrates the significant progress that has occurred since the HSI approach was first introduced in Africa. Substantial work remains to be done, however, with respect to resolving conceptual deficiencies in the role of health infrastructure and medical services. Of primary concern is the need to settle the rural vs. urban infrastructure development conflict. Past and current inequities in the health delivery system must be resolved while simultaneously anticipating future needs. Also, the inherent concern for disease as the root cause of health problems must change. There is a need to recognize the basic limitations of the health services/infrastructure approach as the sole strategy for

improving the health of the population. Some of the problems have been described by Davos (1979) as being:

- Paternalistic because it disassociates public opinion, beliefs, habits from expert recommendation.
- Analytic because it fails to study goal interdependence as it relies on scientific method.
- Reactive because provides answers to problems that have been defined vs. problems that may be generated.
- Quantitative because it rejects qualitative concerns of the public.

In light of these limitations, the ecological health development concept has surfaced.

### Ecological Approach

The ecological approach is current in international health planning theory; while it still emphasizes delivery of health services, it expands the concept of health beyond the service delivery system. Conditions of poverty and the environment are tackled in an effort to improve the health status of the population. The intent is to consider cost-effectiveness along with efficiency in the planning and development objective (WHO, 1974).

### Health Development Perspective

The ecological approach reflects a holistic view of health,

distinguishing the demand for personal health services from a greater concern for addressing the needs of the population. These needs are typically predetermined by development planners, as in the HSI approach. The ecological perspective, however, is said to allow inclusion of social and economic programming in the health development process (Tanner ).

The reciprocal relationship between health and social economic development was first noted in the late 1960's. In a review article on tropical (environmental) conditions and health, Mayer and Neva (1967) recognized that climatic conditions are not the single or most contributing aspect to tropical diseases. They note that vector-borne infection, nutritional needs, water requirement, and malnutrition are "products of poverty, ignorance, and social disorganization." The scope of their article is somewhat limited; they maintain a "victim or person blame" attitude that was typical during that time of their writing (and evident to a lesser extent today). They fail to address the structural causes of poor health, such as inadequacies of the health system itself, asymmetrical relations between the haves and have nots, and more. They do, however, offer a broader view of health, and the factors that impact it.

The influence of social and cultural factors on health was emphasized further in a 1968 article on nutrition education. (Copping 1968) The author, noted a profound effect of culture on practices related to food and nutrition that directly affect

health. It was further determined that nutrition education planning that kept cultural considerations in mind will find its solutions in agriculture and economics.

Since the 1960's numerous articles have been written in support of a comprehensive ecological approach to health development. These papers revealed the problems of health to be related to such factors as low incomes, limited clean water, low standards of hygiene (e.g. Gish, 1979). The requisite solutions includes health education, better housing, environmental sanitation, wider medical coverage, active participation in health care delivery at the local level; as well as improved irrigation, economic productivity and overall standard of living (Oyenade, 1977; Farah, 1970). Farah's view of Somalia's health conditions mirrors those found throughout Africa; i.e., the problems and goals of health represent a complex pattern of interlinked problems which require a comprehensive health development strategy.

It cannot be left unsaid, however, that a key factor to the acceptance of the ecological concept relates to its economic value. The cost-effectiveness of this perspective was recognized and discussed within WHO as early as 1968. Low levels of income, health, health services, and health manpower required was said to require an expanded role of health in the economy. Appropriate integration would improve health, while at the same time making efficient use of resources (WHO, 1978).

## Scope of Work

A multi/intersectoral approach to health development is the primary focus of ecological planning approach. Several strategies have been tried toward this end.

Health Components of Development Projects. Introducing a health component of a development project represents one of the earliest concepts of integrated health planning. It recognized that development projects frequently caused additional health problems and, to a lesser extent, addressed the reality of the health influences on utilizing land, labor, and capital. Most importantly, however, integrating health into agricultural, mining, and public works projects acknowledged and upheld overall objective of efficiency and yield of investment (Trei, 1975). This was acrimoniously described in a 1974 WHO report which argued: To raise the level of health simply for the sake of improving health would amount to a free distribution of a luxury commodity.

Basic Needs Approach. The integration of health with other aspects of social and economic development received its greatest impetus in the mid 1970's. Multi- and bilateral agencies redesigned their development assistance programs to consider health development within its broader and more fundamental socioeconomic context. For example, in 1975 the U.S. Agency for International Development

declared the "Basic Human Needs Approach" as its new development assistance thrust, defining this strategy as:

A massive, multifaceted rural development effort aimed at ... the needs of rural people, including such diverse fields as education, health, nutrition, agriculture, family planning, occupational skill training, child care, and women's programs -- fields usually treated separately by planners, operating agencies, and researchers (Loombs, 1980).

The stated objective of the basic needs strategy is to enable poor people better access to the socioeconomic benefits of development. Accordingly, new project design requirements were implemented by USAID to increase the community's involvement in and benefits from development projects. Social soundness analysis were mandated to "examine the distinctive social and cultural features of the people who would be affected, and the social implications for them of the prospective design" (USAID, 1981). The established social soundness criteria determining feasibility were: 1) mutual adaptability between people and project; 2) realistic likelihood for people to participate, 3) potential spread effect, and 4) distribution of benefits and costs (bid). These developments and others led to three new concepts in health development planning and programming: 1) primary health care, 2) integrated rural and community development, and 3) integrated health policy planning. Each focuses on an ecological perspective of health, varying only by level and type of programming sought.

## 1. Primary Health Care (PHC).

Primary health care programming, currently the major thrust in integrated health development, is an extension of the rural health infrastructure development strategy of the HSI approach. It expands the concepts of health care delivery, however, by coordinating preventive services with curative health services at the rural level. The strategy emphasizes basic services, such as clean water, basic medicine, disposal sewage, health education, and hygiene (Waldeheim, 1975). Thus, the most critical and basic components of health, public works, and education are brought together primarily to reduce the prevalence of high disease patterns.

The infrastructure for PHC incorporates limited resource strategies. Village or multipurpose health workers selected from the target community assist in the service delivery process. This represents a limited form of community involvement, while at the same time constitutes an inexpensive health resource. Moreover, other auxiliary health workers as well as a pyramidal system of health facilities, referrals, supervision, and training on a regional basis further reduces the cost of a modern health system on a country-wide basis.

The PHC concept represents a giant step toward a more realistic and meaningful approach towards health development, though suspicion and criticism have been raised against it. It is said to be merely a strategy to control demand and reduce costs while extending drug

distribution (Molin-Guzman, 1979); and indeed, low cost delivery systems have been supported in the interest of allowing for greater capital investment resources in other areas (Archarya, 1981). Nonetheless, PHC is a first step in implementing a socioeconomic health development program, and also gives greater recognition to individuals as prime actors in planning for their own health and general well-being.

## 2. Integrated Rural and Community Development (IRCD)

IRCD is another, less expanded, socioeconomic development concept. Generally, however, it expands the possibility of integrating health with other sectors of the economy, including agricultural, public works (roads and communication systems), industrial, and other projects primarily at the district level. Such projects are jointly planned by district officers within each sector of the economy to ensure that adequate health programming is included. This may occur on a project basis or within the total district planning structure.

## 3. Health Policy Planning

Finally, integrated health planning at the national level represents the least tried and most sophisticated ecological health development strategy. The focus accentuates the need to plan and

develop health policies that appropriately consider the interacting affects of other development activities on the status of health. The intent is to achieve the most efficient, cost effective allocation of development resources.

Thus, stacked against competing sector interests for limited financial resources, national health policy planning through the use of simulation has been said to:

- facilitate integrated development planning;
- isolate effects expected from program options given different budget levels;
- identify the combination of program components that are most effective in reducing health problems at stated budget levels; and
- rank preferred alternatives for health status improvements. (Grosse, 1979)

Methodologies employed by Grosse are discussed in more detail in a later section. The key issue here is that the application of national health policy planning within any particular country remains an unresolved and perplexing dilemma. Organizational and methodological constraints currently found within African countries (e.g., lack of information) limit its use.

