CHAPTER 6

NATIONAL MASTER HEALTH PLAN

6. NATIONAL MASTER HEALTH PLAN

6.1. *Generic strategies for the Master Health Plan*

6.1.1 Strategies that impact on Context

(1) Alleviation of poverty

1) Purpose and objectives

Poverty is one of the major underlying constraints for health status improvement. Through promotion of poverty alleviation activities, which are mainly related to income generation, one can greatly improve living conditions, access to basic health services, and sustainability of health promotion activities.

2) Target group

(A) Rural poverty

Poor inhabitants of the rural mountainous areas of Honduras (Study's zone A), where employment opportunities are significantly scarce, and population growth is still high, since urban migration does not balance high fertility rates.

(B) Urban poverty

Poor inhabitants of the marginal areas of large cities, many of which have been affected by natural disasters, such as land slide and flood, and have lack of access to water and basic sanitation; mostly recent immigrants from rural areas.

3) Components

(A) Common approach for rural and urban poverty

Integrated programs will be developed:

- Institution building for community development committees at department and municipal level
- Organizing community development committees at community level
- Establishing and/or strengthening of community activity centers with training and extension functions
- Strengthening of training systems for community leaders

- Promotion of primary education and out-of school education for adults
- Establishing a system for providing information/training about income generation skills and marketing to community members
- Establishing a system for providing information about improving living conditions and health education to community members (housing, access to water, waste disposal)
- Establishing a formal system to support community development activities conducted by community members, development committees, NGOs, and other organizations, with functions of coordination, information services, and provision of community funds.

(B) Specific approach for rural poverty

- Training of farmers on improved farming technology, crop diversification, marketing, and self support consciousness
- Establishing farmers' cooperatives for purchasing good quality seeds and fertilizer, effective marketing, and direct access to consumers
- Implementation of an integrated pilot project in a setting with unfavorable natural conditions such as difficult access to water and sanitation, low soil fertility, steep mountain slope, etc. with health and agriculture sectors approaches
- Education and information support through community development committees and CESAMOs/CESARes

(C) Specific approach for urban poverty

- Establishing a system for providing job opportunities information
- Providing vocational training to community members
- Disaster prevention (flood and land slides) for development of housing conditions
- Education and information support through community centers and CESAMOs/ CESARes

4) Implementation

(A) Rural poverty areas

In the rural poverty areas, a pilot project would be developed in the short-term run, including institution building of existing community development committees at department and municipal level, organizing community development committees at community level,

establishing and/or strengthening of community activity centers with training and extension functions, training of community leaders for leadership improvement, health education, and agriculture development, encouragement for establishing farmers' cooperatives, strengthening of CESAMO/CESAR functions.

The mid-term activities would include monitoring and evaluation of the pilot project, establishment of community funds for community development activities and formulation of guidelines for the methodology developed by the pilot project.

The long-term perspective would seek the national consensus on the model established by the pilot project and its extension, including development of rural infrastructure.

(B) Urban poverty area

The process would be similar to that in rural areas: in the short term, institution building of existing community development organizations, establishing a formal system to support community development activities with coordination and information service functions, and strengthening of community centers.

In the mid-term, the plan would consider establishment of community fund for community development activities, monitoring and evaluation of the pilot project and formulation of guidelines for the methodology developed by the pilot project.

The long-term plan will seek national consensus of the model developed, which will then be extended. Improvement of living conditions would also be included.

(2) Access to food/food security

1) Purpose and objectives

Food security must be addressed in an integrated fashion. It encompasses: production, post harvest technologies, access to food, nutrition education, cooking procedures and food safety. Access to food is merely a part of the integrated component.

The major components of the integrated approach are listed as follows:

- agriculture sector: low cost irrigation system, crop diversification, better farming system, better quality seeds, fertilizer, organic manure application, disease prevention/pesticides application, post harvest technology/prevention of food loss,

access to farmers' credit, marketing information, access to distribution channel, better transportation, quality control and packaging standards.

- health sector: adult illiteracy improvement, better knowledge on hygiene, sanitation, nutrition, cooking practices, food safety, contamination by hazardous substances, simple processing of food for value addition, primary health care, community participation, income generation for rural women, access to food/food coupons, environment conservation.

The above mentioned components cannot be addressed by any single public institution. It requires close cooperation between the ministries responsible for planning, public health, agriculture production, education and environment.

Since the agriculture sector occupies the largest portion of the Gross Domestic Production (GDP) in Honduras and also the largest foreign currency acquisition in 1992, and since agriculture absorbed more than half of the national employment in 1994, efforts should be focused on production aspects such as irrigation and agriculture technologies. The present policy is too diversified and not concentrated. Neither goals for production quantity, nor whether self-sufficiency should be attained has been clarified.

2) Future strategies for food security

(A) Agricultural technology

- Regional production characteristics
- Simple irrigation system
- Access to improved seeds
- Domestic production of fertilizers
- Better farming systems
- Marketing information systems
- Post harvest technology
- Prevention of plant diseases
- Integrated farming with animal husbandry
- Diversification of marketable crops
- Quality control/content of impurities
- Phyto-sanitation clearance

All of the above strategies require training of extentionists as a long term perspective. The most important issue is the motivation of independent small/middle size farmers. The government should solve land tenure problem as soon as possible particularly in rural areas.

(B) Health and education

- improve adult illiteracy
- develop concepts of hygiene and sanitation
- better nutrition knowledge
- cooking practices, particularly vegetable cooking
- simple processing and preservation of food
- income generation for rural women
- environment conservation
- community participation

All of the above strategies also require training of nutrition and house keeping extentionists. The most important issue is to cultivate self supporting spirit, particularly among rural housewives. As much as possible, municipalities should render assistance in provision of seed money and community centers.

3) Recommendations for urgent public sector strategies

(A) Sec. RRNN (Secretaria de Recursos Naturales)

- Yearly monitoring and evaluation of all agriculture development projects
- Yearly presentation of achievements and outcomes of each project
- Establish own seed improvement institutions for vegetables, permanent crops and fruits
- Disseminate organic manure composting system throughout the country in order to be self supporting and not dependent on imported chemical fertilizers
- Motivate farmers' self supporting spirit by improving the land tenure system

(B) Ministry of Health

- Prepare report on nutrient and vitamin contents in domestically available foods
- Prepare a national recommended diet pattern, which includes calorie and protein uptake
- Disseminate hygiene and sanitation concepts, particularly amongst rural residents

- Reinforce concept of primary health care, as it relates to food security
- Train nutrition extentionists and send them to the communities
- Increase gradually number of beneficiaries of food programs, for sustainability and affordability

(C) Ministry of Education

- Introduce/continue milk feeding plan to the school children lunch program with the collaboration of Sec. RRNN and the Ministry of Finance
- Reduce rate of illiteracy, particularly for primary school children as soon as possible
- Increase opportunities for younger generation to attend vocational schools
- Yearly monitoring and evaluation of program achievements
- Promote the concept that education is productive for the country

(D) Ministry of Environment

- In collaboration with Sec. RRNN disseminate technology of organic manure composting for the conservation of farm land and forest

(E) SECPLAN

- Coordinate all institutions concerned with food security and monitor/evaluate the achievements of each institution

(F) Ministry of Finances

- Find financial resources in order to fund necessary food security projects in the country

(3) Access to water and basic sanitation

1) National level strategies

(A) Improve coordination and management of water resources (rationalize roles and responsibilities, improve coordination, restructure)

The present multi-agencies involvement (Sec. RRNN, SEDA, MSP, SANAA, FHIS, ENEE, COHDEFOR) in the control, management and coordination of the water resources and water supply projects could be rationalized with the possible creation of a water resources institute. This institute would have nationwide coordination to ensure that the water resources are effectively developed and utilized.

Another option is to improve the coordination amongst the agencies concerned by clearly defining their roles and responsibilities and to eliminate overlapping areas of activities/responsibilities. This exercise must be conducted through dialogue involving all concerned agencies to arrive at an efficient arrangement of inter-institutional relationships and functions.

With a redefining of roles and responsibilities, reinforcement or restructuring of certain institutions may be necessary. There must be political will to rationalize the present institutional setup to set up a more efficient organization for more effective use of limited financial and human resources to solve the water problem of the nation.

(B) Water resources management and protection (protected areas enforcement, reforestation measures, environmental impact)

The decrease in water resources and its contamination need to be addressed by enforcement of the legislation on protected areas. The control of husbandry, farming, illegal logging, settlements, fires from slash and burn, soil erosion in the watershed areas is necessary to ensure sustained water resources and to reduce water contamination. This is particularly true in the case of urban water supply resources which come under severe development pressure. A case in point is the proposed Mateo development in the watershed of the Los Laureles dam, which, if allowed to proceed, may endanger the water resources which supply one quarter of Tegucigalpa's water.

The care and management of the important watershed areas through restriction /management of the human/development activities and active reforestation programs are urgently needed to promote the sustainability of the watershed. With the creation of SEDA and the passing of the "Ley General de Ambiente", Decreto No. 104-93 (General Law on Environment), there is now a regulatory framework for screening projects based on their environmental impact. SEDA's role is not only the application of the environmental laws with regards to water resources protection but also with education on the importance of the environment.

(C) Water extraction/sale control (control of quantity and quality)

Water extraction regulations should be enacted to control the quantity extracted and to ensure it stays within sustainable limits. This particularly applies to the private sector, which harvest the water as a free commodity. In a country with limited water resources, uncontrolled extraction of a precious commodity should not be allowed to continue.

Legislation at national level is required to control and regulate the extraction as is being done at the municipal level (i.e. by the San Pedro Sula Municipality, which charges the private sector for the water extracted even from private wells).

(see Figure 6-1)

(D) Water resources inventory (identification/quantification of watershed areas, rivers, underground waters potential)

A national water resources inventory which is now being undertaken by SANAA should be used to formulate strategies for development based on the availability and distribution of the water resources (surface, underground and rainfall patterns) and its ability to sustain the development plans for the region. Regional development plans should be based upon the nationwide strategy to ensure compatibility and coordinated development of the resources and to avoid duplication and waste (see Figure 6-2,3).

(E) Decentralization strategy (water resources development policy, sectoral priorities, inter-municipality coordination)

Decentralization is an important component of Honduras' modernization plan, but it can not be divorced from tax and law reforms which stimulate regional economic activities. In order to achieve decentralization, national and regional functions and responsibilities must be clearly demarcated. National and regional governments must adjust their public finances in relation to each other, in order to efficiently implement its administrative affairs. This financial adjustment will stem from an adjustment of financial resources (distribution of national and regional taxes) and a realignment of tax resources. Even if the national and regional governments secure the required financial resources following an adjustment and a realignment of finance and tax resources, the definition of "required resources" between the national government based on authority and the regional government concerned with providing a segment of services for its citizens, will differ.

In order for water services to become financially independent through revenue generated from water service rates, users must be able to pay the proposed rates. If not, then government subsidies are essential. Assistance will be needed if independently managed water companies cannot expand or build new water facilities or develop water resources. As exemplified by the case of San Pedro Sula, it is possible for a city to develop its water services by partially relying on foreign aid.

The empowerment of the water management and control to the municipalities should be implemented within the framework of a national water resources management strategy. Regional exploitation of the water resources should be in line with the national strategy especially when the water resources are inter-regional or transboundary in nature.

There are significant disparities in the water and sanitary service coverage and demographic growth rates between departments and municipalities. These differences suggest that sectoral priorities in planning, financial allocation and implementation must be set to achieve universal coverage. The more developed municipalities could play an important role in the transfer of expertise and the coordination of development in their respective regions. The national agencies involved must implement training and support for the less developed municipalities to enable them to eventually acquire the required expertise and knowledge to control and manage their own water resources and sanitation networks.

(F) Water regulation (regulate water resources protection, extraction, water quality)

The existing water law dated 1927 should be updated. The draft of a new Water Law proposed by the Department of Hydraulic Resources in the Ministry of Natural Resources is presently being revised in light of the recent implementation of the Environmental Law and of the decentralization policy, in order to avoid duplication and conflict. The Health Code's regulation on water is also being revised by the MSP. Whichever one of these is eventually approved will depend on the political influence of the respective agencies and its future role as seen by the political arena.

A new water regulation should clearly demarcate the functions and responsibilities with regards to water resources extraction, management and development. Water quality standards contained in the Article No.084 of the Technical Norms of the Health Code should be enforced, especially with respects to the private vendors, in order to ensure acceptable water quality for human consumption. Enforcement and legal punitive recourse for non-compliance not detailed in the Technical Norms should be clearly stated in the new water regulation. These legal framework requirements will then serve as a means to improve and achieve water quality standards nationwide.

(G) Liquid waste regulation (regulate waste discharge)

SEDA is currently working on a proposal with SANAA, DIMA, MSP and OPS to regulate the discharge of liquid industrial and domestic waste. With more and more industries being

set up, the waste discharges which have serious health and environmental impact should be regulated and controlled. With the enactment of this regulation, the requirement to treat the waste before discharge if it falls outside the allowable limits will have legal sanction. SEDA can then impose this requirement as a pre-condition for project application approval.

With no treatment of sewage discharge anywhere in Honduras, the uncontrolled discharge of industrial waste into the network represents an unacceptable practice with grave implications not only on the environment but also to the workers maintaining the network.

(H) Training and awareness (public health awareness, national qualification)

Based on data compiled from the study's field survey, there appears to be inadequate awareness and knowledge on the part of waterworks and waste water related personnel regarding their roles and the impact of their job on health. Personnel who perform their work perfunctorily and with only superficial knowledge must be educated and made aware of the significance of water treatment, the social impact of the entire waterworks and waste water sector, and the need to acquire basic knowledge.

Training courses for personnel engaged in the public sanitation sector should not only cover technical training in waterworks and waste water treatment but also include aspects of public health and environmental education related to public health. Pursuing a policy of decentralization without educated and informed personnel will undermine the effort being expended.

The introduction of a national system of technical qualification with appropriate rewards will give incentives to the personnel and will help establish standards for a more professional attitude and approach to their work.

2) Regional/Municipal level strategies

(A) Development of regional plans (proactive, support, different scenarios)

Regional development plans should be developed to anticipate the water and sanitation needs and to plan for the provision of these needs rather than the present reactionary approach to unplanned settlements and development. Identification of water resources to provide for these needs and development options to tap and manage these resources should be examined.

These regional plans should preferably be coordinated at the national and inter-department/municipal level to ensure compatibility and effective utilization of the resources. Political support, cooperation and coordination at the inter-department /municipal level could be through the Governor's office. The different stages of development of the municipalities and their technical and managerial capabilities will dictate the amount of support required from the national authorities or more advanced municipalities to develop their regional/municipal plans.

For example, a more advanced municipality such as that of San Pedro Sula (MSPS) is playing a key role for other nearby municipalities by serving as the economic and service center for the region. The MSPS Urban Development Plan, therefore, incorporates the development concept for the whole Sula Valley and provides a coordinated regional framework for the future development.

SANAA has developed the Municipal Plan for Water and Sanitation for the Year 2000 for the Trifinio area in which it has identified different priorities, cost and methodology to achieve 100% service coverage based on the hydrological characteristics of the municipalities in the area. Similar plans for other areas should be developed based on hydrological and geographical characteristics and not solely on municipality boundaries.

The wide range of water, sanitation systems, and the municipalities' capabilities will entail different approaches from the technical, financial and managerial aspects for each municipality. The limited funding will mean greater efforts will be needed to optimize available resources. Implementation of low cost technology and active community participation will maximize the chances of sustainable and successful regional plans.

(B) Municipal organization and staff training (training, liaison, NGOs, private sector)

Technical and managerial capabilities of the municipalities' staff should be improved through systematic training in all aspects of water management, control and exploitation, and water/ sanitation related social/health impacts. This training will help prepare the municipalities to assume control and management of their water resources and to develop it while considering related health impact and issues. The training will help prepare the municipalities to assume control and management of their water resources and to develop it. SANAA, the national authority with technical knowledge, has a key role to play in the transfer of technology to the municipalities. Its on-going training programs of the

municipalities personnel is important to empower the municipalities to assume their responsibilities to manage their resources. Other advanced municipalities like the Municipal of San Pedro Sula have also assisted other nearby municipalities with training programs. These inter-municipal training and coordination should be continued by AMHON and other regional municipal associations.

To improve liaison between the municipality, communities, MSP's TSA (Técnico en Salud y Ambiente) and SANAA's regional technical office personnel, or TAS (Técnico en Agua y Saneamiento) and TOM (Técnico en Operación y Mantenimiento), an employee designated as TOMAS (Técnico en Operación y Mantenimiento Municipal en Agua y Saneamiento) has been proposed, which would be trained in the administration, promotion, operation and maintenance of the water and sanitation systems. This TOMAS will also provide technical guidance to the communities to help them identify and promote water and sanitation projects.