There are also weaknesses inherent in computer assisted macro level policy planning. One overriding problem is the reliability and validity of aggregate modeling in differentiating health programming needs at the local level, given varying socio-cultural

practices and resources. Habicht and Berman (1980) admonished that without testing the routine effectiveness of the prescribed interventions on populations and costs, the model proposed by Grosse is more explanatory than prescriptive, which limits the policy conclusions that can be drawn.

An inadequate definition and measures of health, and the heterogeneity of aggregate statistics were identified as variables that limit meaningful estimates of relative impact of various interventions.

#### Human Resource Approach

The least established, yet theoretically most viable health development concept is the Human Resource Approach (HRA). This strategy considers the role of individuals as pivotal to the planning and development of appropriate health interventions. HRA concerns itself, in theory, on the real needs of the population. The notion that development depends on the widest and fullest participation of existing human resources is now universally accepted. In fact, the HRA appears to be the health development trend of the 1980's. Development practitioners and theoreticians strongly differ, however, on both the interpretation and application of this health development concept.

## Health Development Perspective

Varying perspectives regarding the role of human resources in the development process can be found throughout the literature. These perspectives can be delineated into two broad categories, catalytic and holistic, the difference relating to the amount of autonomy allowed individuals/communities in controlling and directing the development process.

Catalytic Perspective. The catalytic perspective is dominant in the literature. Its prevalence stems from conventional human resource development ideology, wherein selected individuals are viewed as prime agents or facilitators of a predetermined development strategy. More recent variants expand the facilitating role to include a team of individuals, but still limit the extent to which individuals define their own health needs and priorities.

Human resources have historically played an important, albeit limited, role in the health development process. For example, creating a cadre of trained health professionals was considered essential for large-scale modernization of the health system. Upgrading the general educational levels of the population was also deemed necessary to expedite the (often radical) social change process indicative of westernization. Thus, individuals have primarily been beneficiaries of educational and manpower development

efforts so that they can contribute meaningfully to their nation's development.

Today, there is considerable support and justification for more direct participation of individuals in identifying and meeting their own development needs, particularly with respect to health. Hochbaum (1969) summarizes the value of giving consumers a greater role in the planning and development process, considering it the best avenue for eliminating structural constraints to the utilization of health services. When these are removed, more adequate health services can be established.

Other scholars discuss the basis for this rationale. As traditionally viewed, increased involvement of grass roots people helps to minimize community resistance to innovation and change. Moreover, several authors note that plans can be realized only at project or community levels, given the traditional beliefs and practices of the local population (Farah, 1970; Ahmad, 1978). For example, family planning attitudes or nutritional habits are clearly culture bound and impact the delivery of health programs (Copping, 1968).

Self-care in health represents the latest human resource concept, and can realistically be considered the health concept of the 1980's. Self-help strategies give greater responsibility for health to individuals, although some collectivity of individuals is also considered appropriate. The rationale appears to emanate from

two perspectives. At one level, the extent to which individual labor and material contributions can be harnessed for health purposes increases total resources available for the health development process. At another level, however, the extent to which individuals can contribute, particularly financially, to their own health infrastructure is viewed as the only practical approach to providing health services (APHA, 1982).

Criticism has been leveled against self-care strategies similar to those raised against primary health care. That is, it is viewed as a way of the government to abdicate its responsibilities. Louis Tanner ( ), for example, sees self-help as a regulatory device in which planning allows for only marginal adjustments within the existing system. Gish (1979) also notes that 'health by the people' projects divert attention away from the inappropriateness of existing health care.

A more serious concern is the fact that these perspectives, despite their potential value, still underutilize individuals in directing a development process in their own interests. Many scholars and health professionals advocate a more penetrating holistic human resource approach to health development.

holistic Perspective. A recent article on economic development for Third World Countries describes the holistic human resource approach to development: development is the unfolding of people's

individual and social imagination in defining goals and inventing ways to approach them. Development is the continuing process of the liberation of peoples and societies. There is development when they are able to assert their autonomy and, in self-reliance, to carry out activities of interest to them. To develop is to be or to become. Not only to have. (Science, 1980:60)

Other authors have gone further to describe the prerequisites for this development strategy.

Genuine development necessarily involves changes in relationships among people and in their power to control productive resources. Development is a social process in which people join together to build economic and political institutions serving the interests of the majority. In that process, more and more people unite to acquire the knowledge and techniques they need to develop their resources and free themselves from needless hunger, disease, and ignorance.

(Lappe, Collins, & Kinley, 1980)

Health status, in particular, has been found to necessitate changing power relationships so that the poor can direct the health development process to their own needs. For example, an empirical study of political-economic systems on the allocation of health resources found that health status is determined by: 1) political and economic accessibility, and 2) health ideology (societal vs. individual). Of the two, economic accessibility was determined to be paramount. In the words of the author, "when groups have relatively equitable access to economic resources, all groups have potential to influence political and private arenas" (Haignere, 1979).

Unfortunately, substantial political, economic, and methodological barriers hinder the implementation of this idealistic goal. From a political and economic standpoint it would be necessary to make the conceptual link between factors such as poverty and racial discrimination, and the etiology of disease (Molina-Guzman, 1979). Few governments, however, are willing to make such sweeping assumptions in its political-economic policy making, nor do they wish to relinquish control of such policy decisions. To stay in power, and to use economic resources to maximize utility by stimulating production and consumption of private and public goods constitute the major objectives of ruling powers. (Bull 1978).

From a resource allocation perspective, this strategy is the most "indirect" way of addressing the multifaceted problems of health that exist. There is no insurance that resources are being put to the most efficient and effective uses. Moreover, this approach tends to defy systematic planning and development theory. There is, in fact, no extant methodology for human based development strategies.

#### Scope of work

The scope of work for actualizing the human resource approach, while theoretically more simplistic, is nonetheless difficult to achieve, particularly for national health planning purposes. It

requires stimulating and channeling community input for development purposes. This is less difficult for catalyst than for holistic perspectives.

Catalyst Perspective. Primary Health Care (PHC) and Self-Care programs are the two current strategies used to garner community participation in the health development process. As mentioned earlier, the use of medical auxiliaries who are indigenous to the target population and who are culturally, linguistically, and educationally in tune with the community is the core element of PHC. This offers several in that it: 1) it avoids the typical status gap between the consumer and provider, 2) it lessens the difficulty in getting messages across to lower socioeconomic groups, and 3) it increases the capacity to treat disease and heal the whole person (Rice, 1966).

Programming for self-care has yet to be fully established, but there are signs of its impending future. For example, the current prevalence of self-care is now being documented. Levin (1981) discovered that between 65-85% of the U.S. population uses self-care, i.e., individuals functioning in their own behalf in: 1) health maintenance and disease prevention; 2) self-diagnosis, prescription and treatment; 3) patient participation in professional care. Based on his findings, Levin advocates constructive planning and programming to promote self-care efforts which maximize the health resources of individuals, families, and communities - the

social resources in health. He notes that this requires a new forum for health planning allowing for maximum individual participation.

In addition, Robinson (1981) examines the admirable success of self-help groups such as Weight Watchers, Alcoholics Anonymous, and non-smokers groups in the U.S., noting that their high degree of success justifies their utility in promoting community involvement in self-care. Self-help groups are effective in: problem identification, information exchange, and destigmatization, the only problem being the fact that such groups can stagnate as organizational entities rather than becoming a way of life.

While these studies are principally U.S.-based international reports are appearing in the literature. First, the extent of self-care in Africa is well-documented in cases where westernized health services are not available to the majority of the population. Miriam Were (Cited by Black, 1978) for example, determined that 75% of Kenyans are looking after themselves, delivering their own babies, and so on, because 75% of the people are not in contact with modern health facilities.

Specific information useful for structuring self-care activities is found in a recent study by the American Public Health Association (APHA) on community financing of health care in developing countries. Contracted and prepared for USAID, the study identified resources available to individuals and communities that can be applied to the health care delivery process. These resources

amounted to individual labor, land, and capital in the construction of health dispensaries, community health projects, and salaries of medical auxiliaries. No clear strategy exists, however, to ensure major community involvement and the improvement of health standards in view of, the meager health resources characteristic of most rural African areas.