Greater cooperation with private sector and NGOs (World Vision, Save the Children, CARE) working in the water and sanitation area should be emphasized to pool resources in these areas and to avoid duplication and redundancy of projects. This coordination require better networking from the community level right up to the central level. The TOMAS will be invaluable as a conduit from the community to the regional office and, subsequently, from there to the central office.

(C) Maintenance and cost recovery of network (minimize losses, illegal connections, review tariffs)

Efforts to maintain the existing water and sanitation networks in the urban areas of the municipalities are required to minimize losses and contamination due to leakage. Losses from clandestine/illegal connections must be minimized or eliminated altogether by greater inspection and enforcement. Attention to address the physical, financial losses and abuse of the network should be a priority to make the system more cost effective and sustainable.

During 1990/91 international donor and loan agencies funded 74% of the total water and sanitation sector capital cost. As donors and lending institutions are demanding cost recovery by way of tariffs tied to actual cost of water production or cost of provision of the services, funding for these services will become increasingly critical.

SANAA has initiated a tariff review and domestic household water usage survey and monitoring. The need for a tariff change to reflect the high cost of water production, elimination or reduction of government subsidy and the social impact of such measures must be assessed. The high capital investment and maintenance cost of water and sanitation system and its corresponding cost recovery implications need to be considered together to ensure financial viability of the systems.

To get the highest cost/benefit of cost recovery schemes, priority zones for rehabilitation should be identified based on the population concentration. The inhabitants' ability and willingness to pay for the improved service may more than cover the capital cost of the project. Stage-wise rehabilitation/construction of the sewage networks starting with the primary, secondary collectors and then the sewage treatment plant and network is recommended. Due to limited resources the entire problem can not be addressed all at once.

Industrial waste and illegal discharge into the sewage system or directly into the rivers must be controlled as this overloads and damages the system resulting in high maintenance cost. Effective monitoring and enforcement are required to stop this abuse.

3) Community level strategies

(A) Improve awareness

Communities should be provided with technical support to impart knowledge and awareness on the water and sanitary management and control.

(B) Ownership and control

The communities should be empowered with the knowledge to control their water resources and with it the sense of ownership.

(C) Active participatory approach

The active participation of the community must be solicited to implement and design water and sanitation schemes to ensure social acceptance and sustainability.

4) Development models

(A) Urban areas

Cities such as Tegucigalpa and San Pedro Sula have master plans to develop their water and sewage services to meet their projected needs. The implementation of these plans are technically and financially feasible due to the large consumer population and cost recovery from water and sewerage charges.

To improve the financial situation of the water authorities (SANAA and DIMA) so that they can provide better services and water quality, the present water charges and collection system should be reviewed. Additional funds are required to undertake new water treatment and supply projects and to maintain proper functioning of existing networks.

(I) Illegal disposal of solid waste (expansion of trash collection service for the unserved areas)

The present limited trash collection service should be expanded to cover the marginal areas as well. To reduce the burden on the municipality for providing this service, the option of privatizing the service should be considered. The financial viability of a privatized service in the central urban areas should be used to subsidize the provision of the service to the other areas under the principle of social equity.

(II) Water treatment recommendation (chlorination, aerated lagoon)

Chlorine disinfecting prevents the spread of waterborne infectious diseases such as cholera and diarrhea. As a result, tap water is potable without heat sterilization. When chlorine disinfecting is carried out on groundwater containing iron and manganese ions, these heavy metals become oxides and cause turgidity and discoloration. Subsequently, water must be treated using contact removal methods such as oxidation and coagulating sedimentation or manganese sand filter media. If land space is readily available, these heavy metal ions can be treated using a biological filtration method that utilizes oxidation adsorption removal.

When use of groundwater and fluvial water which have been polluted by human and livestock wastes is unavoidable, the water need to be biologically pretreated to remove its pollutant load substances, and pre-chlorine treatment followed by either coagulating sedimentation or sand filter treatment carried out.

Pretreatment methods by settling basin or aerated lagoon will easily reduce the bacteria count in the water and thereby, greatly reduce the volume of chlorine consumption. For

areas which must rely on river water high in organic pollutant load as a municipal water source, biological treatment by aerated lagoon should be utilized as one means of securing a safe, economical, and superior water purification system.

(B) Urban marginal areas

Areas at the town's periphery could be served from the urban water and sewage networks. However due to the geographical setting, unplanned development and high financial investment, the ideal service connection may prove difficult to achieve. Stage-wise community based approaches to tackle the specific constraints of these areas would be easier to implement. Social participation with technical and financial support/input from the water authorities or NGOs are needed to arrive at a design that will be both manageable and sustainable.

(I) UEBM - 3 supply methods, i.e. pipe supply, water truck delivery, and well supply

The Unidad Ejecutiva de Barrios Marginales (UEBM) three-water supply methods have proved to be effective and successful in addressing the problem of supplying water to the marginal areas of Tegucigalpa. This stage-wise and local-area approach should be encouraged and supported to broaden its implementation to other communities and urban areas outside Tegucigalpa. The supply system should go hand in hand with the organization of the Water Board (Junta de Agua) which will manage the water supply scheme in each community. Proper management and maintenance, together with financial accountability, are the essential functions of the Water Board for sustainability of the water supply project. Proper training to enable the Water Board to undertake its responsibilities and duties should be part of the package in the water supply scheme.

(II) Local management of water and sewage service (local area approach and management)

Water supply and sewage services to some areas could be better managed at the local level involving the community or/and private sector. The present practice of the privately developed water and sewage networks turned over to SANAA/DIMA for maintenance upon completion of the network could be assumed by the community/private sector thus freeing SANAA/DIMA to focus on the main distribution/collection network. In the urban areas, this fee based service will need to consider the socio-economic situation of the area, however, it is envisaged to result in a more cost/effective service and management. This

approach will empower the community to take the initiative, control and maintenance of the water and sewage system.

(III) Area specific sewage system approach

Area specific consideration should be given to local soil and topographic conditions (see Figure 3-1). The table below describes different factors to be considered and the preferred types of latrines for the given situations.

Types of sewage system by environmental condition

Soil Condition	*Land Availability*	*Type of System*	*Remarks*
Rocky/ Sandy, good filtration	Yes	Simple Pit, Hydraulic type + septic tank	Natural infiltration of waste water
- ditto -	No	Simple Pit or composting type	Natural infiltration of waste water
Clayey, poor filtration	Yes	Composting type, Hydraulic type + septic tank	Manual removal or by vacuum truck
- ditto -	No	Composting type	Manual removal or by vacuum truck

The present emphasis of building simple pit type latrines by FHIS should be modified to consider the different geological and topographical conditions of the marginal areas. Land availability of individual dwellings to dig and locate another pit once the original pit is full, availability of water, and soil characteristics should be considered. Some areas are very rocky which does not facilitate digging of deep pits which means short life of the pit. These areas would be better served with composting type latrines although the maintenance of these is more demanding. The lack of water would exclude the use of hydraulic type latrines.

Areas with good soil infiltration rate have less of a problem or no problem at all with overflowing sewage when it rains. Simple pit latrines are acceptable for these areas. Hydraulic type could be used if there is adequate water supply to these areas. Areas with poor soil infiltration rate should be served by composting latrine to eliminate the problem of overflowing sewage when it rains. To assist with the maintenance of these latrines, vacuum sewage disposal trucks could help with the disposal of the sewage. Proper education on the maintenance of these latrine should be an integral part of the program to provide latrines to ensure proper use and sustainability.

(C) Rural areas

The dispersed nature of these communities does not generally allow large scale water and sewage network. Small individual networks or supply points are the norm to develop and improve access to water supply. Sewage network is normally not necessary due to the dispersed population. To develop the water supply, technical and financial support from the municipality, NGOs or SANAA is necessary. Community participation and involvement could be in the form of water management, supply of local material and labor.

(I) Social awareness of hygiene

Close cooperation of the municipality, community and the NGO groups working in the water and sanitation field must be fostered to effectively carry out water and sanitation projects coupled with education on the related health and management aspects of the projects, such as maintenance, operation, and hygiene. The community must be empowered by adequate training and information to heighten their social awareness of the health implications of the projects and by correct management skills to ensure the sustainability of the projects.

The correct choice of the type of latrine for the local situation together with the proper education on the maintenance of these different types of latrines will help to ensure the continued use and benefit to the community.

(II) Community participation in design, construction of latrine

Active participation from the community must be sought from the earliest stages of project planning to tap their local knowledge and to have their consensus on the design and subsequent operation of the project. The most cost/effective way for the municipality to carry out projects would be to involve the community in the planning, design, construction and operation stages. The sense of ownership will provide the right attitude to care for and manage the water resource and will encourage the long term perspective of the exploitation of the resource.

(4) Improvement of legal/institutional framework

1) Purpose and objectives

Within the strategies aimed at improving the context, strengthening the existing laws (Health Code), passing new ones (Family Law), and adjusting outdated components (Social

Security Law) would affect the general health status and well being of the population. This includes the strengthening of regulatory mechanisms that enforce the application of existing laws and establish a system of fines for non compliance.

2) Components

The current government position of the Moral Revolution ("la Revolución Moral"), whereby emphasis has been placed on strengthening the legal system, provides an opening for developing regulatory mechanisms and enforcing compliance of the laws. The principles of the state modernization emphasize the needed reforms of the judicial system and promote municipal decentralization and strengthening of the civil society. These strategies offer the needed opportunities for improving the legal framework.

The implementation of the Health Code, as well as other existing laws, will require developing regulations, which although implied by the law, do not exist in all cases (for instance, regulations have not been developed for food control). As a result, they cannot be enforced.

"The Family Law (Ley de la Familia)" as the title implies, would protect women and children, at home and in the work place. It would strengthen the rights of women and children, discouraging current machismo practices. This law is awaiting its discussion in Congress.

"The Social Security Law", as described in Section 4.3.3.(3) requires an administrative policy decision from the Board of Directors, not a legislative modification, to raise the maximum salary base from Lps. 600 to a higher one that more clearly reflects the earning capacity of the enrolled members. With the devaluation of the lempira, spiraling inflation, increases in both salaries and costs of health services, the monthly contribution based upon the minimum salary established in 1959 does not permit the provision of adequate, high quality health services.

"The Municipality Law" is a clear commitment to decentralization. Its implementation will require the development of human and technological resources to solve local management problems and to strengthen the skills of local staff. Actions to strengthen local development of the financial systems through improved financial management, access to credit and stimulation of local private investment will be required. In addition, it will require support in municipal and urban planning, community development and environmental protection

There may be a need to develop/revise instruments for the municipalities to regulate operational aspects of municipal management: types of delivery of public services, in particular, health and education services; criteria to establish fees that will produce revenue for the municipality; rules and procedures for delivery of services; rights and obligations of users of services.

Generally speaking, any central government level tends to be conservative and to control operations and training. This attitude contradicts the state modernization guidelines and the international policies by continuing to concentrate funds at the central level. It is critical that transfer to the municipalities of the 5% of the national budget income be made in a timely and complete fashion as stated by the law. The Mayors' Declaration of 1996 insisted in the establishment of a formal and permanent mechanism which would guarantee the timely and automatic transfer of the amounts established by the law. An agreement has been reached between the Honduran Association of Municipalities (AMHON), the Central Bank and the Ministry of Finance whereby Congress has approved for 1997 quarterly transfers from the Central Bank to dedicated municipal accounts. Up to now, no more than 2.5% has been transferred to municipalities.

Within the context of municipalization, a complete decentralization of health services is probably not totally desirable since it would lead to an atomization and unequal distribution of services and to the disappearance of the health network. The emphasis of decentralization as it concerns health should be on solidarity and social participation, that is, increased citizens participation. The municipalities' role should be that of coordination of institutional support and articulation with the community.

The most workable distribution of roles would see the MSP concerned with the provision of direct preventive and curative services, while the municipality could focus on water and sanitation, vector control and generally speaking, environmental control, along with organization of community participation to identify the problems and corresponding solutions.

Other services that could be transferred to the municipalities include:

- road maintenance and other services currently assumed by SECOPT
- management of other natural resources: forests, underground resources, vector control

Community participation program management and coordination between municipalities and the MSP, however, is made difficult because of the lack of institutional policies. Although in smaller municipalities, coordination can be accomplished even without established policies, in others it will be very difficult. Coordination with IHSS has to also be considered in larger municipalities.

6.1.2 Strategies that impact on Household/Community Behaviors

(1) Reduction of illiteracy

1) Purpose and objectives

Literacy, especially women's literacy, is strongly associated with better health outcomes (in particular IMR and MMR), as better education allows for increased emphasis to be placed on health status maintenance, better understanding of the causal relationships between risk factors and diseases, improved prevention/management of diseases, improved response to health personnel's indications and prescriptions. Women should be especially targeted as they often are the family's health caretaker; school children can also be strong multipliers of health education to their family and community.

Reduction of illiteracy includes two components:

- maintaining universal primary schooling and ensuring the quality of this education (which is mainly a responsibility of the SEP, thus outside the scope of the study)
- working with illiterate youth and adults (also supervised by SEP, but involving NGOs and organized community groups, whose activities in improving functional literacy can be centered on health related topics among others of immediate interest to recipients).

2) Formal education

With regards to formal education, one should note that the existing gender gap in literacy is decreasing and that primary school enrollment is now similar for boys and girls. However, more numerous opportunities for desertion due to household work and lower registration in secondary and university level are still a common pattern for girls. Those differences should be worked out within the more general context of gender focus and status of the woman.

The 1994-97 National Plan for Education Development was formulated as the first phase of the implementation of a new education model known as the Morazanic School ("Escuela Morazánica"), with reference to this statesman, the project is oriented towards the construction of a modern and democratic state, where education would play a decisive role in the formation of citizens and the social transformation. This new model thus emphasizes the national values, strengthens the identity, contributes to economic development and to the improvement of the living conditions of the most deprived groups of the Honduran population. Its objectives include the improvement of the quality of education through significant and relevant learning processes; a guarantee of quality of services through the modernization of the SEP; significant advances in coverage of basic and adult education, and decrease of repetition and desertion indexes; an increase in the levels of motivation and commitment of the different sectors of society.

The 1994-97 Plan includes modifications of curricula in order to incorporate into the subject matters (Spanish, mathematics, social sciences, etc..) some "transversal axes", namely, democracy, human rights, health and hygiene, ecology and environment, work and production, science and technology, inter-cultural education, strengthening of family life, formation of ethical and civic values, peace and regional/worldwide integration, human development, social security. Within this framework, the teacher is not seen as the only person providing knowledge, but rather as a coordinator of activities and available resources in the community. The new model also calls for use of multiple approach strategies instead of relying exclusively on teacher's training. Consequently, there will be a strong need for the development of appropriate education material for these transversal axes, to be used by the teacher or by the student him/herself (World Bank is scheduled to finance this project).

The implementation of this program, however, may face many difficulties related to teachers' motivation and difficult working conditions (for instance, problems of one-teacher schools, deteriorating status in recent years); improvement in the teachers' living conditions, especially in rural dispersed area, may prove essential to actually improve the quality of education. In terms of financial resources, keeping up with planned increased coverage for present and oncoming generations and with employment /motivation of teachers may require significant levels of additional resources; the SEP should probably consider a redirection of funds from tertiary to primary schooling (as the University could be partially self-financed).

3) Informal (young and adult) education

As for adult education, the 1995-2001 Ramón Rosa National Education Plan for Human and Productive Development of Young and Adults, part of the Morazanic School Project, establishes the conceptual unification of existing adult education projects under three curricular axes: instrumental education (learning basic reading and writing skills), education in values and human rights, education in (and for) productive work (vocational skills). The Plan's goal is to provide 523,000 participants with the equivalent of basic education. Its execution will be managed by the Education Departmental Directions, with a strong emphasis on participation by municipalities, community organizations, churches, NGOs and private sector. This multi-sectoral commitment, and the different settings and opportunities it can provide, will be essential to facilitate the individual's investment in spite of already absorbing household and family responsibilities and to overcome possible male resistance to improvement in female self-improvement.

(2) Improvement of health education interventions

Problem analysis showed health education to be a major factor in all health priority problems, either to reduce unhealthy behaviors or to promote use of health services. Success stories of increased effective social participation through health education exist in Honduras, such as the activities developed in Gracias, Lempira, after analysis of maternal and child mortality patterns; the good results of local water boards; and the ongoing processes of community management of pneumonia and growth monitoring. The strategies proposed under this section are three-fold.