Holistic Perspective. Little significant work can be found which identifies a strategy for implementing the holistic human resource approach. Some insight, however, can be gleaned from Oscar Gish's (1979) analysis of the health development process in which a more radical perspective on the role of the community in PHC is offered. Specifically, he recommends maximum community self-reliance, and participation in the planning, organizing, operation, and control of PHC (Gish, 1979), going far beyond the typical call for a few trained "community/village health workers," or other community representatives in the delivery of primary health care. Gish intimated a decentralization of control over resources in the planning of primary health needs, based on the argument that health cannot improve by medical systems alone, but by broader social and economic change, such as social and property relations.

#### Summary and analysis

This section addressed the first research question: Are we adequately planning for changes that will solve existing health

problems? A frank answer at this juncture would have to be "No"! The varying health development concepts and related planning priorities and policies fail to consider short-term needs juxtaposed to long-term goals reflecting of the delicate balance between the major elements of the disease cycle.

Against a background of health problems prevalent throughout Africa, a journey through various bodies of literature elicited three distinct but interrelated approaches to health development: 1) health services/infrastructure (HSI), 2) ecological, and 3) the human resources approach (HKA). Each offers different perspectives on the factors most influencing health status, and the related development strategy. While each approach can be considered a legitimate strategy for changing conditions of health, each is deficient when assessed alone.

Health Service/Infrastructure (HSI) is primarily effective for protecting the host from the disease agent through, for example, immunization and chemoprophylaxis. It also attacks the source of host-borne infections through the treatment of individual and mass cases. HSI, however, in no way addresses the broader human and environmental aspects of the disease triad, which more directly focuses on disease transmission, disease prevention, and health promotion process. Emphasis on the more immediate ameliorative health interventions frequently obviates the long-term health and well-being of the population. It can nonetheless be viewed as a legitimate adaptive mechanism borrowed from western cultures to be

applied to substantially different disease and socio-cultural environments.

The ecological approach provides a more effective health development plan for solving existing health problems. Its greatest strength resides in the fact that it properly places health within a socio-economic context, through integrated programming such as assorted integrated rural and community development strategies. The plan is to attack the disease source, interrupt the transmission cycle (e.g. via environmental sanitation,) and to protect the host, all within the limits of available resources. The chief deficiency, however, is that the government still assumes primary responsibility and control of health and social development. Questions of economic and other resource constraints preclude anything more than a representative involvement of the community. Even this is primarily limited to the service delivery process. The development plan fails to ensure autonomy and self-reliance needed to restore and maintain human/community control over the disease environment. This promotes a dependency posture of man not only on the environment, but on the government.

Finally, the human resource approach addresses, in theory, the need for self-reliance to attain lasting health benefits. The practical application of this approach, however, does not extend beyond personal health care concepts in which individuals apply their own land, labor, and capital to the health care delivery process. This contrasts with the need for access to greater

political and economic control over development resources and policies. Moreover, despite the long-term value, HKA neglects the more urgent health care needs that debilitate generations until the slower environmental balance is achieved.

In sum, current health development concepts fall short of balancing the intricate cause-effect factors needed to assure progressive national health development. A conscious effort must therefore be made to construct a planning framework which addresses the immediate, intermediate and long term improvements needed in the complex disease and social environment of Africa.

## METHODOLOGICAL DEVELOPMENTS

This section reviews the methods used in health development planning in Africa. Following a summary of the state of the art, subsequent sections discuss techniques for each of the previously defined health development concepts. Case examples, specific to Africa have been used to identify the prevalence, deficiencies, or problems typically faced.

While no compendium of health planning techniques in Africa's health development process exists, it is widely accepted that the status of health planning found throughout the continent differs substantially among the countries. (WHO, 1974 ) Different historical, socioeconomical, and political structures have influenced the types of planning and levels of sophistication of related methodologies. As yet no country has had notable success in planning national health systems consistent with theoretical health planning concepts.

National health planning in Africa amounts to a mixture of pragmatic and scientific planning methodologies. Several authors point to the prevalence of "planning by informed judgment" or intuitive skills which characterize pragmatic planning (Hilliboe et al., 1972; Sorkin, 1976). The pragmatic approach is seen primarily as a necessity rather than a preference. Lack of data as well as inadequate financial and trained human resources serve to limit a systematic approach to health planning.

The problems inherent in pragmatic planning appear substantial. The primary concern surrounds the greater influence political pressure plays in determining 'the long-term welfare of the country' (Hilleboe et al., 1972) Moreover, pragmatic planning has been viewed as palliative, often aiming at slow, step-by-step modifications.

Some methodological advancements in recent years have stemmed from continued interest in health planning as a major governmental function. A growing cadre of trained health planning specialists, the increasing availability of data, and donor country insistence on more systematic analysis of health projects have generated sophisticated of planning methodologies. These developments, however, have been slow in occurring, and limited primarily to project level activities. Large-scale, comprehensive planning remains in the early stages of development.

Concerns about the relevance and validity of the scientific method for developing countries, can be found in the literature. Two major criticisms of systematic planning methodologies appear to be especially pertinent. First, it is commonly accepted that "value-free" planning is an aberration/myth. Elling (1971), for example, suggests the need to discard the "myth of objective consciousness", and strive for "encompassing humanizing approaches" to planning.

The second criticism pertains to the notion of "comprehensiveness" as a realistic planning function. The ability

to predict future states, the supremacy of technical knowledge, and inclusiveness have been described as the inherent fallacies of the rational, comprehensive model (Tanner, ).

In general, methodological developments in national health planning in Africa are quite limited. Important data and manpower prerequisites are noticeably absent. Moreover, the reliability and validity (and relevance) of various scientific planning methods are questionable. Finally, as examined in the following sections, planning methods have not kept pace with health development concepts.

#### Health Services/Infrastructure Planning Methodologies

Greater accomplishments can be found in implementing and institutionalizing planning techniques appropriate to health services/infrastructure than in any other conceptual approach. HSI planning techniques have been around longer in developing countries and they more readily conform to conventional developmental planning methodologies.

Health services planning has been defined as the systematic approach to the rational production and use of resources proportionate to estimated health needs within the constraints present (Roemer, 1977). In general, optimization of current and projected health demands against the supply of available health resources strikes at the core of HSI planning. Resource-based and

disease-oriented planning tools, as they have been variously defined, are the two primary planning techniques used in this process.

### Resource-Based Planning

Resource-based planning has been generally defined as the economist's approach to planning health resources, and may be the most widely used, approach given more readily available data on health sector inputs such as personnel, facilities, and financial resources.

Health facility planning techniques are the most traditional resource based planning methodology for determining infrastructure requirements. Health centers and other health facilities have been universally accepted as the hub of planning activities, constituting the focal point for the delivery and provision of health manpower, basic curative, preventive, and promotive services, and other resource needs. Thus, Health Facilities Planning (HFP) determines priorities regarding:

- geographical distribution of resources (rural vs. urban)
- realistic assessment and commitment of long-term economic resources towards health, and
- assessment of manpower ceiling and distribution.

(Value for Money in Health, )

Kenya and Tanzania have in the past used Health Facilities Planning as a basis for allocating scarce health resources. Fendall (1963) described Kenya's approach as emanating from the physical design/layout of the health facility. Facility design standards dictated Health Facility Planning in these earlier planning periods. This in turn prescribed staff levels and functions, program activities, external functions, such as mobile unit services, and manpower training and health education requirements.

In his review of Tanzania's experience, Gish (1978) offered greater insight into a similar health planning strategy when developing its Third Health Plan. As opposed to facility design standards, population coverage standards were used to plan health facilities and related health resources. A health facility network concept or plan based on facility-to-population ratios essential for widespread health coverage was first established. A budget analysis was then performed to estimate recurrent budget and total expected health budget based on expected population growth rates. The operating costs of health facilities including staff, medicinal, and service requirements were given highest priority. Accordingly, the design of health facilities was adjusted to match resources available in order to maximize the number of facilities over the quality of facilities. Manpower and other resource requirements were determined from this planning exercise.

The use of population coverage standards for determining the number and distribution of health facilities is common.

Onokerhoraye (1976) offers a rationale for this approach to health service planning in his discussion of a planning framework for Nigeria. He posits that the two basic principles critical to the efficient organization and maximum utilization of health services are: 1) the concentration of related activities and 2) the inverse relationships between distance and interaction. Accordingly, facility-to-population ratios for each type of health facility (e.g., health center, dispensaries, etc.) have been used to plan the number and distribution of health facilities.

Various manpower planning standards are also fairly well established for identifying health manpower needs. While the types of health manpower used remain essentially a policy-related question, many countries have sought to provide a range of health providers on the order of two auxiliary workers for every physician. In general, however, health manpower needs have been measured against facilities, programs, objectives, and populations.

#### Disease-Oriented Planning

Several techniques have been used to obtain accurate and current data on disease patterns and other health problems at which to direct health services and resources. These include records and survey analyses. Aside from providing baseline data, these techniques are used to compare the relative importance of different diseases, and to indicate an approach for allocating a health budget.

in such a manner as to maximize its effectiveness in reducing the overall effect of all diseases on the community. Each of these methods, however, offers a different set of assets and deficiencies.

Health Records. Traditionally, records analysis served as the only source of information on morbidity, mortality, and fertility. These include national census, birth and death registration, and health records, among which health records have received considerable attention in the literature.

Varying types of health records have been used. Beside statistics at three different levels of the health system (hospital, health center, and health station) in Ethiopia, for example, have been used for planning the allocation of scarce manpower and financial resources. Information regarding morbidity and fertility was collected from mothers accompanying their children to pediatric clinics. Boelen (1973) views this approach as ideal in situations like Ethiopia where there is a general lack of vital or health statistics. Patient-retained records have also been used in estimating health problems. Botswana, for example, experimented with patient-retained records and, aside from their utility in other areas, found that they served as a community-based morbidity survey (Stephens et al.).

In general, health records today still represent the chief source of information on morbidity, mortality, and fertility rates,

and are especially useful during the transitory period in which vital statistics on a country-wide basis are generally lacking. The chief weakness is the fact that health records grossly underrepresent and skew the health status picture. Only the very sick frequent health facilities. Moreover, standardized data collection typically does not exist at the various levels of the health system, limiting their applicability for national planning.

Survey Analysis. Field surveys have been conducted in recent years to provide baseline data on vital and health statistics. Two types of planning methods have been noted: 1) health examination surveys, and 2) sample surveys. The Danfa Rural Health Project in Ghana significantly advanced and documented the state-of-the-art in the use of varying field techniques and information systems for planning and evaluation purposes.

Village health examination surveys conducted in 1973 and 1975 in Danfa were helpful in planning rural medical services. Small-scale community surveys were said to provide district regional health information about: 1) the prevalence of selected diseases, 2) the percentage of population covered by immunization, and 3) the extent to which people make use of available medical services (Belcher 1976 a). The procedure entailed pretesting, living in the village for five days during the dry season, and was administered in a clinic setting (Belcher 1976 b).

While this procedure has been lauded above other field investigative methods for its reliability (Belcher 1976 a), some problems have been found. Specifically, an analysis of patient examination records showed a large percentage of male non-participation, a considerable proportion with below-average number of recurrent illnesses, a substantial percentage of older villagers (20 and over), and a predominance of salaried, non-farming occupations (Belcher 1976 b). Thus, the health examination surveys failed to be representative of the target population. The higher cost of diagnostic examinations and seasonal variations in health, status, comprised additional problems.

Morbidity surveys were also conducted during the Danfa Rural Health Project. A 15,000-household sample of pre-school children and mothers were interviewed by local people. This avenue for collecting information about health problems, however, was deemed less effective than rural health examinations, owing to technical difficulties involved in sampling and constructing survey instruments. Advanced sampling techniques in administering morbidity surveys are needed in order to ensure representativeness and reliability of results. Kapedkpo (1972) suggested an integrated, multi-subject cluster sample for the Danfa project as a way of: 1) counteracting similarity in responses among household members and 2) allowing data to be collected on two or more subjects per household. The design allows for variable numbers and makeup of households.

Stratifying or clustering on the basis of language divisions is also an important consideration. In conducting a family planning survey in rural Africa, Lucas (1977) identified certain areas as being multi-lingual. Interview schedules were printed in every language to ensure uniform level of interviewing and writing answers for open-ended questions in the language of the interviewer. He also raised the issue of language differences in monolingual areas. Differences in interpretation of terms were found by age, education, and sex. Thus, language differences are an important source of non-sampling errors.

The reliability of morbidity surveys has also been questioned. Based on a comparison of morbidity surveys with a health examination in Danfa, Belcher et al. (1976 d) found that sickness and pre-school age illness were underreported. Lack of health education was considered the major constraint to accurate reporting. Illnesses usually are associated only with dysfunction (Belcher et al, 1976 d).

In general, various techniques designed to estimate the supply and demand for health resources have been widely used throughout Africa. The popularity of HSI techniques among planners, however, has yet to translate into systematic development planning. Significant problems prevail in areas of resource deficiencies for planning purposes, and technical deficiencies are inherent in the planning tools themselves. Also, WHO has identified additional

substantive problems:

- 1) Analytical methods cannot provide the whole answer to questions of efficiency and priority, such as obstacles attributable to organizational policies and professional resistance;
- 2) Sophisticated methods are inappropriate and unrealistic in many developing countries.

Finally, Logan (1971) poses the biggest dilemma with respect to the disease-oriented approach to determining levels and types of health services, pointing out that the question of who must be neglected in the rationing of health service is a difficult ethical question, as yet unresolved.

### Ecological Planning Methodologies

Ecological planning methodologies include a broad range of analytical techniques capable of supporting a comprehensive, integrated health development approach. Two major components comprise ecological planning function. First, traditional health service planning methods are important in the development of a broad based health infrastructure (illustrating the continued priority of meeting health demands and the HSI approach). Second, the added concern for integrated development planning requires systems analysis methods not previously used. The systems method requires situational analysis, goal/objective setting, evaluating alternatives, decision analysis, discussion and implementation, and evaluation (AHO, ).

Despite significant theoretical offerings in appropriate ecological planning methodologies, their prevalence and utility in Africa have yet to be documented. It appears, however, that greater accomplishments have been made in planning micro-level health activities. Macro-level, or national level comprehensive planning, is still in its infancy, deterred primarily by the level of analytical sophistication and complexity involved. In general, the limited attempts that have been made in micro-level planning still suffer from: unavailability of data and lack of authority to expand influence (Lanner, ). With respect to the latter point, resource allocation remains primarily a political rather than technical decision. Thus, most integrated planning amounts to nothing more than a conglomeration of individual sector, geographic or economic plans (Sorkin, 1976).

Methodological developments that do exist appear primarily in two areas of the planning process: 1) situational analysis, and 2) evaluating alternatives.

### Situational Analysis

Survey and ethnographic research help to identify the multifaceted health needs of the population.

Survey techniques. While similar in assets and deficiencies to those used in the health services/infrastructure approach,

ecological surveys typically include a broader range of questions pertinent to planning relevant health programs. For example, through the use of a broad-based socioeconomic, health, and cultural survey in Soweto, it was found that upwards of 60% of the sample (n=186 families) identified socio-economic problems deterring improved health (Shenyane, 1977).

The application of "ecologically-based" surveys has primarily been limited to project level activities. They have also tended to be fairly sophisticated yet experimental in nature. Messing (1965) described the design and field techniques used in administering a questionnaire of attitudes, beliefs, and practices regarding health, sickness, aspirational levels of heads of households in several Ethiopian small towns in the early 1960's. As part of a demonstration and evaluation project, the design used four pairs of matched study and control communities, in addition to a pretest community.

In general, survey methodology continues to be widely used to collect and evaluate baseline data on health development projects. Both cross-sectional and longitudinal surveys have been incorporated into the planning process, although the extent to which they are used in national health planning appears negligible.

Several factors limit utilization of survey methodologies for planning ecologically based health projects. From a practical

standpoint, the resource requirements for administering even a sample survey on a national level is substantial. This is particularly true given the paucity of trained manpower in this investigative method. In addition, as previously discussed, the reliability of survey responses has been found to be low, especially when inquiring about socio-cultural practices. Respondents of a sociologically based health survey in Ethiopia failed to provide accurate responses to questionnaires, especially to such questions as the use of soap and handwashing. Messing and Prince (1966) determined that the people were not habituated to the imperatives of accuracy, rather emphasizing politeness as the dominant cultural norm. Thus, answers represented what they were expected to say. These authors also found that the concept of representative sampling was alien to local cultural understanding and norms, and this caused problems.