1) Improve the efficiency of health education interventions within the health system

(A) Strategies need to be developed at different levels

(B) Role of central level (Health Education Division)

The efficiency of central level (Health Education Division, DES, at the MSP) has been hampered by a lack of own policy and funding, thus focusing on priorities arising from other projects/programs and being unable to carry long-term work, organized along expectations of organizational and epidemiological changes in the health sector. The DES has submitted a proposal for a Communication Education Policy which is now under review, pending the discussion of a proposal for joint activities among the Human Resource Development

Division, the Health Education Division and the Social Participation Unit. The proposed policy includes the following elements:

- the DES will ensure technical and ethical responses to population needs in terms of educational messages, facilitate use of current technologies and recover local innovations;
- the main objective is to facilitate changes in practices related to health and living conditions, using appropriate technology including qualitative investigation of current practices, analysis of behaviors to be changed, elaboration of messages, evaluation;
- the actions must be consistent with population needs, the objectives must be relevant and reachable and the evaluation directly related to living conditions and educational objectives;
- obtaining behavioral changes requires concerted action which guarantees social participation and strengthens regional and local institutions; the MSP looks forward to transfer health initiatives to households and communities through use of all possible media; the DES, Technical Committee and regional education departments are sources of technical assistance;
- whenever the MSP's capacity is overcome by demand, people or services could be contracted, the MSP keeping control over methodology and techniques.

This policy also allows to respond to local needs, as required by the decentralization and access process. Its definition and acceptance should be accompanied by the allocation of sufficient proper resources to the DES to design, promote and supervise a mid- and long-term communication action plan). Alternatively, the DES could become an autonomous technical entity, eventually competing with other private sources, to which either central level or health regions will contract the elaboration, testing and production of health education material. This second solution may be more responsive to specific local needs (decentralization); yet, it does not answer the need for a supervisory role of central MSP to ensure consistency of all activities with the national health education policies and focus on high risk groups for specific health problems.

(C) Increase regional/local capacity to elaborate/produce education material

This would be done decentralizing the human and material resources currently available, and using the existing DES or any other private organization as technical advisors. Indeed, the technical experience currently available in the DES could be used optimally for the training of other resources, focusing on how to use educational material, and maybe leaving aside materials production to outside sectors. The model health program for urban areas contemplates the creation of such a regional health promotion/education center (included into or associated with an AIDS prevention /education center) in San Pedro Sula, with a regional scope eventually expanding to the north-western part of the country. When planning for decentralized facilities, however, one should take into account the following points:

- economies of scale can be made on materials production, when done at central level (same as for drug procurement). A periodic coordination between regions and central level could help define materials to be produced nationally as well as material specific to regions;
- the maintenance of audio-visual production material, already difficult to assume under current budget limitations, could represent an even larger problem for decentralized production facilities;
- if some production activities are sub-contracted, there is a need for definition of standard contracts which guarantee the quality and timeliness of the work;
- decentralization of IEC activities should also include the development of regional systems and mechanisms for permanent monitoring and evaluation of the diffusion process of the education materials and the messages' impact (for instance from spot surveys among health centers clients, in addition to specific or large scale surveys), allowing for an evaluation of the appropriateness of the messages to the local needs.

(D) Increase impact of IEC activities through training and motivation of staff (including community health workers) in use of education material

Health education should not only be the responsibility of the health educator, but that of the health team, working in a given population with its specific epidemiological profile and living conditions. Among the priorities in this area would be the printing and diffusion of the nine technical pamphlets produced by the DES to explain each step of the IEC process:

qualitative analysis, focus groups, elaboration of radio messages, quality control, etc.. and the corresponding training activities. Another important area of training for the health personnel is that of interpersonal communication: this can be seen not only as a strategy to improve the understanding of drug prescriptions and prevention messages, but also as a visible improvement (from the client's point of view) of the quality of services provided by the institution and thus, in the case of MSP services, an essential element to justify the implementation of cost-recovery mechanisms. The elaboration of materials for improvement of interpersonal communication for facility staff could be based upon the Quality Assurance Project experience in the Metropolitan Region.

2) Promote/develop a social culture of disease prevention/health promotion and individual responsibility in maintenance of one's own health status

Health and health care are often perceived by the population as a right, to be provided through government services; this perspective is emphasized by the priority given to curative services and the fact that health is presented as a product that can be repaired through a visit to the appropriate institution. As is the case for health facilities and equipment, the concept of "preventive maintenance" for one's own body and soul needs to be developed and supported. Whereas the lack of information is always a major cause for lack of appropriate actions (for instance, recognition of dehydration signs or knowledge of the forms of transmission of AIDS), there is also a need for a change in attitude and behaviors, especially in problem areas involving interaction with other persons (AIDS, environmental health) or when working on a mid- or long-term perspective (chronic degenerative diseases, for instance).

These changes require preliminary definition, in an agreed upon manner, of the knowledge, attitudes and behaviors to be modified; repeated strategic planning assessments in order to prioritize the most important changes, the expected impact of those changes most likely to be implemented easily; the determination of messages, media, audiences and institutions involved, trying to use, as much as possible existing channels, models and media.

This is typically an inter-sectoral set of activities, which the MSP has to promote and coordinate in an innovative and imaginative way. For instance: employers could participate in promotion of adequate diet and lifestyles, as those are expected to result in major productivity at work; health concerns regarding transmission of STDs and AIDS are factors that may lead to a more encompassing concept of responsible sexuality, with its

consequences on women's health and status; the rational use of drugs at community level should be promoted in order to avoid potential misuse and accidents linked to the expansion of community drug funds, etc...

A major limiting factor for this long term intervention may be the need to overcome strongly prevailing cultural patterns and socio-economic mechanisms already implanted. In order to do this, the planned interaction of several communication media among various institutions is needed, with new goals to be scheduled as progress is assessed regularly. The health sector participation will be essential in terms of reinforcing mass media and other public messages through interpersonal communication and counseling, for which the health personnel will need to be trained and motivated (example being one of the best messages). Other respected individuals (teachers, municipality leaders) can also fulfill this role.

3) Develop relationships with possible partners in education: schools, businesses, organized groups, NGOs, etc.

The diffusion of health education messages needs to spread out of the health sector, either to increase the potential audience of these messages (multiplication factor) or to reach specific segments of this audience which are not usually reached by the health institution. An obvious candidate for such linkage is the school system, where different contents or learning methodologies are appropriate for different levels (for instance in reproductive health education). Existing and previous experiences such as the health/education integrated plan (PISE) and the Education in Population project have been evaluated. Some of the lessons learned have been the need to work not only with the teachers but also with the students, and the need for inter-sectoral coordination.

A joint SEP/MSP agreement was signed in August 1995 to establish cooperation mechanisms, such as the integration of a mixed design/coordination Commission, which will revise the design and operation of the health curricula axis, with emphasis on STDs/AIDS, mental health, environmental health, cholera and vaccine-preventable diseases, breast-feeding and nutrition. The five-year mid-term plan for the reorientation of training in sexuality and STDs/AIDS for teachers, students, adolescents and parents is a first product of this collaboration. Follow-up should be given by the DES and the relevant technical divisions to the elaboration and implementation of the more comprehensive Plan for Integrated Preventive Education, which will also include aspects such as self-esteem and gender focus, violence, drug addiction and mental health. The training and extension centers

proposed in the model projects should be considered as field laboratories where innovative inter-sectoral education strategies should be developed and tested with the participation of teachers, students and other interested parties.

Businesses could be brought into the system through the expansion of the model of health prevention at the work site ("salud-empresa"), based upon the rationale that worker's health improves production and working conditions in the long run. Problem areas more suitable for this medium are occupational health, accidents, AIDS/STDs, reproductive health, including family planning (in the "maquilas") and chronic degenerative diseases. Infant and maternal health, malnutrition, accidents, vector control could be addressed through women or community groups or NGOs. An important aspect of working with inter-sectoral partners is the ability to develop suitable education materials and support in a timely manner.

Though past experiences of inter-sectoral work in health education have been developed separately, there is a need to evaluate them and organize their maintenance and reproduction in a cost/effective way. A central DES can still have an important role in this respect, whereas local institutions may be better equipped to look for suitable partners and maintain working contacts. For instance, one could see an essential role in this respect for the newly created municipal health unit and for the projected health education/promotion center in San Pedro Sula. Once again, economies of scale may argue for central production of education material, to be used and distributed according to locally defined criteria. This aspect of health education activities needs to be incorporated within a national policy (see above), with progressive expansion of activities planned over the long-term according to this policy and to the development and reproduction of successful local experiences.

(3) Improvement in social participation

1) Purpose and objectives

Social participation is one of the main principles of PHC and one of the key factors to solve the health and health-related problems. In addition, participation of the beneficiaries in the identification, planning, implementation and evaluation of all kinds of development assistance projects is essential to ensure that the community members take on full control and responsibility of activities.

Improvement in the participatory development leads to the realization of "self-sustainable development" and "social equity" through improving the population's social ability and

reducing differences in terms of earning capability, urban and rural living conditions and gender gap.

2) Target group

- poor inhabitants of the deprived rural area
- poor inhabitants of the urban marginal area

3) Components

(A) Improvement of the formal process/systems for social participation (social participation specific approach)

Target: Community development committees and NGOs

- institution building of community development committees: development of their management and coordination functions
- human resources development for the committees
- coordination amongst communities and grass-roots activities

(B) Improvement of the environment for social participation in the communities (multi-sectoral approach)

Target: Community members

- priority for programs providing affordable, effective and sustainable services (such as education, training, health and family planning) for all people, including the poor, with broad participation in selection, administration and financing of these services
- strengthening the role of individual and community-based initiatives, private enterprise and the market system, and facilitating widespread access to productive assets
- enabling active participation of women in the processes of development as decision-makers, producers and providers of basic care

(C) Improvement of government functions for assisting social participation activities (government level approach)

Target: Central and local governments and health agencies

- strengthening institutions, policies and practices leading to democratization and good governance at central and local levels for promoting social participation activities

4) Implementation

(A) Short-term plan

Objectives at central level includes the strengthening of the MSP Social Participation Unit as a management and coordination organization for promoting social participation approaches in development programs and projects:

- development of guidelines for social participation programs: problem identification, project formation, designing, planning, implementation, monitoring, and evaluation
- improvement of coordination and management function
- holding inter-sectoral workshop and seminars
- technical assistance to Region Health Offices and other related organizations
- development of materials for social participation promotion

At the regional office level, the purpose will be the development and implementation of a model program for strengthening Regional Health Offices as key organizations for promotion of social participation activities.

- conducting evaluation studies on existing social participation activities
- development of database of social participation activities
- improvement of coordination and management functions
- role as an information center of social participation activities
- promotion of environmental improvements for social participation
- development of a revolving fund system for social participation activities and environmental improvements

The social participation model program will encourage the development and implementation of social participation models (pilot projects) in urban and rural poverty areas: social participation is to be considered during project identification, planning, and implementation stages.

- institution building for community development committees
- cooperation with grass-roots activities including NGOs
- human resource development: leadership training

- training of community members: way of thinking (self-analysis, self-determination, responsibility, self-reliance), health education, income generation skills, utilization and operation of community funds etc.

(B) Medium-term plan

At this stage an improvement in the functions of the model Regional Health Office is expected:

- development of integrated community programs for health and health related activities
- social impact assessment of social participation activities
- technical assistance to social participation activities through CESAMOs and CESARes
- implementation of the revolving fund.

The model program will be expanded to other Regional Health Offices

As for the social participation model program:

- implementation of monitoring, supervision, and evaluation of model programs through social participation approaches
- introduction of community funds into the model programs
- application of the successful model programs to other areas

(C) Long-term plan

The Regional Health Offices will be functioning as information and resource centers for social participation activities. The activities related to the social participation model program will include:

- strengthening the community fund systems
- expansion of nationwide awareness of the effectiveness and importance of the social participation activities
- self-sustainable social participation programs developed and implemented

(4) Reduction of fertility rate

1) Purpose and objectives

Reduction of fertility rate as a preventive health strategy to decrease infant/maternal morbidity and mortality is a well proven intervention, and should be an important focus for

implementation of reproductive health and population related activities. It is also instrumental in improving woman's condition and social opportunities.

2) Population policy

At the macro level, a reduced TFR results in a decrease in the population growth rate, which is a politically and socially controversial strategy in most Latin American countries, including Honduras. Indeed, with adequate land ownership and use, and increased industrial development, a sustained population growth rate may be a desirable parameter. In the present circumstances, however, and in the most likely scenario for the future, i.e., a stable or very slowly increasing GDP, the projected decrease in population growth rate will help increase per capita GDP, and relieve existing pressures on food security and environment conservation. It also decreases maternal and infant mortality and diminishes the surge in demand for health services and the corresponding burden on health care providing institutions. Yet, it should not be considered a substitute for other aspects of social/human development and its acceptance will indeed depend upon progress on matters such as equitable land use, capacity for food acquisition and development of employment prospects.

The national population policy should be periodically revised (including aspects such as urban and rural development, regional development, migration, employment, women status, etc..) through a coordination with different sectors: government, social groups (private business, community groups, churches). Political support and commitment are required in order to develop all aspects of social/human development and to implement the population policy as an integral part of this human development. A strong IEC component for health personnel and for the public in general will be needed to overcome possible limiting factors:

- perception of the policy as population control, inducing rejection by strongly vocal sectors of the Honduran society
- cultural patterns, male opposition to use of family planning
- limited economic/political capacity to carry on needed up-front interventions (creation of development poles, job creations, etc...).

3) Family planning activities

At the micro level, reduction of fertility rate implies the provision of information and family planning services to persons and couples willing to delay, reduce or space their pregnancies.

The educational activities should be coordinated with other institutions and integrated within a larger array of socio-cultural interventions aimed at improving literacy and woman's status. On the other hand, policy decision makers need to be informed about the effect of rapid population growth on the various sectoral development indices

The specific responsibility of the health sector is that of providing means for improving maternal health and decreasing unwanted pregnancies, thus leading to a TFR reduction. A major existing strength for this task is the existence of an operating network of institutional and community reproductive health services (MSP, IHSS, ASHONPLAFA, private pharmacies); however, there is a recognized need for personnel motivation / information, in order to improve their skills and commitment. Also important is the system's ability to provide adequate quantities of contraceptive supplies in a timely manner to actual and potential users (see section on improvement of supplies and logistics).

An essential focus of reproductive health activities should be the development of strategies for the involvement of the male population, in terms of information, motivation and actual use of family planning methods, as this will contribute to decrease one of the main factors of resistance and to improve protection against STDs and AIDS.

A national financing source for family planning supplies should be considered as a replacement for foreign funding in the mid-term perspective. It should be noted that cost recovery may not be the best alternative, as demand is not dictated by highly visible health problems. However, given sufficient levels of understanding of the benefits implied and a permanent supply of products, some proportion of potential users should be willing to bear these costs (as now do ASHONPLAFA and private pharmacies clients). Cost recovery should not, however, take precedence over the delivery of services to the large under-served proportion of the Honduran population.

4) Strategic summary

- Design, promote and implement a national population policy, based upon the concepts of human development and satisfaction of basic needs, where the guiding principle for child-making decision at family and individual level would be "More is not necessarily best" (not "Less is best").

- Promote the effective application of gender focus and a positive culture of reproductive health within service delivery institutions and among grassroots population (especially male) as a health promotion, family well-being tool.
- Focus promotion and implementation of family planning activities on young women and first child bearing delay, in order to reduce the "latent" growth rate and increase the potential for individual development in these young women (couples).

6.1.3 Strategies that impact on Health Service delivery

(1) Improving access to health services

1) Purpose and objectives

Access to quality health services is the major operating objective of health services organization, especially when aimed at improving access to the most deprived population groups, thus allowing for a reduction of the inequalities between those groups and, in the end, contributing to improving the health status of the population as a whole. The process of access to health services has been identified by the Honduran health authorities as the "fundamental orientation of the State's reform and modernization" and is being implemented through access projects, such as those funded by the governments of Sweden, United States, PAHO and UNICEF along with national funds. This process emphasizes, as its main strategy, the local development of the administrative capacity of the health system and includes three areas of action: reorganization of service network, human resource development and systematization of social participation.

The strategies proposed by the NMHP are coherent with this process and retake its main short-term orientations in order to amplify them and achieve by the end of the Plan's time frame a somehow different vision of the delivery of health services. The strategies and activities presented in this section deal with the reorganization of the service network, and must be considered jointly with strategies presented in the sections on social participation and human resource development.

2) Physical expansion of the service network (facilities) to meet demand

The purpose of this component is to locate health service delivery facilities closer to where the population lives (thus improving geographical access to institutional services). The MSP currently has the most extensive network with around eight hundreds facilities nation-

wide, from CESARes to national tertiary level hospitals. The IHSS facilities are located in the urban areas of Tegucigalpa and San Pedro Sula, whereas the private sector clinics do not go beyond small regional towns. The NGO network is more irregular, depending upon size and local implantation, and concentrates more often on community-based activities.

Although the expansion of facilities network to more remote areas increases equity by improving access to health services and allows for a more visible presence of the institution, recurrent budget limitations have in the past often prevented adequate staffing and operation of newly opened centers, thus affecting in the long term the quality of care offered through the network expansion. Thus, in the future, especially for dispersed rural areas, such expansion should be ideally defined by accurate estimation of health care needs, not by political needs or pressure, in order to minimize the additional operational burden on responsible institutions. External funding is usually easily found for capital investments; careful planning should be done to ensure continuing provision for internal funding of operation and maintenance needs of new facilities.

Potential for future expansion of the facility network can be considered at different levels of care, from community level to reference facilities:

- A special feature of the network expansion is the development of community-based support facilities, such as maternal inns, community birthing homes or community health centers. Maternal inns, located close to a hospital, allow women referred with high-risk pregnancy to spend the last days before delivery within easy reach of medical resources. On the other hand, community birthing homes allow traditional birth attendants to manage their patients closer to home, while providing an appropriate environment for clean birth and safe delivery. Although funding for construction can come from institutional sources, the operation and maintenance of such facilities is usually assumed by the beneficiary communities themselves, thus contributing to sustainability through a more active participation of the population in its own health care. The experience of maternity inns and community birthing homes currently promoted by several MCH projects (San Marcos de Ocotepeque, La Esperanza, Region 6's three areas covered by the Dutch Government-financed project) should be evaluated for effectiveness and sustainability, before being replicated to other suitable communities. As for all

community-based activities, however, those projects need, at least in the initial phase, strong institutional supervision and support component.

- Construction of health centers: as discussed before, the construction of new ambulatory facilities, especially in rural dispersed areas, needs to be carefully discussed at local level between the interested communities and the relevant institutions: municipalities, existing neighboring facilities, health sector and area. Access and potential catchment population of the future facility need to be estimated, as well as perspectives for overall inter-sectoral development and future population migration patterns. National or foreign financing channeled though social compensation mechanisms (FHIS), as well as local funds, can be used for capital financing. However, provision for long-term operation and maintenance (including staffing) by NGOs or the municipality should be considered before committing the MSP and could be considered as a necessary condition to the creation of new facilities. The detailed listing of possible locations for new facilities is beyond the scope of this plan and should be defined locally. Upgrading CESARes to CESAMOs, or CESAMOs to MCH or Emergency clinics is considered in the following section.
- Construction of new ambulatory facilities by the IHSS should be viewed in the light of the form of service delivery this institution will adopt in the future. Whereas new peripheral outpatient clinics or emergency clinics in San Pedro Sula and Tegucigalpa may be considered as the population coverage increases, setting up of such facilities in other towns or regions where the IHSS currently does not have its own service facilities should be balanced again the possibility of contracting services to either the private or the public sector, thus contributing to a fuller, more rational use of existing facilities. This would constitute, in addition, an important stimulus for the latter to undergo serious upgrading in terms of technical problem solving capacity and client-oriented focus.
- Construction/expansion of area/regional hospitals: a number of old and obsolete facilities have already been identified by the MSP staff for full-scale replacement, namely the hospitals of Choluteca (CHR Sur), Danlí (CHA G. Alvarado), La Ceiba (CHR Atlántida) and Trujillo (CHA S. Paredes), eventually Santa Rosa de Copán (CHR Occidente), Tela (CHA), Santa Bárbara (CHA) and Yoro (CH M. de J. Subirana). The new IDB health project, currently under preparation, is likely to consider the reconstruction and equipment of three hospitals, identified on a preliminary basis as those in Choluteca,

Danlí and Tela. The actual priority of reconstruction work can be determined by the recently initiated PRONASSA's inventory and development plan of all hospital sites. The use of a one-floor, modular construction model, similar to that of the Hospital San Francisco in Juticalpa, is advocated by the study team for its easier maintenance and operation, and for the possibility of adaptation and future growth, according to specific area/regional needs. This model is also promoted by the MSP authorities, having recognized that the two-floor design used for the Comayagua, Puerto Cortés and El Progreso hospitals was fraught with operational problems. On the other hand, the model should be flexible enough in its realization to accommodate regional climatic requirements, for instance.

- In terms of area-specific future expansion needs, the most likely ones, as assessed by projection of current occupancy rates according to existing population projections (refer to Table 6-1), will be in the areas of gynecology and obstetrics and pediatrics for area hospital and general/orthopedic surgery for regional hospitals. However, in the decision to expand a given hospital, consideration will need to be given to the respective costs and functional consequences of expansion vs. rebuilding.
- The building of new area hospitals in areas currently without such facilities may not be an obligation for the MSP, as a large part of their functions could be fulfilled by upgraded super-CESAMOs (integrated health centers) with emergency care and low-risk delivery services, as described in the following section. Suitable sites for such facilities could be:
  - Talanga (or Guaimaca, for which a plan already exists) and Sabanagrande (Region 1),
  - Marcala and Siguatepeque (Region 2, upgrading of the existing CMIs),
  - Santa Cruz de Yojoa and Quimistan (Region 3),
  - Nacaome and San Marcos de Colón (Region 4),
  - La Entrada (Region 5),
  - La Unión and San Estebán (Region 7, with also an existing plan for Nueva Palestina).

The upgrading to integrated health centers could be used as a short- to mid-term solution, while the existing old hospitals are reconstructed. Later on, future patterns of population

and demand for health services would determine which of these upgraded centers would need to be converted into full-scale area hospitals.

- Construction/rehabilitation of low-risk maternity: the rehabilitation of the low-risk maternity in Hospitals San Felipe in Tegucigalpa and Leonardo Martínez in San Pedro Sula has already been identified as priority actions, the first to be undertaken through a Japan-financed project, the second planned by the hospital's direction and MSP's authorities as the first step towards the hospital's rehabilitation as a full-fledged regional hospital. A new installed capacity of 30 deliveries per-day in Tegucigalpa, 20 in San Pedro Sula, would, jointly with the peripheral birthing facilities considered in the following section, contribute to decreasing the current burden on the referral hospitals (Hospital Escuela and Hospital Mario Catarino Rivas) and allow the latter to dedicate most of their efforts in this area to high-risk pregnancies and deliveries, and gynecological problems (genital tumors, infertility, etc...). Depending upon the future evolution of fertility rate and population growth, some of the peripheral birthing centers in both cities could, in the long-run, be upgraded to general (area) hospitals, actually fulfilling the primary level functions currently assumed by the national hospitals.

3) Improvement of problem-solving capacity of existing service network

In addition to problems of geographical access to health service delivery facilities, the lack of problem-solving capacity of existing facilities and services also contribute to the current situation, through the unsatisfactory solution given to the problems that justified the demand for that service or the need to resort to another level of resolution or to another provider. Thus the strategies proposed in this section tend to improve the quality of services offered at primary health care level, with the aim of achieving:

- the satisfaction of the population's objective and expressed health needs at a level closer to where it actually lives,
- a decrease of the needs for unnecessary demand, either spontaneous or directed, to more complex levels of care,
- improved user's satisfaction with the service received, leading to a better trust towards the providing institution, and
- a better opportunity for social control of health activities, as dependency upon higher, more complex levels will be reduced.

In the long run, this capacity to locally solve the majority of the population's health problems will result in stronger links between a given population and the health team, will avoid disorganized "shopping" for medical care and will facilitate the establishment of a community-oriented, family medicine model, where the health team shares the health problem-solving responsibility of a given segment of the population with that same population, and where the search for effective solutions is made easier by the knowledge and trust both providers and users have of each other.

Below are thus considered a range of strategies that form a continuum from the community to the area hospital level and tend to move towards the periphery (i.e., the community) the capacity for solving the health problems specific to this community. The implementation of these strategies, although they do have some national implications for initiation and follow-up, will be guided by local needs definition, as achieved, for instance, through the "municipal health plans" developed within the framework of the access process.

(A) Community management of common diseases and problems

Community-based management of common health problems constitutes a partial solution in communities with difficult geographical access to health facilities. Even in more accessible places, it does provide access to basic treatment outside official hours of institutional providers, often limited to week days, from 7 am to 3 p.m. It also helps solving some cultural barrier problems in minority ethnic groups by involving locally born and raised providers and traditional forms of medicine (see for instance, the use of medical herb in the Lenca communities and also by institutional health providers around La Esperanza).

Contents: detection and presumptive treatment of malaria and dengue fever cases, oral rehydration therapy for diarrhea and especially cholera cases have already been widely implemented at community level in Honduras. Community management of respiratory infections, especially pneumonia, and growth monitoring with local management of child feeding and care problems, are now being tested or introduced. The planned evaluation of these activities should be completed in order to define the conditions for their replication at national level. Prenatal care and family planning activities by trained TBAs could also be added to the list. Another activity in this same line is the management of community drug funds in places with difficult access to clinics and drugstores (see section on logistics management).

The role of community-level provider includes screening, treatment, referral and health education functions. S/he can be one of the traditional collaborators of the MSP or the NGOs: "guardián", TBA, voluntary malaria collaborator, "representante", or one of the newer "brands" of health workers: breast-feeding advisers, ORS distributors, etc. The activity can be ambulatory, can be conducted from the volunteer's own house or from a "community health center", which provides a better focus point for the involvement of the whole community in its own problem resolution process.

Implementation conditions: the development of community-level activities implies a continuous and effective support from the institution in two main areas:

- regular provision of inputs needed for the activity (for instance, antibiotics for ARI management),
- periodic training and supportive supervision.

These two factors are essential to maintain the trust of the community towards its providers and to avoid untimely desertion of the providers. Two of the strategies proposed in this section offer an opportunity to achieve this support: these are the systematization of the two-person team in the CESARes and the delivery of the Basic Health Package. One should recall that the costs of this support process increases with the remoteness of the community, as does its importance. Local coordination of activities between the health provider institution, the NGOs and the municipalities can contribute to solve some of the supervision and logistics problems. At the institutional level, it means a strong and explicit priority given to supervision activities and the corresponding resource allocation process.

(B) Assigning two health persons per CESAR

Contents: this strategy responds to two different but related access needs:

- dedicate more institutional resources to promotion, implementation and supervision of community-based activities,
- keep health facilities open for curative and preventive health services, especially in places where distance and transport make it difficult for the patient to reach the health center.

The basic objective is for one of the resources to be available at the health center for curative and preventive services and administrative chores, while the other one works in the communities of the catchment area. The second person could be another auxiliary nurse or,

as proposed by the HRD Division of the MSP, an auxiliary nutritionist, an environmental health technician or a social worker. However, the present number of these resources would probably qualify them for a support /supervision role at sector level; in addition, although the members of such a two-person team would also be in position to train each other in order to improve their problem solving capacity, it may not be realist to expect the nutritionist or environment technician to fully replace the auxiliary nurse and vice-versa. In any case, the two staff members would be able to directly discuss difficult cases or problems, thus relieving the high level of responsibility assigned to the auxiliary nurse.

Implementation conditions: there are now around 100 CESARes with two auxiliary nurses. The systematic assignment of two resources per CESAR would imply approximately 500 additional resources, a few of which could be obtained from the relocation of personnel from secondary level institutions made available through lowering of their burden from the measures described in this section. However, this should be considered not as a preceding condition, but as a consequence of assigning additional staff and functions to the primary care level. One should remember that, for instance, one of the tertiary-care hospitals is also awaiting assignment of auxiliary nurses in order to open some wards. Another source for financing this strategy could also be the support from the municipalities. In any case, the implementation will have to be progressive, based upon locally-decided priorities, using as criteria the need for community support activities and/or the population size. The continuous assignment of more resources to the periphery of the health system also has implications in terms of motivation and incentives for this category of personnel (see section on HRD).

(C) Delivery of Basic Health Package/movement of personnel

Contents: those two elements have been used extensively for several years by the MSP and are still valid within the NMHP's context. The first element refers to periodic visits by the local institutional team (eventually strengthened by sector- or area-level staff) to the remotest areas of the catchment area; the second to periodic visits to CESARes by staff from CESAMOs or area hospitals, be they physician, professional nurse, odontologist, etc., in order to offer preventive or curative services not usually available from the auxiliary nurse. Those two activities can be somehow combined according to the specific needs of the visited communities.

Implementation conditions: coordination at sector or area level for planning according to community needs; willingness of human resources to conduct activities away from their assigned work site; corresponding implications for per-diem and transportation are the main factors to be considered.

The above strategies and their multiple combinations according to needs support the concept and framework of decentralization and local programming, as they imply establishing the balance between the needs and the availability of resources at the level of the beneficiary communities: catchment areas, UPS, municipalities, sector and area, thus allowing a more efficient and equitable use of these resources.

(D) Improvement in the problem-solving capacity of higher-level PHC facilities

Whereas the previous strategies referred mostly to rural dispersed areas, with difficult geographical access, the improvement of problem-solving capacity of higher-level PHC ambulatory facilities also applies to urban and urban-marginal areas, as well as to more concentrated rural areas. Its main objective is to provide, in an initially limited number of health centers, the capacity to respond to the majority of the common health problems in order to avoid the unnecessary resort to hospitals (decongestion of secondary level) or to the private sector (improved access and savings for the poorest sector of the population).

Contents: the functional areas covered by this increase in the scope of work of these facilities include:

- low-risk delivery and immediate management of common complications: repair of episiotomy and vaginal tears, initial management of hemorrhagic, infectious and hypertensive problems; this activity should be considered within the general framework of integrated reproductive health (family planning, breast-feeding, vaginal cytology, etc.), thus allowing for a complete range of services in this area. Low risk deliveries can be performed in a dedicated section of the CESAMO (which would thus become a MCH clinic) or in a neighboring community birthing home. In both cases, the delivery could be performed by institutional personnel or by trained TBAs under supervision of the institutional personnel (physician, professional nurse or nurse-midwife);
- emergency care: in addition to usual emergencies (diarrhea, ARIs, asthma, malaria and dengue), the integrated health center would have capacity to deal satisfactorily

with emergencies from external causes: injuries (sutures, casts), intoxication, and with, psychological problems (depression, alcoholism, violence), which implies the availability of corresponding skills in initial management and counseling;

- appropriate clinical laboratory and radiology support would be provided; odontology services are also considered in the definition of integrated health centers.

In addition, for rural CESAMOs, the systematic supply and maintenance of radio communication equipment with the area/region hospitals will provide distance diagnosis, therapeutic and referral support to the isolated physician.

Implementation conditions:

- Possible settings : for urban marginal areas, two possible settings have been discussed

- The first one involves the upgrading of existing CESAMOs into integrated health centers, part of the regional network of services, which would have extended opening hours and the additional services and support capacity mentioned above. A first experience at extending the opening hours of selected CESAMOs in the Metropolitan Region was reported to be a failure. The factors mentioned as causes for this failure, i.e., inadequate facilities, unwillingness to assume new responsibilities without additional resources, lack of IEC campaign towards the use of services by the population, need to be carefully analyzed. The integrated health center projects could also explore two alternatives schedules for emergency service coverage, with only the A and B shifts in some centers and the three shifts in others, with its respective implications for the needed amount of resources. However, it should be noted that, if delivery services are to be provided, a 24-hour service for emergencies too may be more suitable, as the shared use of support facilities, such as laboratory and radiology, would maximize its cost-effectiveness. In addition, intermittent closing of the integrated health centers would raise the problem of clients orientation ("Where to go from .. to .. ?") and end-of -shift referrals.
- The second option is that of dedicated emergency centers, located in separate facilities and functionally conceived as extensions of the main hospital's emergency department, would focus on pre-hospital emergency care (for instance, they would

not attend normal non-urgent deliveries). The advantages of the latter solution are seen as: easier and more efficient management by the hospital administration, more focused training needs and perceived quality of care, as a hospital extension.
On the other hand, dedicated emergency clinics may disrupt the strategy of integrated health care, later on family health care, if good communication between facilities is not provided, and does not preclude the need for IEC activities on the appropriate use of different types of facilities.

- Site selection

The Integrated Health Center is the underlying concept for the improvement in problem solving capacity of the PHC facilities in the Urban Health Model Program proposed for San Pedro Sula and elaborated jointly with local and regional health personnel; in this model, emergency care will be incorporated into three peripheral and one or two central CESAMOs, while low-risk deliver will be provided in the same peripheral CESAMOs and the regional hospital (covering the center of the city). The same concept would be applied for CESAMOs located relatively far from the nearest hospital and with a large population or a large number of CESARes in their catchment area. As mentioned earlier, this concept could be used as a temporary solution to fulfill some of the functions of non-existing area hospitals.