Ethnographic Research. Ethnographic research has been proposed as an alternative to survey research techniques. It is viewed as the most appropriate way of identifying problems of health within its contextual framework (Messing & Prince, 1966). As an investigative technique which helps to examine cultural and racial variations, formal and informal interaction patterns, significant groups, persons and institutions within and across community lines, as well as historical, social, and economic perspectives, ethnography provides a true systems approach to understanding the nature of the problem (Thorpe and Griffin, 1976). Moreover, the

question of reliability occurs less frequently in as much as the data are observational and descriptive in nature.

Unfortunately, the current use of ethnographic research in Africa falls far short of its purported value. Again, limited project-level planning represents the extent to which ethnographic research is used in the health development process. International development agencies now require "qualitative" analysis of proposed development projects, the purpose being to bridge the project design with extant socio-cultural practices and attitudes. Accordingly, project design teams frequently incorporate the services of medical anthropologists to examine the social/cultural appropriateness of proposed activities. However, their input remains minimal and often resented by other design team members (Ingersoll, 1980).

### Evaluating Alternatives

Evaluating alternatives among a host of health development options is the core of ecological planning. The intent is to balance social, environmental, and economic goals at the national and local levels with an integrated, cost-effective approach to development in mind. Essentially, two methods of selecting alternatives among various health choices dominate the literature: cost-benefit/ effectiveness analysis, and pragmatic planning. While these strategies require different levels of analytical capabilities, the pragmatic approach represents the simplest, and is used generally throughout Africa.

Cost Benefit/Effectiveness Analysis. Cost-benefit/effectiveness analysis is the systematic examination of alternative courses of action for a complex and uncertain future. It is used for both macro-and micro-level planning.

Simulation/mathematical modeling techniques are the analytical tools often used for determining the cost-effectiveness of macro-level, national health policies. It provides an explicit representation of a system, including the components and inter-relationships among components. This provides the basis for comparing the relative cost and benefits of selected inputs and outputs.

Grosse's (1979) health development model for rural Java best illustrates the mechanics of modeling for national health planning. Concerned with the health effects of various interventions, the model contained the following components:

A population, with a certain particular age and sex distribution, experiences a certain set of diseases, which can be defined through 'attack rates', given whatever health care services are available, an estimated proportion of the population (by age and sex) utilizes the services. Death and days of disability (incapacity for performing normal functions) can be established for each disease identified, and these can be shown both for those who utilize health services and those who do not. Where death, disability, and attack rates are known to be affected by levels of nutrition, sanitation, immunization, promotion and organization of health services, these can be entered into the model in varied combination. It is from the combination of these several indicators and conditions that the expected effects of various

health service interventions can be explored through the computer model. These effectiveness levels can then be used for comparisons of programs carrying particular costs.

(Grosse, 1979: 8)

Grosse used two techniques to define, test, and implement the aforementioned model: 1) aggregate data analysis and 2) locality specific modeling. The former employed multiple regression analysis of various aggregate data to test the different hypotheses regarding relationship between life expectancy and health states (i.e., levels of nutrition, medical services, sanitation, etc.). The second combined survey data, expert judgment, and existing statistics to develop a functional model of health effects of current and projected interventions. These two techniques complemented each other. The high-aggregation model was said to help: 1) develop a health theory to be further evaluated in a functional model, 2) provide control data that discipline the locality specific model, and 3) establish coefficients for estimating expected outcome of alternatives.

The modeling process itself entailed a continuous interaction of empirical research and expert judgment to define parameters and expected relationships, and to validate findings. International health scholars, academicians, and government officials at all levels played intricate roles in the research design as well as data collection, manipulation, analysis, and evaluation process. This was in addition to ongoing surveys monitoring rates and numbers relevant to the model for the purpose of improving model precision and accuracy.

As noted earlier, advances in simulation have exceeded the capacity of most individual national governments to carry out. Morocco has attempted to use output maximization methods in health planning; the problems stemming from this experience are relevant to other, even less technologically advanced countries in Africa; e.g., : 1) defining and assigning proper weight to different objectives (primarily a political decision), 2) amassing information on the numerous relationships that exist, and 3) unavailability of data (Barlow, 1976). Even WHO reports have stressed integration at project level owing to lack of data and mathematical capabilities for simulation at the macro-level (WHO, 1979).

Nonetheless, the potential value of simulation for integrated national health planning remains high. The prospects of conducting simulated health policy planning within international development agencies, such as WHO, appear lucrative (Mercenier, 1971). This would minimize overduplication of efforts in setting up model parameters, and aid in providing computer and manpower resources. Significant work must be done, however, in testing prescribed service patterns at the local levels to accurately assess impact on populations and costs (Habicht and Berman, 1980).

Micro-level cost-benefit analysis is less rigorous than the quantitative requirements for simulation techniques. More precise quantitative formulations are possible in that project level data on the cost and benefit of a selected intervention is more readily available. Unfortunately, there is little evidence to show the

extent to which these techniques are being used at the various levels of the health ministries. Even so, major criticism here includes the fact that social services do not lend themselves to quantitative analysis (WHO, 1974). Nevertheless, some attempt to estimate cost of a project and evaluate benefits against other projects is desirable, such as measuring unfavorable effects of disease and considering elimination of such effects as benefits.

Pragmatic Planning. As with most other health development strategies, pragmatic planning represents the prevailing method for evaluating health alternatives. Specifically, Sorkin (1976) describes the decentralized, project-by-project planning strategies of Sierra Leone and Liberia, noting the advantages of low cost and realistic adjustment to circumstances. Such approaches as the health support program in which a team of experts recommends a regional health program to support and optimize the development effort allows for flexibility in plan and contributes to more economic, equitable, and effective health care.

It is clear, however, that the disadvantages pertain to decision-making based upon current forces/influences as opposed to informed decision-making.

Human Resources Planning Methodologies

Theoretical and practical offerings in human resource development planning techniques are limited, although cursory conceptual treatments of the subject are just now emerging. Moreover, application of specific HRA planning methods is restricted to a few innovative projects of private voluntary organizations. But the extent of these experiences has not surfaced significantly in the literature.

The crux of this effort is maximum community participation, best described by Davos (1979). The approach requires participatory evaluation to determine different priorities, strategies, and preferences resulting from income inequality. He prescribes pursuing preferences, as well as grounds of agreement and disagreement which would result in an evaluation of minimal feasible discord, promising orderly progress to satisfy all reasonable health concerns and flexible enough to secure optimal support for health goals.

The complexity of translating individual and community priorities into a national health resource planning and development strategy, however, has been well documented (Smith, 1975). Political barriers limit the development or use of any holistic HRA planning strategies. Also, traditional planning tools do not apply even to catalytic HRA needs in as much as the process is more

qualitative than quantitative in nature, this despite the need to: 1) plan, set priorities, make decisions, 2) finance and supply health services and infrastructures, and 3) collect data and evaluate the health development effort. Inductive planning which characterizes HRA methods requires an entirely different set of tools, skills, and strategies in its objective to be community supportive, the most important of which is flexibility.

#### Planning, Priority-Setting and Decision-Making

Stimulating conditions for effective community participation represent the first important methodological consideration in the HRA planning process, but harnessing community interest in addressing their own problems of health and development has been a difficult task. In fact, in the view of one author, the only cure was time, patience, and genuine concern by agents of change. This situation requires that individuals live with the people, get to know them, and establish close relationships, mutual confidence, and trust, as necessary preconditions for health development planning.

Bergwall et al (1974) identified three other prerequisites for achieving effective involvement. First, is resource availability, which include leadership and other social resources, knowledge to deal with the situation, and material and economic resources to participate. The second precondition for participation is motivation through the belief that participation will be effective,

relevant, or personally satisfying. Finally, an effective organizational structure is also needed to encourage participation, one that facilitates a two-way flow of information and other health support.

A review of the literature reveals, however, that approaches for identifying community leadership for planning and decision-making represent the best achievement to date. From a theoretical standpoint, Bergwall et al. (1974) describe methods for identifying power resources as initiators of change. The elitist theory focuses on the ruling cliques of economic influentials as primary change agents; The pluralist theory notes the existence of various decision-making groups in which power shifts from issue to issue.

The positional approach uses a historical view of who has made decisions. Finally, the reputational approach uses information obtained from conversations to identify those who have been influential in health decisions.

The most prominent strategy for garnering community support and participation for decision making, however, appears to be the use of existing groups. Ifekwengwe (1979), for example, advocated using food cooperatives, leadership councils, and other traditional and contemporary local organizations to plan for the community needs, as a strategy to power local health services with a minimum of outside support. Since the groups tend to represent the more highly active and trained members of the community, simple problem assessment and

decision-making techniques may be applicable. Typically, however, social, cultural, and organizational norms regarding power and influence predominate.

These power resource identification strategies, however, still fail at achieving maximum community participation. Hochbaum (1968) raised some serious definitional questions regarding participation in health planning, e.g., who is a consumer, and is there a spokesperson for consumers? In other words, the adequacy of selective representation raises concerns over the entrenchment of a class of power elites within the community who may differ on problems, priorities and ways of solving them.

A UNICEF sponsored health project in Kenya offers a slightly more inclusive community participatory approach to project implementation. Health teams consisting of a health worker, a social worker, and a statistical enumerator (representing three ministries: health, social services, and finance) held what is known as a "Chief's Barazza" to introduce themselves and to open discussion about a proposed health project with approximately 800 community people. This initial meeting was said to represent the crucial beginning of ongoing community involvement in decision-making regarding project implementation.

The community determined:

- 1) The size and structure of project areas (units of 100-400 households under the head man called Liguru),

- 2) Administration of health projects within the community (each Liguru would have a health committee), and
- 3) Selection process and payment mechanism for community health worker (Black, 1978)

While the initial meeting involved all interested community members, the formation of a health committee still raises problems with respect to representativeness and the creation of a new power elite within the community.

### Financing

As previously mentioned, new strategies for planning the finance and supply of health services have recently developed. A substantial proportion of required health resources come largely from the community. Self-help is encouraged. Available government resources are then used as seed money, matching funds, or loans. Agricultural extension and other activities which lead to financial self-sufficiency are promoted. Low-cost sources of medicine are arranged.

### Data Collection and Evaluation

Finally, data collection and evaluation are underemphasized in the human resource approach, although what is necessary is identified and collected by members of the community. For example,

in the case of the UNICEF health project, the community found it necessary to conduct a census of households for the first time in order to set up a health fund for the community health worker (Black, 1978). From this vantage point, data collection is kept simple and minimal.

### Summary and Analysis

Have planning techniques been used successfully? Considerable strides certainly have been made in utilizing various planning techniques to guide the health development process, but much of the decision-making process is still dictated by political or experienced judgments. Moreover, most quantitative methods are not yet appropriate or relevant to the unique circumstances and conditions of the African continent. Finally, innovative and relevant planning tools do not exist on a wider national level owing to the cost of data collection and other resource requirements, as well as methodological difficulties. Therefore, although promising, the accomplishments are limited.

HSI planning methodologies are fairly prevalent and widely accepted throughout Africa. They include an assortment of resource allocation and epidemiological planning principles, variously called health economists and physician-oriented approaches. In each case, the planning process involves optimizing the demand for and supply of limited health resources, including facilities, specific

services, manpower, and training. To date, the acquisition of health statistics for planning resource requirements represents the most difficult methodological task. Records analysis and survey techniques, the prevalent methodological tools, tend to err in application and use. The problems pertain to the acquisition of information that is representative and standardized in scope, and content as well as responses that are accurate and valid.

The need for comprehensiveness in implementing an ecological health development strategy represents a difficult methodological task, particularly in developing countries. It requires substantial sophistication in assessing health problems and needs, and in identifying health priorities among a plethora of alternatives. In assessing needs, resource requirements for administering a national sample survey and the reliability of survey responses in a culture not habituated to the imperatives of accuracy are the chief barriers. The use of ethnographic research as an alternative is economically feasible only at the local level. Evaluating alternatives especially for national health planning requires information and statistical capabilities for simulation modeling that far outstrip current capacities. The current national health plans, therefore, are merely an amalgamation of local level plans, although major accomplishments can be achieved, in planning integrated health programs at the project level.

Finally, the process of capturing maximum community participation in the human resource health development strategy is

the least established method available. The problems are both a lack of a clearly defined methodology, and a failure to prescribe to such a time-and cost-consuming process.

It is clear that considerable work remains to be done in designing and adapting methodologies within each health development option to fit the cultural, fiscal and other resource realities of Africa.

## ORGANIZATIONAL DEVELOPMENT

The health planning structure, processes, and functions are incorporated in organizational development. Personnel and data resources are also included, all factors critically linking health development theory and practice. Because they are the vehicles for carrying out the planning and development functions, weaknesses in these areas damage the implementation and overall viability of conceptual and methodological achievements.

Unfortunately, organizational developments in the field of health planning have been quite limited in Africa. Attempts to institutionalize health planning within health ministries and national planning bodies were made as early as 1964, but almost 20 years later, most African countries still suffer from inadequate planning capabilities (USDHLW, 1976; USDHLW, 1975).

The 'teething problems' of implementing Lesotho's planning mandate typify those found in all sectors of the economy throughout the continent. Hirschmann (1978) describes staff shortage, paucity of data, an uncertain status of government, and resentment from strongly entrenched ministries as the key problems. Subsequently, international development agencies, such as the USAID, now place high priority on training and technical assistance to host countries to institutionalize an adequate planning capacity (USAID, 1980).

### Planning Structure/Processes/Functions

This section considers the structure, processes, and functions of health planning units within African Ministries of Health. The degree of centralization addresses structural concerns. Processes and functions pertain to the decision-making and implementation aspects of planning. Each has as a central point of concern their ability to sit a position of power to effect change for planning objectives (Elling, 1971).

#### Planning Structure

Divergent perspectives and practices prevail with respect to appropriate health planning structures. While several authors have variously identified the advantages and disadvantages of centralized and decentralized planning units, the fact is that different health development concepts require different planning structures to best meet their objectives.

Currently, most African countries have a centralized planning structure established within a national planning body and health ministry (Koemer, 1977). Many African governments transferred the responsibility of health services from local government to central government when they achieved independence, this catered to the health service infrastructure (HSI) development concept prevalent at the time. Bowayo's (1979) description of Kenya and Zambia's

rationale for the centralizing of their health functions illustrates this health service delivery emphasis. He attributes centralization as an attempt to:

- Control inefficiency,
- Minimize the lack of administrative skills at the local level,
- Plan and coordinate public health services,
- Equalize public services between regions and localities,
- Strengthen national unity.

Despite the value of centralizing health service delivery and planning functions, problems emerged. First, this transfer of health services substantially increased the organizational requirements of national planning bodies. Vogel (1970) demonstrated that Kenya's centralization of health services required: 1) increased responsibility for the Ministry of Health; 2) new administrative machinery; 3) revised relationships among the medical officer, county council, and health center staff; and 4) a need to review national priorities. No commensurate personnel and data resources existed to meet these new demands.

Second, health planning, although centralized, remained fragmented and uncoordinated. Roemer (1977) noted that the total planning of the health sector may be dispersed over several other ministries such as manpower, facilities, financial planning. Moreover, a case study of Kenya's health planning structure revealed different planning functions split within different units of the health ministry. Specifically, capital improvements planning

remains distinct, and jealously guarded from the health services planning unit. The centralization of these functions is currently underway through a bilateral institutional development grant from USAID; substantial resentment, resistance, and politicizing stand in the way of any apparent success.

Decentralization of health services and health planning has gained impetus in recent years. Bewayo (1979) found, for example, that both Zambia and Kenya have now moved to decentralize, once again, their health planning functions. Zambia has created new district councils believed to reduce inefficiency and provide revenue for the national government. Kenya has commissioned an IMF study into ways of financing local authorities.