The Emergency Clinic configuration is to be found in a project proposed by the Hospital Division of the MSP with regards to Management of Emergency Care along the Tegucigalpa-San Pedro Sula axis. This project, which takes into account the specific epidemiological profile of the urban corridor, and the special management needs of emergencies linked to accidents and violence, plans for the construction of:

- one emergency block in each of the main hospitals in Tegucigalpa (Hospital Escuela) and San Pedro Sula (Hosp. M. C. Rivas),
- three peripheral emergency clinics in each of these cities
- a smaller emergency hospital in Siguatepeque

- and two Red Cross-manned health post in Comayagua and Santa Cruz de Yojoa, the transportation between those elements of the system will be assumed by the Red Cross.

  Within the context of the Master Health Plan, it is contemplated the Japan-financed project which includes the construction and equipment of three peripheral emergency clinics in marginal areas of Tegucigalpa and the rehabilitation and equipment of a low-risk maternity in the San Felipe Hospital.

  Given the resource and implementation constraints, the creation of Emergency Clinics or the upgrading of existing CESAMOs to Integrated Health Centers will be progressive, thus allowing to test the validity and reliability of both models before a final decision is made as to the final configuration of those extended PHC facilities and their appropriate distribution according to specific health needs, acceptability by the population and the health personnel, and efficiency.
- equipment and personnel resources: whatever configuration is chosen, the proposed facilities will need to count with appropriate resources if they are to be fully functional on a 24 hour-per-day basis. The specific requirements will be determined with more details in the elaboration of the specific projects and model programs, according to the functions defined for each level. It is essential to remember that, unless important achievements are obtained in productivity and efficient use of existing human resources, there will be a need for additional personnel; on the other hand, this personnel will need to receive initial training in emergency management. The practical part of this training should be assumed by the institutions to be relieved of the patient load, i.e. the national and regional hospitals.
- the financing of these integrated health centers will be supported by the systematic implementation of fee-for-service cost recovery systems, based upon the current cost of obtaining emergency care in the existing facilities (including transport); an IEC campaign on the availability, capacity and adequate use of the new services will be needed for the system to run efficiently.

(E) Improvement of the problem-solving capacity of area hospitals

The area-level hospital constitutes the last link in the primary health care chain and improvements should be directed at functional areas where it can quickly and adequately solve the largest number of problems:

- management of emergencies (including initial management of newborn and infant respiratory problems, intoxication, polytraumatisms)
- round-the-clock surgical capacity (including adequate blood supplies, or personnel and equipment availability)
- management of obstetrical emergencies
- intermediate-level laboratory and X-ray support (endoscopy, ultrasound).

In addition, the profile of each hospital should be adapted to the prevailing conditions of its catchment area, allowing for specific strengthening of areas such as reproductive health in regions with "maquilas", traumatology and violence in Region 7, etc...

A recent initiative of mobile surgery, involving the periodic visit of a surgical team (with appropriate material/equipment) to area hospitals, has been implemented in Puerto Cortés and Santa Bárbara. This feature helps the local team advance its agenda for programmed surgery by providing trained and time-efficient resources. The mid-term goal is to extend this modality of simplified surgery to the community level by moving the team and equipment on a truck in order to do previously-arranged surgeries at different sites. Whereas the current modality could easily be expanded in ordered to include other specialties (ophthalmology, for instance), the community-based surgery needs would still need some strong preparatory work, especially considering the maintenance requirements linked to mobile material/equipment.

Finally, it should be noted that, even with an adequately functioning referral system and the opening/rehabilitation of primary care facilities, the regional and national hospital will retain some area-like, primary care functions for their geographic coverage area and that these functions need to be addressed in the same way as for the area hospitals.

4) Improvement of transport and transport financing mechanisms

The problem of patient transportation can be approached at three different levels (segments):

(A) Initial transport from places with difficult access towards first contact point with road network

The first line of approach for this segment of transportation must be the promotion of preventive management in order to decrease the need for emergency transport: screening and timely referral by community volunteers, maternal inns, etc... The implementation of access-promoting strategies such as community-based case management, delivery of the Basic Health Package, also reduces needs for emergency transportation. When problems actually occur, social participation and communal solidarity will have to play the leading role in the short and mid-term, until better road access is provided.

The use of aerial transport (helicopters) could be coordinated with organizations such as the Armed Forces in selected cases, such as disaster situation, but present serious cost implications and, in any case, require a radio-based detection/alarm system. Provision of context-appropriate transport to communities (for instance, "lanchas" in the Mosquitia or coastal region) should be considered when possible.

(B) Transport from contact point with road network to primary care site

In this section of the transport process, emphasis should be placed on optimal use of existing private sector or non-health public sector transportation means, rather than on creating and maintaining an MSP-owned transport system. Communal solidarity, municipal funds or cost-recovery mechanisms can be used to finance justified transport costs. Eventually, this reimbursement could become a feature covered by IHSS membership under a widened coverage system (although it may be that the IHSS beneficiaries have less transportation costs and less need for reimbursement than non beneficiaries, since they mostly leave in urban areas).

(C) Transport from primary care site to referral site

Here again, the optimal use of, and the coordination with existing transport systems should be considered (for instance with the Honduran Red Cross, whose experience and know-how in this area should be strengthened and used). Multi-purpose vehicles from the MSP, the municipality or other institutions can also be used when medical transportation is not absolutely necessary. Supply/operation of MSP-owned ambulances should be considered for the larger units, along with a radio-communication system that allows for rational use for transport from smaller, more distant facilities.

(2) Management of organizations/facilities

1) Purpose and objectives

Given the limited amount of resources likely to be available to the health sector in the near future, the efficient of these resources is essential to improve their productivity. A number of important issues will be reviewed here, with emphasis on the Ministry of Health as the main provider of health services. However, several points made in this section are also valid for the IHSS; in addition, discussion involving the mix of health care providers and the coordination between them are germane to other providers such as NGOs and private sector as well.

2) Decentralization

Decentralization is of the main orientation of the state modernization process: its purpose is to improve the efficiency of delivery of health services by increasing the responsiveness to locally defined needs. The local programming process, implemented long ago within the health system, needs to be complemented by actual delegation of power, resources and responsibilities at peripheral levels. The proposed experience of budgetary decentralization for two of the MSP's regions should be followed and evaluated. Even though some budgets lines may best be kept at central level, such as salaries (for administrative and legal reasons) or drug procurement (for efficiency of central negotiation and economies of scale), the decentralization of the other budgetary lines should give the regional administrations a greater agility to deal with problems (see as an example the extra-value of the rotating regional funds established under the Health Sector II Project).

Decentralization also implies the strengthening of local (area, sector) levels management abilities through supervision and training, with the aim of supporting local programming. The inclusion of communities and their representatives (municipalities, "patronatos", local boards) in the definition of problems, project planning, implementation and evaluation will be strengthened by this orientation and the development of the access process. This implies radical changes of styles and responsibilities in the health personnel at all levels: abilities for coordination and negotiation will need to be developed, while keeping a leading role in technical update and evaluation.

The development and exercise of new responsibilities and skills at local or regional levels must be supported by the central level, acting in a new role dealing with setting up

standards of care, keeping up-to-date in new advances and technologies, and monitoring and evaluation, rather than directly managing programs of projects. The integration of activities between normative units or divisions, as defined, for instance, in the joint proposal from the HRD Division, HE Division, Social Participation Unit and Engineering Division of the MSP, is a good example of adaptation to new management functions responding to local needs. However, it is important for the central level to keep a proactive role in promoting quality standards and up-to-date, appropriate technologies for the satisfaction of locally defined needs and exploring new orientations for the health system. In this sense, for instance, the Health Education Division can take a leading role in the development of strategies for a new health promotion and disease prevention culture, whose implementation will then be tailored to local needs.

Within the process of decentralization, the municipalities' role should be that of a local coordinator of existing resources and institutions, be they from the MSP, IHSS, NGOs or the municipality themselves, as their electoral mandate makes them closer from the population needs and more directly responsible to these needs. A strong current exists that would have the municipalities take over the environmental aspects of health services (water and sanitation, vector control, food hygiene), sin these activities are related to a number of services already managed by the municipalities. The direct management of curative, personal health services by the municipalities is more controversial, as a complete municipalization of services could lead to the disappearance of the notion of network of services and to the atomization of these services, with difference in quality and coverage linked to the resources available to each municipality. However, when municipalities with strong managerial, technical and financial capacities exist, there should be a negotiation between the concerned entities (regional or area health office, local facilities, municipalities, other providers) in order to arrive at a local definition of the most effective/efficient managerial model for health facilities in the given geographical area, always following national health policies as set up by the MSP.

3) Improvement of administrative and financial efficiency

This process involves streamlining of existing administrative procedures and delegation of responsibilities, without jeopardizing the necessary controls and ethical safeguards. A starting point in that direction would be an in-depth revision of the US-funded report on the

administrative sector within the MSP, listing on (literally) overflowing pages the different steps needed for a number of basic, day-to-day, administrative activities. It also means increasing the accountability of individuals and organizations to their final clients/users, that is, the population, and increasing the sense of ownership of the organization and its assets, leading to a more careful use of resources (both processes for which the decentralization is a first step). The latter is especially important in developing among the health personnel a culture of preventive maintenance of equipment and facilities.

Within this context, the partial privatization (outside contracting) of support services should be carefully considered, as its financial efficiency may not be guaranteed in a situation of relative deficit of resources in the private sector (for instance, in the area of maintenance for bio-medical equipment) or in the absence of a real competitive market. In any case, a clear definition of contract terms and expectations and the actual implementation of scheduled penalties for non compliance are essential to guarantee the efficiency of the procedure (this last element being valid for the purchase of drugs or medical supplies too).

Needs for decentralized management and administrative efficiency improvement have been singled out by the private sector representatives on the board of directors as a preliminary condition to raising the salary limits for the IHSS.

4) Quality of services

Globally, health services delivery institutions need to adopt a more user-oriented focus, i.e. consider the client's needs and circumstances rather than the institution's. The access process, through local definition of problems, needs and solutions, is a first step towards this approach. Improvement in interpersonal relationships has been proven effective in increasing client's satisfaction with the services and compliance with the medical prescriptions and education advice, and could also be considered as a short term task, building upon the experience of the Quality Assurance Project conducted in the Metropolitan region. Health personnel should be aware at all times that quality care is most often assessed by the user of services through aspects such as human relationships, cleanliness of the facility, waiting time and availability of medicines and supplies rather than through the compliance with technical standards, as shown in the field survey. Operational investigations at UPS level is key to making specific changes in service organization in order to better meet clients' needs: for instance longer or different opening

schedules, to assess user-perceived quality of services and to determine foci for improvement; the area/sector levels are ideally located to promote this kind of investigation, organize training, help analyze results, take appropriate corrective measures and diffuse successful innovations.

At the hospital level, activities for quality assurance should also be strengthened and made an integral part of hospital management. These activities can take a number of different forms, some of them already implemented: quality circles, review committees (for infant or maternal mortality), self-evaluation and accreditation process: the latter is of foremost importance in the perspective of extended purchase of services by the HISS from the public sector (in competition to private sector). The progressive development of a national social security system will imply a generalization of the accreditation process in order to satisfy reimbursement criteria. A sub-regional accreditation program could give more credibility to the process and allow for cross-country diffusion of innovations. The quality management process in the hospitals should not be conducted in a self contained perspective, but rather promote the integration of the institution within the network of health services: the appropriate management of referred patient is often seen by the public as an important element in the quality of services.

5) Supervision

The supervision process is a key element in maintaining quality health care services, as long as it is supportive and problem-solving. This implies the existence of an explicit priority given to supervision at the policy level and the subsequent allocation of adequate resources; the development of nation-wise supervision protocols, periodically adapted to the changes in standards of care (although there may be some differences aimed at focusing on regional epidemiological or programmatic specificity, the core and methodology of supervision instruments should be similar all over the country); the constitution and development of integrated supervision teams (as tested previously by the Epidemiology and MCH divisions of the MSP). From an operational point of view, the adequation and specificity of a continuous supervision process requires the strengthening of the sector level (which covers 5-8 UPS that can be supervised more frequently and with more intimate knowledge of the health staff, the population and the facility than from the area level).

6) Information systems

The decentralization process implies a shift towards the municipalization of health information systems, as initiated by the EPI efforts to monitor eradication of poliomyelitis. This entails the consolidation of information from the various health facilities working in the same municipal area, ideally including NGOs and private sector, in order to promote integration of services and to think in terms of geographic rather than institutional population coverage (or lack of), leading to the local definition of deprived communities/areas/groups. In this sense, it will also be important to develop and support the systematic registration of vital events through the joint efforts of the MSP and the Civil Register. These efforts will facilitate the implementation of more accurate planning mechanisms, as proposed in the model program for the Olancho Department.

The development of local/regional abilities for data processing and analysis (eventually using self contained micro-computers), and for sharing the information with the communities and the municipalities should take precedence over the installation of computerized network systems, which tend to reinforce the role of central level and require a higher technical level of maintenance. The self contained local systems can also be used for medicine and medical supplies stock management, as included in the POSSS. However, the network-type systems can have a greater role in accelerated response to epidemiological emergencies (cholera outbreak, investigation of suspected poliomyelitis cases), in feed-back of information to local level and in distance support for diagnosis/therapeutic decisions for isolated facilities. In this respect, mechanisms for efficiently organizing the response system to queries from the field will need to be carefully worked out (emergency vs. regular support).

(3) Improvement of referral system

1) Purpose and objectives

The referral system is conceived as the organization of the health system into operative levels of increasing complexity, functionally related between themselves, in order to ensure the efficient delivery of secondary and tertiary level services, which cannot be given at the first level of care. Also included into this concept is the similar relationship existing between the community level and the primary institutional care level.

The improvement of the referral system includes several steps, the implementation of which can overlap somehow:

- definition, discussion and acceptance of the respective functions of each level by the health personnel, the concerned institutions as well as the user population;
- improvement of the problem-solving capacity of primary care level (community, health centers, area hospitals) in order to reduce congestion in referral facilities and decrease the need for its use;
- implementation of appropriate management of referred patients at all levels of care;
- improvement in the secondary and tertiary care levels.

2) Definition, discussion and acceptance of the respective functions of each level

A thorough review of the definition of each level's functions is needed. This revision should take into account the reality and the progress hopefully made in implementing the improvements in problem-solving capacity mentioned in the previous sections. It should be conducted in a participative manner at all levels, from the national level when referring to specialized tertiary level care, to the community when defining the role of community health workers. The discussion must include health managers and service providers, as well as representatives from the civil society, especially when dealing with the more peripheral layers of the system, in order to adapt the definition of functions to the specific community needs (i.e., reorganization of the service network in order to improve access). IEC activities will have to complement this discussion since correct knowledge and acceptance of the functions and responsibilities of each level and organization will facilitate the implementation and efficient operation of the system.

3) Improvement of problem solving capacity at primary care level

The strategies corresponding to this section, which tend to reduce the referral needs to upper levels of the system, have been developed in the previous sections. As to its specific application to hospital referral by geographical sector, two points are important to emphasize:

- opening of the low-risk maternity in Tegucigalpa (Hospital San Felipe) and San Pedro Sula (Hospital Leonardo Martínez), in order to relieve congestion in the third level hospitals,

- priority reinforcement (reconstruction) of regional/area hospitals located in zones where spontaneous referral to secondary or tertiary care level is high, that is, Choluteca (Hospital del Sur) and Danlí (Hospital Gabriela Alvarado).

4) Appropriate management of the referred patient at all levels

The first step of this process is the acceptance of the definition of functions by the providers and the population, thus avoiding the creation of false expectations or situations of refusal of access. This is especially important for the referrals made by community health workers, whose acceptance by institutional personnel strengthens the status of these volunteers in the community and reinforces the population's trust in the health system.

Priority care to referred patients, through a better organization of services, also contributes to reinforce this trust; in the case of referral from CESAMO to hospital or inter-hospital referral, the establishment of a radio communication system will facilitate the organization of this priority service.

The appropriate management of counter-referral mechanisms is essential to reinforce positive referral patterns and decrease the sources of conflict and mistrust towards the system. In the hospitals, the monitoring of its implementation needs to be included in the mechanisms for continuing quality improvement; at ambulatory level, notes given to the patient, monthly meetings and supervision activities provide opportunities to reinforce this system, which also contribute to the continuing education of the referring personnel. These mechanisms for referral and counter referral procedures are also valid for horizontal referral, that is, between different institutions from the same level.

If the previous strategies are set into action, then it may not be necessary to think about negative incentives for direct (i.e., non system-referred) use of secondary or tertiary care level, such as differential priority or tariffs.

5) Improvement in secondary and tertiary levels of care

Though the referral levels will obviously benefit from an improvement in the problem-solving capacity of the primary health care levels (such as, for instance, the rehabilitation of low-risk maternity), which will allow them to dedicate a relatively larger proportion of resources to high risk and system-referred patients, specific interventions will be needed at these levels too.