Several factors contribute to this changing emphasis. From a theoretical vantage point, decentralization is said to be needed to enable relevant health and social efforts (Elling, 1971). It also provides a greater degree of community participation most sought after in human resources health development efforts, and to a lesser extent, in the ecological approach. This is said to limit the problems of overplanning and underimplementing (Martin, 1975).

Practically, however, it has been universally accepted that central level planning is often irrelevant and inappropriate for local conditions. Integrated planning is also best facilitated at the lower levels of the health system, thus requiring greater decentralization of control and authority. Finally, the latest

interest in maximizing the use of existing local resources adds to the momentum for decentralization.

Unfortunately, the advantages of decentralized planning has yet to be fully realized. As it is practiced today, decentralized planning primarily represents local control over service delivery. Policy and resource allocation decisions are handed to the community by central-level policy makers.

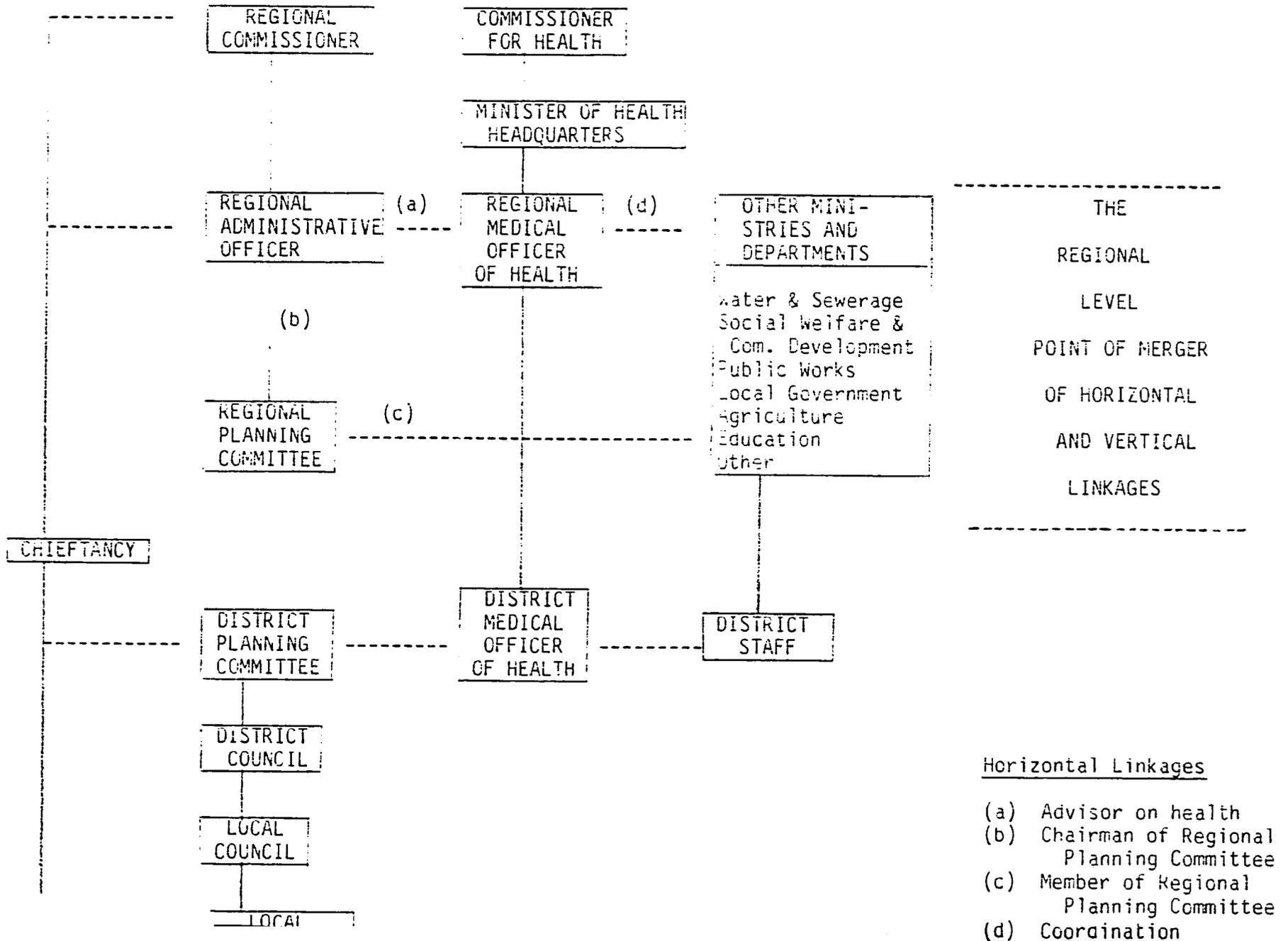
Although this analysis focuses on Africa, decentralized planning in Bangladesh merits citation to illustrate a more progressive model of the deductive planning process. Interministerial planning has been organized at national, regional, district levels and downward. Moreover, community participation is achieved at all levels through the use of project committees. A unique feature pertains to a management committee established at the local level to oversee health delivery problems and ways to improve them (Choudhury, 1981). Thus, the community participates in policy-making, implementation, and evaluation of their health care programs.

While planning from the indicative of decentralization, is the latest trend throughout the continent, many countries are now recognizing the importance of planning at three levels concurrently. Ghana's process, for example, includes individuals "who have authority, influence, or decision-making roles over health services. Involvement is directed upward to policy levels, downward to tactical levels, and outward to health related

institutions," (Kaiser, 1977: 35). The Ministry's organizational chart found on the next page graphically depicts this planning process.

As is the case with central level planning, the future of decentralized planning is undermined by a dearth of trained personnel and data resources. Moreover, the fate of decentralized planning is doomed by a lack of financial resources and the overriding concern for survival found at the local level. It is obvious that substantial organizational constraints must be overcome to ensure the feasibility of ecological and human resource health development concepts.

T H E R E G I O N A N D D E C E N T R A L I S E D P L A N N I N G I N G H A N A



## Processes/Functions

Most African Health Ministries have poor track records for achieving health development objectives through the planning process. While the technical constraints identified in the methodological section is a key problem, the political nature of planning impacts the situation most directly. The difficulties include: 1) the low status of health planners, 2) host country inability to manipulate donor country and multilateral health projects to meet its health development needs, and 3) entrenchment of traditional ways.

The low status of health and health planning in the overall host country development strategy cuts into the benefits of a health planning effort. Ahmad states that the CPA lacks 'political teeth' for effective decision making. Health planners especially are likely to have little political clout and leverage, particularly in the resource allocation process, because the contribution of health to national development has yet to be justified in quantifiable terms. Moreover, Ahmad notes that few countries have the expertise or political commitment to carry out an annual plan, much less a medium or long-term plans. A strong national health ideology and political commitment to health are essential prerequisites for the planning and development process to work. Even in these instances, however, health plans fail to be adequately implemented (Segall, 1972).

The case of Sierra Leone best illustrates the magnitude of the problem. Rumbaut (1979) reports that the MGH in that country had 11 permanent secretaries in four years because of the low prestige of this money-spending vs money-raising political institution; indeed, it was considered a "dumping ground" for permanent secretaries. The Ministry also attracted lower quality administrators, causing high turnovers. These problems resulted in inefficiency, inaction, powerlessness, apathy, corruption; as well as absence of leadership, motivational and ideologic commitment, all of which has served to frustrate competent and dedicated members.

Inability to garner needed resources from national budgets increases reliance on donor countries for health resources. Unfortunately, health planners are unable to master the aid negotiation and project planning process to meet their prescribed goals. Ahmad (1978) finds that, organizationally, operating agencies lack the ability to develop self-consistent, coherent, and coordinated projects, and are unable to place the project in the economy as a whole.

Much of the difficulty lies in the limitations of donor country project planning procedures. For example, a review of AID's procedures revealed that inadequate involvement of host country nations and the policy limitations of AID limit any progressive improvement in health problems. For example, AID's policy against hospital or mental institutions may be antithetical to host country objectives and needs. There is growing evidence, however, according

to Hirschmann (1978) that the host country face donors with more confidence owing to:

- 1) A stronger position to reject offers of assistance;
- 2) Increased planner competency;
- 3) Donor demand to negotiate projects through the planning office.