(A) Development of referral clinical specialties at regional (and national) hospitals

- intensive care units (adult and pediatrics): the improvement of problem-solving in CESAMOs, emergency centers, integrated health centers and area hospital will allow for better initial management of critical patients. However, this would be to no avail, if the continuing support capacity is not developed, which includes an important inversion in equipment (respirators, monitoring systems) and training of human resources;
- orthopedics/traumatology: this need is especially important in view of the growing weight of traffic accidents and violence. However, while regional and national levels need to be "centers of excellence" in this area, they will also have to train for, promote and supervise orthopedics management at the area-level hospital;
- rehabilitation is a corollary to the previously mentioned services, with road accidents and violence replacing the previous needs linked to civil war situations from neighboring countries. Contacts should be hold with the current leading institution in this area (Teleton) in order to plan for use of shared facilities and coordination in newly build or rebuild hospitals;
- E.N.T. and ophthalmology: are currently restricted to Tegucigalpa and San Pedro Sula (supplemented by a few mobile surgical ophthalmology teams) and should be more available at regional hospital level.

(B) Supportive equipment

Laboratory equipment and imaging equipment, when appropriately used, are essential to the provision of quality, problem-solving health services. Area-level, regional and national hospital laboratories need to be properly equipped and staffed, according to existing guidelines, with specific provision for long-term maintenance of equipment and supply procurement. Donation of imaging equipment needs to focus on intermediate level equipment, such as basic X-rays (including mobile devices), endoscopy and ultrasound technology. The extensive use of these technologies by trained providers should be able to solve most of the problems and avoid in most cases the expensive recourse to heavier technologies, of which the public sector in the country, however, could be entitled to at least a minimum donation (for instance CT scan, angiography, more remotely MNR).

When these technologies are actually needed, their purchase should follow an MSP-coordinated equipment plan, involving both HSS and MSP directions, in order to avoid

costly duplications. The actual use of heavy technologies, either existing or new, requires the elaboration of specific guidelines for indication and use, and the systematization of the experiences of shared use between institutions that already take place between the MSP and the IHSS. This is also valid for non-imaging medical technologies such as renal dialysis, pediatrics intensive care, cardiac open surgery, oncology, etc.. all specialties for which cooperation agreements are now being prepared.

The sale of these services, when they do or will exist, to the private sector should be considered as a way to decrease possible sub-utilization and improve cost-recovery. On the other hand, some of these services could eventually be bought from the private sector, under specific agreements including price subsidies.

(4) Improvement of logistics and supplies

1) National drug policy

The policy document titled "Health Situation and Priorities: 1994-1997" states that the creation of a national drug policy, the strengthening of the national drug industry, the promotion of use of generic drugs and a more rational use of drugs in general are critical problems that require urgent solutions.

The essential drug policy is based on the National Basic Drug List ("Cuadro Básico"), which lists the specific generic drugs that are to be used at each health care level. All of the public health institutions are required to purchase the listed drugs under their generic names. Any purchases made outside of the list must be scientifically justified.

Policies for the use of generic drugs, national production, price control, rational use and financing must be stated more clearly and require a stronger commitment. They must also be reflected in the plans and actions of the government ministries.

2) Assessment of drug production in Honduras

Study on pharmaceutical industries and pricing mechanisms as well as quality of drugs in Honduras is needed. If the procurement of the national products is cheaper than the imported drugs or not, what is the capacity of pharmaceutical industries in Honduras, how the pricing mechanism should be to make the national essential drug policy worked, and so on, will be clarified. Investigation of possibilities of investment opportunities of national

production of essential drugs is also needed according to the assessment of national drug production.

3) Budget preparation and execution

The budget preparation process a bottom-up system based on local programming. This should be encouraged. What must be improved is the ability of each region and hospital to make better estimates.

Another problem is the direct purchase system. Budget estimates are based on the public bidding prices of the previous year. However, direct purchase prices tend to be higher than bidding prices. One solution would be to reduce direct purchases, but this would require a more secure delivery from the central level.

4) Procurement system

The centralized procurement system is generally still preferable since it brings lower prices in the purchase of large quantities. But the current system needs improvement to be more efficient and its procedures should streamlined. The newly created MSP Procurement Office has started to improve the system, eliminating long procedures and making it more transparent. One of its most necessary and urgent changes may be the application of a short list bidding system in which only pre-qualified suppliers can participate.

Another issue that will be worth consideration on the long term is the decentralization of drug budgets, placing more direct purchasing responsibility in the hands of the regions and hospitals. In order to obtain significant economies of scale and to maintain a good bargaining position with both national and international suppliers, the negotiating process should be kept at central level and based upon the cumulative programming of drugs and supplies included into the essential list on a yearly basis by the regions, the hospitals and any other interested institutions, for instance the IHSS. These institutions would then arrange directly with suppliers the ordering delivery and payment of requested drugs, in addition to obtaining special supplies or drugs outside of the negotiated framework. The creation of a non-profit drug procurement agency like the one that has been established in Colombia is another possibility. This would allow all public and IHSS institutions to purchase their drugs through a single institution using their own budgets.

5) Selection and Programming

The major problem facing the programming system is the reliability level of the estimates. Programming should be based on population and patient flow and epidemiological data in order to provide more realistic numbers. The system improvements implemented by the Health Sector II Project is one example of an effective approach to drug management. The most critical issue is the supervision and support of the UPSs by regional and area offices. However, on should also consider the fact that irregular or insufficient supplies affect the moral of health personnel and their interest in maintaining an efficient, yet effort-intensive inventory/request system. The problem of computer maintenance is not limited to this program. The strengthening of the regional computer system should be considered.

6) Distribution and delivery

In order to improve inventory control in the central and regional warehouses, the computer system should be restructured. In addition, each regional and hospital warehouse should be provided with personnel trained in drug management.

Administrative management and maintenance systems should be improved and expert personnel should be trained before the computer system is organized well enough to be truly efficient in each station.

One strategy that may improve the monitoring and supervision of drug management and delivery is the use of an area warehouse. A pilot area warehouse was set up in Region 6 in April, but its effectiveness has yet to be evaluated. Area staff can better monitor the drug inventory and deliver additional or remove excess supplies to and from the CESAMOs/CESARes.

The transportation problem is the major problem affecting the regional and hospital levels. There is no preventative maintenance. The following are possible solutions that may be considered:

- drugs should be delivered directly to each region or CESAMO/CESAR,
- private transportation, by the suppliers or an independent company, should be involved,
- the municipalities of certain areas should be cooperated in the delivery of the drugs.

The cost-effectiveness of each solution should be carefully studied and compared to that of the present situation, especially for remote and dispersed facilities.

7) Use of Drugs

The rational use of drugs and the promotion of generic drugs should be encouraged. A program for the rational use of drugs and a policy to promote the use of generics could be implemented with strong political commitment. This program could include education in medical and nursing programs, the preparation of a manual of drug use for each level, the strengthening of pharmacist authority, the implementation of a therapeutic committee, a campaign for consumer education, etc.

8) Community Drug Funds

A community drug fund is a community-based drug sales program. Initial supply of drugs comes from donors, government or funds for initial supply raised by the community. The revenues from sales are used to replace stocks. In theory, the cycle can be repeated indefinitely without further allocation form donors as long as the funds recovered from sales are sufficient.

There are currently 225 communities that have community drug funds in Honduras. The UNICEF and several NGOs support these programs by giving initial funds and training, and monitor the program. There are some questions raised about self-sufficiency since the process needs tremendous management input and continuous training. The fund managers also need improvement in their drug purchasing and delivery systems. Comprehensive evaluation of the existing community funds programs is needed.

The system can be effective in certain settings. It can be valuable in remote or isolated areas where communities have little access to drugstores and health facilities. Selling drugs by the government to communities at small markup price and collaboration with area warehouse and municipalities are to be considered.

(5) Improvement of facilities and equipment management

1) Purpose and objectives

To solve the insufficient maintenance conditions of medical facilities and equipment, this strategy proposes the establishment of a sustainable, self-supporting, nation-wide system of facilities maintenance.

2) Decentralization of the current maintenance activities at MSP central level

To encourage and support autonomous maintenance activities in remote areas, regional maintenance/information centers are needed. These centers would provide technical transfer of maintenance skills and would disseminate necessary information available at the MSP central level to the each medical facility.

3) Standardization of medical facilities/equipment

One of major difficulties in the operation and maintenance of medical facilities /equipment in Honduras results from the lack of uniformity or standardization in the design of facilities and/or procurement of equipment. This is particularly true in the case of donations.

As a strategy, standardization would aim at designing locally suitable facilities /structures and preparing appropriate equipment specifications. Ambient appropriateness, serviceability and availability of spare parts and consumable goods are important factors to consider. Therefore, local designing/construction of facilities and local procurement of materials and equipment would be encouraged. Utilization of private sector should be considered.

4) Modernization and rationale for advanced network system

During the implementation stage of the maintenance systems, advanced network systems, including computerized communication and locally based mobile activities, will be used to make the operation efficient. This will also contribute to savings since physical movement from the central level is minimized.

5) Institutions concerned and their role

The role and functions of the organization and institutions concerned are as follows:

(A) PRONASSA and CENAMA

At the central level PRONASSA and CENAMA (DIM) should integrate into a main maintenance and information center whose purpose would be technical transfer of maintenance skills to the primary, secondary and tertiary level medical and health facilities. This transfer would occur through the regional centers which will be created in remote areas. Planning, training, information, promotion of standardization, communication, documentation, etc. would be regarded as the principal role and function of the center. The existing maintenance and repair workshops would remain. The integrated center in

Tegucigalpa should also serve as the regional center to provide maintenance services for the Metropolitan and Health Region 1 medical and health facilities.

(B) Regional maintenance and information center

The DIM's (CENAMA) 1995 Evaluation Report points out the need for a regional maintenance center. Although some regional health offices have small scale maintenance workshops donated by USAID, due to limited human resources and capability, they are not used effectively. In order to promote transfer of maintenance skills and dissemination of technical knowledge to the medical and health facilities, such as area hospitals and CESAMO/CESARes, strengthening or construction of these regional centers and enhancement of their functional role are needed. The regional centers will be basically organized by coordination among the existing organizations and institutions, such as PRONASSA, CENAMA, the regional health offices, MSP, major hospitals, and municipal governments.

(C) Regional health office

Usually, each regional health office has a couple of maintenance staff who take care of CESAMOs/ CESARes' facilities and equipment. However, because of the size of the region and the distribution of the facilities, it is beyond their capacity to cover all facilities. The regional health office should provide maintenance solely to the primary health care facilities.

(D) MSP and other public hospitals - National, Regional, Area, IHSS and other public hospitals

Training of hospital staff on daily simple routine maintenance and minor repairs will be provided by the maintenance and information centers and actual operation and maintenance of facility and equipment will be carried out by each hospital's staff. Advanced and/or complex equipment will be maintained/repaired by skilled staff from the main or regional maintenance and information centers. Capable hospital technical staff will be needed to work at the regional center concurrently.

(E) CESAMO/CESAR and other public health centers/clinics

Necessary maintenance work for these facilities is generally for rather simple instruments and apparatus. Technical transfer of self-supporting basic maintenance skills will be

disseminated through training courses at local core PHC facilities such as sector CESAMOs together with on site repairs. Training will be conducted by instructors prepared at the maintenance and information centers.

(F) Private hospitals/clinics

Private hospitals and clinics can usually contract the private sector to undertake facilities/equipment maintenance. However, some of these private facilities are in urgent need of immediate maintenance and repair service. Although private health facilities are covered by the private service network systems in Honduras, technician from neighboring countries are rarely contacted to provide services. The maintenance and information centers will be able to provide maintenance assistance to private hospitals and clinics. In addition, private hospitals and clinics' medical and paramedical staff can also be trained.

(G) Introduction of private sectors

Use of private sector should be encouraged through different ways: annual maintenance contracts to provide maintenance and repair of rather complex equipment; procurement of spare parts and/or consumable goods; other technical support. In case of other non-medical items, such as civil engineering works, carpentry, plumbing, gardening, etc., can be entrusted to the private sector. Further involvement and utilization of the private sector should be encouraged by close cooperation and information exchange.

6) Demarcation of maintenance activity

In order to carry out the activities efficiently, demarcation of maintenance activities by facilities should be clarified. The following table is an example of the activities to be carried out at each level.

Demarcation of maintenance activity

Location	*Purpose/ Function*	*Detail*	*Remarks*
Central level Main Maintenance & Information center	- To train the existing staff of MSP to upgrade their skills and knowledge - To train trainers at central and central and regional level - Maintenance & repair - Standardization - Parts procurement - Inventory control - Preventive maintenance - Quality control - CAD - Communication system - Documentation, etc. - Mobile activities	Objective Equip. -Advanced/ Complicated Ex.: MRI CT Scanner, etc. - Conventional Ex.: X-Ray Ultra sound ECG Incubator Centrifuge Object. Facilities Ex.: Boiler Air-conditioning & Refrigerator Incinerator	Private sector would be utilized in the following cases, - Contract on advanced/ complex products - Difficult repairs - Parts procurement - Non medical facilities/ equipment Technical cooperation by foreign assistance required - Experts, Consultants,
Regional Level Regional Maintenance & Information Center	- To train trainers at regional and sub regional levels - To train medical/ paramedical staff of hospitals, both public and private - Maintenance & repair - Parts procurement - Inventory control - Preventive maintenance - Quality control - Communication system - Documentation, etc. - Mobile activities	Objective Equip. - Conventional Ex.: X-Ray Ultra sound ECG Incubator Centrifuge Object. Facilities Ex.: Boiler Air-conditioning & Refrigerator Incinerator	Private sector would be utilized in the following cases, - Difficult repairs - Parts procurement - Non medical facilities/ equipment Volunteers sent by foreign assistance required
Hospitals National, Regional, Area, IHSS	- Maintenance & minor repair - Inventory control - Preventive maintenance - Quality control - Operation of equipment		Private sector could be utilized directly Communication system will be utilized
Sub regional level, Sector CESAMO	- To train medical/paramedical staff of PHC facilities - Maintenance & minor repair - Preventive maintenance - Quality control - Operation of equipment	Objective Equip. Electric stove Kerosene refrigerator Small sterilizer	Will be assisted by mobile activities of the regional center
PHC Facilities CESAMO/ CESAR,	- Daily simple maintenance & minor repair including preventive maintenance - Operation of equipment		to be assisted by Sector CESAMO and community volunteers

7) Components

(A) Objectives and requirements of the maintenance/information centers

The objective and requirements of facilities/equipment of the main and regional maintenance/ information centers are shown below.

Objectives and requirements of facilities/ equipment

Components	*Objective*	*Requirement*	*Remarks*
Maintenance system improvement program - Upgrading maintenance skills and dissemination of preventive maintenance	a) Maintenance & Repair - Technical support for maintenance of buildings, facilities, medical equipment, etc. - Repair works for facilities/equipment - Assistance for spare parts procurement - Introduction of private agents, manufacturers - Rental system for tools and instruments for maintenance work b) Training, Education & Documentation - Preparation of manuals, textbooks, other technical information - Retraining course for the existing maintenance personnel at MSP/ IHSS/ other hospitals - Training course for doctors and nurses on daily maintenance and minor repair work at CESAMO/ CESARes. c) Information Center - Inventory and Conditions of Facilities/ Equipment - Parts inventory - Failure mode analysis - Human resources - Distribution of technical information - I.E.C activity for communities and other public/private concerned individuals	<u>Both at main and regional centers</u> - Regional maintenance/ Information center with basic tools, instruments, information system and I.E.C. equipment to enhance various functions - Vehicles for mobile activities, such as I.E.C., repair & maintenance service in rural areas. - Advanced communication systems such as a computer network system including Internet to enhance the above activities and collaborate with others affiliated both internal and external organizations.	- Coordination with other donor projects would be required to supplement mutual functions without overlapping - Main role of the maintenance /Information center would be shifted from a) Maintenance & Repair to b), c) & d) as progress of technical transfer to each staff of hospital and other organization progresses to promote technical transfer and consciousness of preventive maintenance.
Uniformity & standardization program	d) Planning and Standardization - Technical advice for planning - Standardization of facilities/equipment, requirement for sufficient provisions for spare parts - Renovation and/or repair plan - QC Activity	<u>Only at main center</u> CAD system	Facilities standardization plan should consider different ambient conditions
Coordination	- Coordination of collaboration among organizations concerned, MSP, regional health office, municipal governments, private sector and communities	<u>Both at main and regional centers</u> Communication systems	

(B) Maintenance/Information network system

The main and regional maintenance/information centers and targeted medical institutions organize a nationwide maintenance/information network system in Honduras. The benefit and impact of the system is as follows,

Benefit and impact of the maintenance/ information system

	Benefits and Impact				
Institution/ Organization	Maintenance & Repair	Training	Information & Documentation	Standardization	Remarks
MSP main & regional center PRONASSA CENAMA	Technical & capacity enhancement	Technical & capacity enhancement Maintenance costs down by preventive maintenance	Cost effective technical exchange/ dissemination	Reduce costs for construction, maintenance, operation Easy - maintenance/ Trouble free	Merger of PRONASSA & CENAMA to be encouraged, or close collaboration is required.
Regional center Regional health office Municipality	Technical & capacity enhancement	Technical & capacity enhancement Maintenance costs down by preventive maintenance	Cost effective technical exchange/ dissemination	Reduce costs for maintenance, operation Easy - maintenance/ Trouble free	Involvement of municipal government is important.
Public hospitals MSP, IHSS	Improvement of utilization rate	Technical & capacity enhancement Maintenance costs down by preventive maintenance	Quick reference for operation, parts inventory/ availability, Failure mode analysis Dissemination of preventive maintenance	Reduce cost for maintenance, operation Easy - maintenance/ Trouble free	
CESAMO/ CESAR Municipal health center	Improvement of utilization rate	Technical & capacity enhancement Maintenance costs down by preventive maintenance	Dissemination of preventive maintenance	Reduce cost for maintenance, operation Easy - maintenance/ Trouble free	
Private hospitals	Improvement of utilization rate	Technical & capacity enhancement Maintenance cost down by preventive maintenance	Quick reference for operation, parts inventory/ availability, failure mode analysis		
Private sector for maintenance	Expansion of business opportunity			Encouragement of local procurement	

(C) Structure of the nationwide maintenance/information network system

The nationwide maintenance/information network system will consist of a main center in Tegucigalpa and several regional centers in remote areas on a future road networks. This system aims at a functional rationale of the current maintenance system of MSP by encouraging technical transfer and utilization of advanced communication systems. Though this system, technical information and training methodologies are transmitted from the main center to the lower level facilities, such as area hospitals and CESAMO/CESARes through the regional centers. In this case, the sector CESAMOs have to act as the base for maintenance and would hold training courses for PHC level facilities. Furthermore, in order to supplement these activities and cover rural areas, mobile units with AV equipment and/or equipment, hand tools & instruments will be utilized.

8) Management

(A) Organization, human resources and financing

The organization and human resources needed to operate the maintenance system for public medical facilities are shown below.

Organization and human resources, central level and regional maintenance/information centers

Classification	*Organizations involved*	*Personnel Existing & Future*		*Financing*	*Remarks*
Central level Main Maintenance & Information center	PRONASSA CENAMA Private sector in spot basis	40 91 Total	40 91 Total Additionally, some trainer's be required	External aid for initial input MSP annual budget Tegucigalpa and neighboring Municipal government *1) Income generative training course for private sectors	Basically, the existing personnel should be utilized.
Regional Level Maintenance & Information center	PRONASSA CENAMA HR office Municipality MSP hospital Private sector in spot basis		Total approx. 20-30*2) Mostly concurrent assignment except administrato r and some trainers	External aid for initial input MSP annual budget Municipal government *1) Income generative training course for private sectors	Required personnel should be transferred or sent from organizations/ institutions concerned
Hospitals National, Regional, Area, IHSS	Maintenance staff	2-30 based on facility scale	2-30 based on each facility scale	Cost recovery system Expansion of health insurance system	
PHC Facilities CESAMO/ CESAR,	HR office Sector-CESAMO Community		Trainers and volunteers should be cultivated	Cost recovery system Expansion of health insurance system	

Notes:

*1) Municipal government should take initiative and bear the cost for operation of the regional center since this contributes to improve regional health conditions. In case of expanding service area beyond municipal boundary, it would be necessary to negotiate how to share the operational cost between municipalities.

*2) Most of technical staff would be sent from medical facilities as concurrent assignment. It should be clarified if there would be any legal and/or practical problem.

(B) Corroboration with private sectors on training and information exchange

In order to prevent excessive job hopping of technicians to private sectors, some incentive system should be considered. For example, introduction of a technical qualification system such as ACCE (American Clinical College Engineers) with a reward component should be encouraged. This concept is included in WHO 1996 operations plan. Though, job hopping

is regarded as a temporary phenomenon since such positions are limited and will soon be saturated, it would still contribute to upgrade technical level for maintenance works and encourage privatization in this field in Honduras.

Information exchange, such as that related to parts inventory, interchangeability, failure mode and analysis, and other technical information between the centers and private sectors should be promoted to improve overall situation.

(6) Human resources development

1) Purpose and objectives

As mentioned in the problem description section, in any social sector organization whose purpose is the direct provision of services to the population, human resources are a key element, as they represent, for this population, one of the main contacts with the organization, an important focus through which the quality of care will be assessed and, for the organization's managers, a sizable proportion of their available resources, whose management entails specific skills and attitudes since it is concerned with human beings.

Bridging the access gap among the most deprived population groups, providing quality health care to all according to their needs, and not to their means, focusing the delivery of health care services towards the satisfaction of users' needs rather than those of the organization, be it governmental, parastatal or non-governmental, will require profound changes in the way human resources are currently trained, employed, assigned, supported and supervised. Changes need to be quantitative as well as qualitative: new resources will have to be found, trained and included into the regular payroll in order to meet population growth and emerging needs. However, financial resource restrictions make imperative an improvement in the utilization and efficiency of existing resources, that will lead to a somehow different model of health services delivery, where the emphasis is more on preventive rather than on curative or rehabilitative care and where the population itself will play a more significant role in the maintenance of its own health. An example of this new orientation is the Health Promotion Proposal jointly prepared by the Human Resources Development Division, the Health Education Division, the Maintenance and Engineering Division and the Social Participation Unit of the MSP.

This proposal, which constitutes the first answer to the human resources requirements of the access process, will tend to coordinate support to local level development and needs, as

initially expressed in the "Municipal Health Plans", though joint actions by the concerned divisions. Other objectives include the guarantee of an integrated focus for human resource development, oriented towards preventive, rather than curative health services and towards the improvement of the living conditions. Main strategies for this coordination include the constitution or strengthening of "working networks" at all levels, the facilitation of continuing education among the networks, the inclusion of local governments and community representatives in the coordination process in order to promote a more "horizontal" communication, the redefinition of educational and occupational training plans and profiles, the reactivation of the regional documentation centers and the strengthening of integrated supervision systems.

The strategies proposed by the NMHP are presented under four concrete headings, which have attempted to take into account this proposal and focus:

- strengthening the links between training and provider institutions,
- develop training plans according to local needs,
- improve public health training of local and regional health leaders,
- improve careers and working conditions of personnel.

Their implementation should not be viewed separately, but merged in the perspective of this fundamental change in the way health personnel will be called to fulfill their role in, and with the society at large.

2) Strengthen links between training and provider institutions

The objective of this strategy is to revise the current, hospital-based, curative-oriented training models, in order to better prepare future health personnel to the actual worksite demands, especially for primary health care and managerial levels, and promote amongst them a more preventive concept of health services, involving the community itself in the maintenance of its health status.

Activities under this strategy include:

- joint revision/modification of curricula between MSP, IHSS, training institutions (T.I.): UNAH, technical schools for auxiliary nurses and other health technicians;
- participation of T.I. and professional associations in the elaboration of standards of care, guidelines;

- inclusion/strengthening of field training in curriculum; in particular, the improvement of problem-solving capacity of the first level of care (especially CESAMOs, area hospitals) should allow for a significant proportion of practical training to be conducted in this setting rather than in the tertiary-level hospitals. Such a shift in the training site would imply more thorough consideration and planning with respect to appropriate tutoring, supervision and evaluation, but would undoubtedly give the professionals to-be a closer approach to their future responsibilities;
- development of joint operational research activities in primary health care service delivery between the MSP, IHSS and University (including Schools of Medicine and Nursing, and Public health track), as investigation constitutes a basic discipline for the university and will promote within it a major interest in primary health care models and provider institutions' programs;
- systematic inclusion of public health/service delivery themes in professional congresses.

Auxiliary nurses and professional nurses' curricula have already been revised several times and have more direct contact with on-site jobs requirements (since the schools are managed directly by the MSP). Field experience has been included in the medical curriculum but is not valued enough by teachers and students.

The implementation of this requires the definition of a consensus on health priorities among the concerned institutions (T.I. and professional, especially medical, associations, providers institutions). Its successful application would contribute to increase the preparedness of health personnel to their actual working conditions, thus decreasing the burden for in-service training (it does not eliminate this need, however). The major limiting factors in the short term would be the actual autonomy of the main training institution (UNAH) and the lack of coordination with provider institutions; the attraction factor of hospital-based, clinical medicine model for new physicians will also be a powerful long-term obstacle but could be overcome through appropriate motivation by social promotion of a community-based, preventive health model and also by pointing at the fact that some specialized patient management skills currently learned (or at least approached) during medical studies in referral hospitals could be acquired through continuing education mechanisms.

Finally, the continuing matriculation of young students into the health professional tracks will depend upon the social values put on this sector and upon the working conditions perceived by the future professionals.

3) Develop in-service training plans responding to local needs (mainly a MSP strategy, but can be applied for IHSS)

The definition of needs should be elaborated at regional/area level, based upon the epidemiological and organizational assessment of the corresponding service units and the relevant municipalities and communities. The development of training plans should include the definition of technical /managerial area to be addressed; definition of training objectives; type, number and location of persons to be trained; the time available (for MSP personnel, a maximum in-service training time schedule could be set up in order to avoid extended absences from the worksite, with each individual setting his/her own priorities and needs in agreement with the supervisor); methodology of training (giving priority to practical, worksite training); and methods of evaluation of the results of the training (ideally through supervision-based observation of attitudes and practices).

Technical responses to local training needs will be provided by the normative technical divisions and/or other sources (IHSS, private, inter-sectoral, etc...): this implies changes in the working objectives and methodologies of these instances with regards to training. Their revised functions in this area would include: keeping operative levels aware of newly arising technologies, preparing training mechanisms and materials as a response to expressed needs, coordinated resources at central and regional levels in order to increase efficiency of training activities (as stated in the proposal for health promotion). Other traditional functions of the normative divisions, such as standard setting, supervision, monitoring and evaluation would be conserved and adapted to this new model.

Technical assistance from the HRD division should focus on training needs definition at local level; and development of training methodologies and training preparation/ coordination at central level. It should be emphasized that themes for in-service training defined by local levels should also progressively be incorporated into pre-service training (see 2) above). Financial resources for training have been found in the past and should still be available under an assumption of rationalization of training activities.

4) Improve public health management abilities of individuals in responsible positions

(A) This strategy involves two time dimensions:

- in-service, task-specific, supervision-based training in the short-term;
- selection of health managers among people having received formal public health management training in the long run (through the national MPH program, or through fellowship abroad);

Even though the needs for out-country training should decrease with increasing experience gained through the local MPH program, it will still be needed on a permanent basis, unless opportunities, such as congresses with foreign visitors, are provided for contacts and discussions with other systems/countries, thus allowing a productive sharing of experience.

A particular ground for application of this strategy is the reinforcement of hospital management abilities as a part of the decentralization process. This improvement of the management ability should not however, separate the hospital from the rest of the network, but rather, contribute to its more efficient role in the network of services. In order to respond to this and other emerging needs, such as social security management, the curriculum of the MPH track, will need to be updated on a periodic basis.

5) Improve career plans based upon merit, experience and working conditions

A number of the interventions and strategies previously mentioned imply either additional human resources or a redistribution of existing ones; in particular, the extension of services to deprived, uncovered groups of population implies a redeployment of technically competent resources towards the peripheral primary-care levels (CESARes, CESAMOs, area hospital). In the long run, this will only be sustainable if proper working conditions, career plans and work incentives are provided to this staff; otherwise, the centripetal tendency, high rate of desertion and absenteeism for disability, high levels of dissatisfaction and low-quality of services will continue to prevail.

An immediate measure should be the systematic indication of auxiliary-nurses and other health technicians' salary to changes in the minimum salary, as their level of responsibilities should assure them this minimum level of compensation.

Ideally, in the long run, a salary/incentives structure similar to that proposed by the physicians' association should be considered for all technical personnel; this may require the

establishment of a specific status for health personnel that will have to be put in agreement with Civil Service law. The financial implications of such proposals needs to be more carefully determined, as they will constitute a major limiting factor for full-scale implementation.

Other non-financial strategies will be needed to restore the status and esteem of the health professionals:

- adequate maintenance of facilities and equipment, and sufficient availability of supplies, in order to improve working conditions,
- facilitation of professional in-service training (allowing for instance, auxiliary nurses to become professional nurses) or possibility of ascent to higher level (sector supervisor),
- communication improvements for remote work location (diagnosis and therapeutic support access to libraries and databases, etc...),
- positive recognition of quality of work.

Obviously, the strategies proposed for human resource development will imply a major input of financial resources to be fully implemented for most staff; indeed, the mere cost of improving the current working conditions may preclude significant additional investment in this sector. Yet, it is felt to be one of the most important interventions for success in a service-oriented sector such as health care and promotion.

6) Projections for future requirements

Upon request from the MSP political level, the HRD Division will be preparing a five-year Plan for Development of Human Resources. A baseline investigation of the labor force will be conducted this year, using both surveys of Personnel Directors from Central Administration, Health Regions and Hospitals, and focus groups with different staff categories. Information collected will include number and schedule by category, salaries, vacant positions, etc. Some of this information has been collected by the Study Team's facility survey, especially in the MSP and IHSS hospitals, and the corresponding data base will be provided to the HRD Division as a starting point. The results of this baseline survey will be used to project the future needs for human resources. Criteria such as estimated population growth, replacement of older personnel, scheduled institutional growth (for instance, the absorption within the MSP payroll of the staff contracted under the World

Bank financed Health and Nutrition Project), demand from private sector and policy orientations taken by the health sector (towards more health promotion) will be the basis for the estimates. Quantitative projections however, are made difficult by the dependency of the production and employment of human resources upon constraints that are not under control of the MSP (such as budget and civil service regulations, autonomy of the training institutions, etc..).

In this section, the NMHP provides some gross estimates of quantitative needs for selected categories of human resources, based upon estimated population growth, resulting changes in the demand for health services and estimated productivity of these resources. Moreover, additional resources implied by the proposed strategies of physical extension of service network, improvement in problem-solving capacity of first-level care and maintenance of facilities and equipment are also estimated. These estimates can then be used as additional inputs for the elaboration of a proper mid-term plan for human resource development.

(A) Projection of demand for health services

The number of hospitalizations and ambulatory care visits (both curative and preventive) is estimated for the MSP and the IHSS, based upon service statistics from both institutions and assuming a proportional relationship between population growth and demand for services.

Projection of demand for services by health institution

	1995	*2000*	*2005*	*2010*
Population projection	5,462,795	6,194,926	6,927,291	7,648,997
Hosp. rate MSP	3.7	3.5	3.4	3.3
Hosp. rate IHSS	1.1	1.1	1.0	1.0
Hospitalization rate	4.8	4.6	4.4	4.3
Demand for hosp. MSP	202,208	218,828	235,635	250,177
Demand for hosp. IHSS	60,543	65,519	70,551	74,905
Demand for hosp.	262,751	284,347	306,186	325,082
Amb. visit rate MSP	88.4	93.1	100.8	108.6
Amb. visit rate IHSS	25.5	26.9	29.2	31.4
Ambulatory visit rate	113.9	120.0	130.0	140.0
Demand for amb. care MSP	4,826,874	5,766,674	6,985,779	8,306,930
Demand for amb. care IHSS	1,395,526	1,667,237	2,019,700	2,401,666
Demand for amb. care	6,222,400	7,433,911	9,005,478	10,708,596

Notes:

Population projections according to SECPLAN

Hospitalizations: based upon MSP and IHSS' service statistics from 1994, extrapolated to 1995 population. The hospitalization rate in 1995 is assumed to decline over time, as strategies aimed at strengthening primary health care are implemented. Contribution of the private sector to the total number of hospitalizations is estimated at 15% for the period 2000-2010 (based upon the distribution of hospital beds and average occupancy rates derived from the facility survey).

Ambulatory care: based upon MSP and IHSS' service statistics from 1994, extrapolated to 1995 population (private sector not included). Contact rate was increased over time to reflect improved access and better problem-solving capacity. Ambulatory care includes preventive and curative visits.

The original worksheet used for projection of demand for health services is shown in Table 6.2. The assumptions can be modified in the worksheet in order to provide sensitivity analysis.