In general, however, these developments are slow in occurring; health service planning units typically function in an administrative or crisis/reactive capacity.

Finally, internal politics of the health ministries affect the planning and implementation capacity. Specifically, Hirschmann (1978) finds that as a new discipline, planning has been said to cause resentment of older civil servants who are required to conform to new practices. This is especially problematic in as much as health planners tend to be younger than the provider counterpart.

#### Personnel And Data Resources

While inadequate personnel and data resources have been previously identified as major organizational constraints, additional discussion of the subject is warranted. Specifically, the staffing, planning and training of health planners are particularly relevant to the topic of personnel. Generally, the composition of a health planning unit should

reflect the specific health development objectives. Gish (1977) properly perceived that staff composition and data inputs differ according to the selected health planning strategy. Thus he distinguished between the resource requirements of physician-oriented vs. economist-based planning strategy, suggesting that in the former, epidemiologists and physicians trained in planning techniques are most appropriate where disease control takes precedence. The latter situation, however, should utilize the services of a health economist who relates better to capital programming and resource allocation requirements. As the health development concept broadens beyond medical care services, an array of other social scientists help in the planning and development process.

Unfortunately, there is little evidence that the composition and training of health planners differ from the traditional planning focus. Health Planning Units still tend to be physician-dominated. In fact, in some health ministries, such as Tanzania's, there is said to be strong resistance to involving other disciplines (Gish, 1978). Moreover, while subject areas, like community participation, have been recently included in the international planning curriculum of Public Health Schools, the predominant training focus is still on epidemiological, deductive planning methodologies.

With respect to data resources, the key area of development in recent years has been in health information systems. With the aid of international development agencies, vital and health statistics are gradually improving in quantity and quality. Computerization of these

data elements now makes information more readily available. Significant improvement is needed, however, in utilizing and distributing information to assist the daily operation and management of health activities. Planning is a continuous process, not merely used for developing annual health programs. Both quantitative and qualitative information about changes in health status and services are routinely needed on a local level to facilitate planning and evaluation. This is especially true given the new trend toward decentralization of health functions.

#### Summary and Analysis

An analysis of organizational developments in health planning helped us to investigate, whether or not the products of planning have been successfully implemented. A review of planning structure, processes, and functions revealed a general lack of success in implementing health goals and plans. Moreover, health planning will continue to suffer without giving greater consideration to the types and training of personnel employed, as well as the types and availability of data required to execute the various health development strategies.

The centrally organized planning body prevailing throughout Africa has tended to obstruct health planning as well as implementation. The difficulties include: 1) lack of trained personnel and data resources to meet new organizational and administrative demands, 2) fragmentation

of health planning and implementation functions among various sectors of the economy and units of the health ministry, 3) inappropriateness of centrally developed health plans within many local jurisdictions. Attempts at decentralization, however, are quickly emerging, with their greater potential for developing and implementing community-based health plans. It, too, must improve in terms of its ability to ensure maximum input from the local level.

Another deterrent to implementing and achieving health objectives pertain to the political nature of the planning process and functions. Specifically, it has been proven that without a strong national health ideology and commitment, health planners have little clout in carrying out annual, intermediate, or long range plans. Moreover, health planners have been unable to master the aid negotiation and project planning process so that externally funded projects complement the national health plan.

Finally, the success of implementation also suffers from resentment and lack of understanding on the part of many civil servants when given new directives regarding health services delivery. Despite the dismal picture, prospects appear bright as new infusions of funds expand institutional capacity to develop and administer health plans. The training of diverse health planning personnel and improved information resources will substantially improve the current state of the art.

## CONCLUSION AND RECOMMENDATIONS

This section discusses a suggested health planning framework and related training implications in light of the health needs and planning deficiencies identified in the previous sections. Substantial accomplishments have been made toward institutionalizing health planning within African Ministries of Health. The efforts represent a concerted partnership of host and donor countries to solve health problems which are multidimensional in scope. Realistically, however, much remains to be done to establish health strategies, planning techniques, and an organizational/administrative apparatus that best address Africa's complex health needs. These must then translate into appropriate planning models and curriculum.

The creation of an appropriate conceptual framework to guide the planning and development process represents the most fundamental and formidable challenge to the state of the art. A number of views prevail regarding which factors most influence health status. Health services/infrastructure, the environment and ecological factors, and human resources have been variously targeted for development in planning for improved health. While these strategies exist concurrently and address different aspects of the disease problem, minimal coordination takes place to adequately tackle all three elements of the disease triad, i.e., the host, the disease agent, and the environment. Typically, one takes precedence over the other, either in theory or practice.

A more appropriate health development process strategically plans for the immediate, intermediate, and long-term health needs of the population. This includes the provision of health services, an adequate living environment and ultimately, the economic and political resources to allow individuals to direct and maintain a balance with their health environment. Thus, the approach must clearly be intersectoral, incorporating at least four categories of health objectives: 1) health service delivery, 2) health status, 3) quality of life, and 4) human resource potential.

Health status objectives focus on specific disease problems/conditions, and desired mortality and morbidity levels for the general population and subgroups within the population. This is without regard for the type of health interventions applied to the problem of health. Instead, the intent is to enable progress, through whatever means, toward improving of the various health indices.

Health service delivery objectives ensure the availability of health resources for the general population to meet the more immediate health needs. At the heart of this strategy are issues of service and infrastructure coverage, accessibility, and appropriateness.

Quality of life objectives focus on various of socio-economic influences on the status of health. Among the variables to consider are adequate housing, sanitation, and water supply. Appropriate levels of nutrition and food intake are also among the more intermediate health development needs.

While the long-term objectives are also related to the quality of life, they specifically focus on individuals' capacity to direct their own health through access to adequate educational, economic, and political resources. While quantification of human resource development is possible, the primary emphasis is on process skills acquired by members of the community, reflecting organizing and development capabilities. Thus, a foundation is established allowing the community to direct its own development process, irrespective of the type of development sought, reducing dependency on external benevolence to initiate a continuous process of social change.

These four types of health objectives must be included in every country's health plan as a part of a comprehensive health development strategy. Significant progress is being made toward planning the immediate health service needs, and even in addressing conditions of the environment as it impacts health. A great deal remains to be done, however, toward incorporating human resource development strategies that are consonant with theoretical offerings in the area.

Methodological techniques and organizational structures must complement the different health objectives. Organizationally, intersector planning must be established at the national, regional, district levels, and downwards. Decentralization and community project committees that allow for greater local level decision-making and management of health and health related activities are critical. Staff resources must include individuals from various of backgrounds who can plan and implement each of the four categories of health objectives.

These staff positions should include: 1) health economists, 2) epidemiologists and public health specialists, 3) urban/regional/environmental planners, and 4) social planners or anthropologists. Both team planning and separate project planning should be encouraged to avoid differences in perceived/actual status, and to promote experimental project planning.

Methodological requirements are as diverse as the planning and health development objectives. Aside from amassing epidemiological and resource-based data for health services planning as is currently being done, new types of data and related methodologies must begin to surface. Specifically, more effective integrated planning and the macro-and micro-levels are sorely needed to address quality of life objectives. The greatest need, however, is the development and use of inductive planning techniques. While community participation planning represents the most dynamic and relevant development strategy, there remains a vast amount of ignorance about and reluctance towards making it work.

It is apparent that considerable changes must also occur in making the curriculum for health sector planners more relevant to the diverse health needs of the population. All health planners, irrespective of professional discipline, should have a broad range of skills. Economic (resource-based), epidemiological (health status), environmental/regional (quality of life), and social planning principles should be core requirements of equal importance, with one area of specialty required. Moreover, instructions in both macro- and

micro-level planning techniques are critical. The former stresses highly quantitative analyses, assisted by computer programming. Micro-level planning considers the addition of qualitative techniques to problem identification and resolution. Both, however, remain based in the comprehensive planning program.

The health status of most of the world's population depends upon many factors. The ability to direct available resources to tackle a myriad of disease problems and influences stands out as a major requirement for timely and effective health development. Health planning throughout the world and especially Africa must begin to function as the vital development tool it is intended to be.

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