(B) Distribution of technical staff between hospital and ambulatory care facilities/productivity ratios

Distribution of technical staff in 1991

	MSP (adjusted)					
	actual			*adjusted*		
	Total	*Hosp.*	*Amb.*	*Hosp.*	*Amb.*	*% amb.*
Physicians	1,067	781	286	710	358	33.5%
Prof. nurses	526	353	173	310	216	41.1%
Aux. nurses	3,764	2,574	1,190	2,277	1,488	39.5%
Technicians	617	474	143	438	179	29.0%
Odontologists	100	22	78	22	78	78.0%

source : Recursos Humanos: Elementos para un Análisis - 1991)

Distribution of technical staff in 1995

	MSP			*IHSS*		
	Total	*Hosp.*	*Amb.*	*Total*	*Hosp.*	*Amb.*
Physicians	1,157	769	388	386	257	129
Prof. nurses	640	377	263	120	71	49
Aux. nurses	4,261	2,577	1,684	600	363	237
Technicians	736	523	213	421	299	122
Odontologists	115	25	90	19	4	15

note :

1) adjusted 1991 proportions applied to 1995 personnel figures obtained from personal communication,

2) Odontologists are not redistributed

Productivity ratios of technical staff

	MSP		*IHSS*	
	Hosp.	*Amb.*	*Hosp.*	*Amb.*
Physicians	3.8	8.0	4.2	9.3
Prof. nurses	1.9	5.5	1.2	3.5
Aux. nurses	12.7	34.9	6.0	17.0
Technicians	2.6	4.4	4.9	8.7
Odontologists	0.1	1.9	0.1	1.1

note : number of staff per 1,000 hospitalizations or 100,000 ambulatory contacts

The actual distribution of personnel between hospital and ambulatory facilities comes from the document Recursos Humanos: Elementos para un Análisis - 1991. However, given that 33.6% of out-patient visits were attended by hospital-based personnel (Boletín de Estadísticas e Información de Salud - 1993), a proportion of hospital human resources needs to be reassigned to ambulatory care. This shown on the upper right part of the table. The proportion to be reassigned was estimated at 25%, since not all functions of ambulatory

facility personnel are dedicated to out-patient visits. The hospital/ambulatory care proportions thus obtained were applied to 1995 personnel distribution for MSP and IHSS obtained from personal communication.

The productivity ratio for each type of personnel (that is, the number of a given type of staff needed to produce the total hospitalization or ambulatory contacts) was then applied to the expected demand for health services for MSP and IHSS jointly, excluding the private sector, as shown below.

(C) Projections of needs for human resources

Projections of needs for human resources

	1995			2000	2005	2010
	Hospital	*Ambulatory*	*Total*		*Total*	
Physicians	1,026	517	1,543	1,738	1,955	2,171
Prof. nurses	448	312	760	862	978	1,096
Aux. nurses	2,940	1,921	4,861	5,505	6,237	6,976
Technicians	822	335	1,157	1,298	1,451	1,603
Odontologists	59	75	134	154	178	203

Obviously, productivity ratios may change according to the model of health services that will be followed in the future, and these projections will need to be modified accordingly. Changes in population projections will also tend to alter the estimated needs for human resources: for instance, using the alternative (pessimistic) model for population projection, as presented in Section 5., the estimated needs for physicians, professional nurses, auxiliary nurses, technicians and odontologists would be respectively, 2,346, 1,185, 7,539, 1,732 and 219.

The above projections do not explicitly include the staffing needs for new integrated health centers or for assigning two resources to each CESAR. Although, in the first case, reinforcement of the primary health care capacity will allow a reduction of the workload at secondary level facilities, and thus the possibility of personnel transfer from one site to another, an initial investment in human resources will be needed. Additional investment will also be needed in the second case, as the increase in CESAR staffing is not expected so much to increase the number of individual contacts, but rather to improve support for community-level activities. In both cases, the additional staffing needs refer to operative

for the public sector within the framework of structural adjustment and modernization of the state.

(D) Human resources implications of emergency centers

This model assumes that the center should be fully operational 24 hours/day in order to provide the expected quality of services. To ensure the presence of one professional per shift, five persons are needed for each position, each person assuming on average 4 shifts weekly (allowing for vacation and illness). The model also assumes that the same technician can do X-ray and laboratory; if this is not possible to obtain through in-service training, then the position will have to be duplicated. Possible options include one additional auxiliary nurse for normal delivery care and/or another one for the afternoon shift to provide assistance to patients that do not really require emergency treatment.

Basic salaries (in Lempiras) are indicated on a monthly basis and calculations only considered 12 months (not including vacations or other benefits).

Basic staffing and salary scale of technical staff

	Type of resources						
Minimum staffing for 24h/day	*Physicians*	*Pro.nurses*	*Aux.nurses*	*Lab/X-ray*	*Admin.*	*Watchmen*	*Cleaning*
emergency center	5	5	5	5	5	3	3
Additional staff for delivery care			5				
Additional staff for B shift (pseudo-emerg.)			5				
Basic salary costs (Lps./mth.)	3,000	1,500	1,200	1,000	900	500	500

Monthly salary by specialty per type of center

	EC only	*EC+ Nat deliv.*	*EC+ND+Aft.shift*
Physicians	15,000	15,000	15,000
Professional Nurses	7,500	7,500	7,500
Auxiliary Nurses	6,000	12,000	18,000
Lab./X-Ray technicians	5,000	5,000	5,000
Administration	4,500	4,500	4,500
Watchmen	1,500	1,500	1,500
Cleaning	1,500	1,500	1,500
Total	41,000	47,000	53,000
Yearly basic salary costs: (12 months)	492,000	564,000	636,000

Note: each additional position of Auxiliary Nurse (i.e., 5 persons) adds Lps. 6,000 per month in basic salaries

The worksheet's assumptions can be modified, thus allowing to adapt the calculations to the profile of the model chosen, which is done, for instance in the model programs presented in other sections of the document.

(E) Implications for human resources development

Apart from the qualitative changes in the training of future human resources dictated by a new model for health services which emphasizes health promotion and disease prevention, inter-sectoral negotiation and coordination at local level, and horizontal communications, the projections described in this sections have implications for the training institutions:

- the additional 500 auxiliary nurses (or equivalent personnel) needed to staff all CESARes with two resources can be trained by the existing schools over the plan's time frame, provided they can be incorporated in the provider institutions' payroll, with sufficiently attractive conditions;
- the development of integrated health centers both in metropolitan areas and in small towns (as substitute for area-level hospitals) implies training of professional nurses and laboratory/X-ray technicians, two categories for which the current supply is quite low (with only 50-60 professional nurses trained each year). The need for professional nurses will be even greater if one considers the strengthening of the sector's level for supervision. As is the case for auxiliary nurses, improvement of employment prospects and working conditions will play an important role in increasing the number of university or school registrations for these tracks. In the process of planning human resources for emergency clinics, integrated health care centers or low-risk delivery institutions, one should keep in mind the recently

developed career tracks in specialized nursing (perinatal health, child and adolescent health, family health) and consider the need to adequately support these tracks.

(7) Health financing

1) Purpose and objectives

Limitations in available public resources will continue to present a major challenge to improving the health of Hondurans and, more specifically, implementing many of the activities identified in the NMHP. Options for reducing this limitation can take one of three forms;

1. reducing the demand for publicly supported services,
2. improving the efficiency with which public services are produced, and
3. increasing public revenues.

All three of these options are incorporated in the NMHP.

Reducing the demand for publicly supported health services implies the implementation of policies and strategies to expand the use of Social Security and private services, thereby reducing the burden on public service delivery resources.[2] Expansion of both settings is limited by poor overall economic conditions and high unemployment. Yet many actions could be taken to strengthen the role of IHSS in areas where it has a significant service delivery role and to create the conditions conducive to private sector expansion. Both of these issues are addressed in the health financing options that follow.

Improving efficiency in the public health sector is critically important. Two dimensions of efficiency are important; the efficiency of production, which relates to the way resources are used to produce public health services, and allocation efficiency, which relates to the mix of activities carried out with public resources. Improvements in productive efficiency can be effected by many of the actions incorporated in the NMHP including increased operational flexibility, better information and accounting systems, and a more appropriate reward structure for staff. Improvements in allocation efficiency require the ability to establish

[2]Although IHSS is a publicly mandated program, its revenues are not primarily provided from the government budget. There is a mandated government share equal to the employee share but it has not been paid in recent years. In effect, the IHSS has been operating without government subsidy in recent years.

more effective priorities for the use of public resources. The emphasis on prevention and promotion is an example of an improved allocation priority. Resource limitations and the immediacy of the demand for acute curative care limit the ability to implement the most effective long term policies. Improved health financing and expansion of non public service delivery options are both central to improving allocation efficiency.

Increasing revenues for public health activities is fundamental to achieving the objectives of the NMHP. Although the health sector has a high overall priority, inadequate support for recurrent operating costs already limits the impact of existing resources and programs. The NMHP has identified many additional priorities and activities which can contribute to improving the health of Hondurans over the next 15 years. Implementing this program will require a national commitment to increasing revenues for public health activities. This section of the NMHP addresses this issue.

2) Increasing revenues for MSP programs

During the past 6 years, the MSP has been allocated approximately 10% of the overall government budget, which has itself been approximately 25% of GDP. As a result, the MSP has received approximately 2.5% of GDP to support its programs. MSP activities, particularly capital expenditures, have also been supported by external funds but these resources are not considered in this analysis. Although the potential for increased budgetary allocations exists, there are many factors which will constrain a fundamental increase in the MSP budget as a share of GDP.

Perhaps the most important is the need to reduce government expenditures as a percent of GDP. High public debt and public sector deficits combine to create strong pressures on the Honduran economy, harming the balance of trade, feeding inflation, and compromising efforts to strengthen the economy. As a result, there have been both national and international pressures for public sector constraint and resulting expanded private sector investment and GDP share. Although implementation of these changes has proved difficult for Honduras, some movement in this direction has been incorporated in public policy, reinforced by support from international organizations. While the immediate effects of these policies have been limited, reduction in the public share of GDP is likely to occur over the time frame of the NMHP.

For the above reasons, the government share of GDP is not likely to increase over the period of the NMHP. To reflect this assessment, the estimates for future MSP budgets have been projected based on a continued availability of 2.5% of GDP. To the extent that the government share declines, this would imply an increase in MSP share of public budgets. The strong support for public health over the past years suggests that this relatively optimistic projection is realistic. It is also likely that macro-economics polices to reduce the public budget might incorporate policies to offset the impacts of austerity on the poor by maintaining resources for health, education, and the social funds. However, public budgeted funds, by themselves, are not likely to be sufficient to meet the demand for MSP resources.

To meet the MSP's operating requirements, the existing cost-recovery activities need to be significantly expanded. Cost recovery has been a growing source of funds for the Ministry since its initial implementation. Funds generated under this activity have grown significantly every year. Since 1989, the revenues produced through cost recovery increased almost four-fold, reaching Lps. 13,743,451 in 1995. This result has occurred despite low levels of fees, inconsistent collection practices, and failure of official policy to recognize the significant current and future importance of this source of revenues for the effective operation of the MSP service delivery system.

While still relatively small, the potential for generating significant revenues is clear. Much of the revenues, 80% in 1995, are derived from user fees for hospital services. Although the two-thirds of the patients who paid something in 1995 paid an average of only Lps. 7, these user fees amounted to 3.32% of the total hospital operating budgets. For area hospitals, where fewer than half of the patients paid, user fees represented almost 5% of total budget. In national hospitals, over 80% of the patients paid but the average amount, Lps. 6.2, was barely related to either costs of the service or ability to pay. Nevertheless, cost recovery produced nearly 3% of total operating costs.

Drawing on the real potential of cost recovery to generate resources for MSP operations will require deliberate actions to modify the current system. Priority areas include the development of more realistic fee schedules, a fairer and more systematic waiver and exemption system, and an operating environment which demonstrates the effect of user fees on improved services. Details might appropriately be developed as part of the pending cost recovery study to be undertaken by the Ministry but a few principles can be established a priori.

Although fees will differ among areas and types of service, the structure of the cost recovery system needs to support not only revenue generation objectives but, as well, provide incentives for more effective use of services by patients. Currently, for example, charges for emergency services are identical to fees for ambulatory visits. As a result, there is no financial incentive for the patient to use services more appropriately. The same applies to self-referred patients in hospital clinics who should be charged higher fees than those entering the system at appropriate primary care levels. Fees for services should be lowest at the most appropriate level. The same principle applies to services already paid for at the community level. The development of community drug programs should not be compromised by failure to charge for the same drugs when obtained from CESAMOs or CESARes. The need to structure the appropriate fees in relation to those at other levels is an important aspect of incentives for more efficient use of services in the system as a whole. This, too, might be appropriately addressed in the MSP study.

The most important factor in effective cost recovery programs is the ability to link patient payments to improvements in services. Even very low fees generate resistance when they are associated with lack of drugs, poor physical settings, bad treatment by staff, and overly long waiting times. By the same token, implementation of improvements in service provide opportunities to implement more effective cost recovery as well. Many specific strategies for improving services are incorporated in the NMHP. They include development and improvement of physical facilities, improvement in the acquisition and distribution of drugs, and strengthening the capacity of the primary care settings to respond to patient needs. Implementation of any of these initiatives should be linked to improvements in the cost recovery system. In particular, upgrading of physical facilities should be accompanied by new fee structures, patient review procedures, and more realistic waiver practices. Development of the cost recovery system needs to occur quickly but could be implemented in stages related to improvements in the system.

There is no clear technical basis on which to set user fees in the public sector where the goal is revenue generation for a subsidized system. Knowledge of demand is important but may best be approximated from experience. Fees need to be set at a level which most patients will pay. This suggests that poorer areas may have lower fee schedules than economically stronger areas. The waiver system should not be too complicated but could have some provisions for partial and delayed payments, particularly for hospital inpatient services.

Initial changes in the fee structure may be modified later with a series of smaller increments staged over time. The goal here is not to design the program. Rather, it is to emphasize the necessity and feasibility of doing so. The experience to date in Honduras supports this perception and fiscal realities require it.

In projecting available revenues for the Ministry, the NMHP projects cost recovery revenues at 10% of the MSP service delivery budget for the year 2000. This amount is equal to 25% of the non personnel budget, a target already established by the MSP, and represents a three-fold increase over 1995. This is a slower rate of increase than experienced in the 6 years from 1989 to 1995. For the subsequent years, the cost recovery target is 20% of the MSP service delivery budget. The numbers have been used to estimate future revenues available to the MSP for carrying out its programs.

3) Improving the financial base for Social Security

The economic pressures facing the MSP are made greater by the weak and deteriorating financial position of the IHSS. IHSS provides coverage for some health services to over 1,000,000 beneficiaries in Tegucigalpa and San Pedro Sula and an additional 144,000 outside of that area. IHSS provides services to workers and their dependents with revenues generated from salary based premiums. When established over 30 years ago, the maximum salary for IHSS payments was set at Lps. 600, an amount greater than the salaries of over 92% of the covered employees at that time. Although it is within the authority of the board of Directors to change this level, no changes have been made since the initiation of the program. In 1995, prior to the most recent increase in the national minimum salary, the Lps. 600 limit covered the salaries of approximately 20% of the covered employees and is now considerably lower.

The original salary limits were structured to permit payments from higher paid employees to offset some of the costs of providing health services to lower paid employees. This internal cross-subsidy was an essential component of the program, providing the basis for generating a self-supporting service delivery system in which a growing part of the population would be able to pay for health services through social insurance. The failure to adjust the maximum salary subject to IHSS premiums over the 30 year period has resulted in a program where the lowest paid 20% of covered employees pay a greater share of salary than those earning higher salaries while receiving similar health benefits.

Although the original financing strategy provided sufficient revenue to support the development and operation of an effective health service, in the face of rising costs, the limitation of revenues has generated a declining level of support and continued deterioration of the distribution and quality of services. It has also limited the original objective of improving the benefit structure to provide a greater range of needed services. At the present time, with the exception of some expanded services with a different financing base, only maternity benefits are provided to female spouses and no benefits are provided to male spouses. Services are provided to dependent children only up to the age of 5 years. Since fewer than half of the beneficiaries are covered workers, services to the majority of IHSS beneficiaries are limited.

As a result, the financial deterioration of the IHSS health program has placed a greater service delivery burden on the MSP, reinforcing its own financial constraints. The magnitude of these pressures can be seen in findings from the household survey undertaken as part of the NMHP development process. Over half the population of greater Tegucigalpa and San Pedro Sula, one million out of less than two million total population, are IHSS beneficiaries. This population is likely to represent an even greater proportion of the central urban population within these two major cities. Yet in these central urban areas, IHSS provided only 21.0% of the curative care visits and 17.0% of the preventive visits. Notwithstanding the coverage of maternity services, a major reason for hospital use, IHSS provided only 30.5% of the hospitalizations.

Improving the financial structure of IHSS is an important element in a comprehensive health financing strategy. The Institution recognizes the severe constraints under which it operates and the associated deterioration in both the quality and quantity of services that results. It has proposed a major revision which includes both raising the maximum salary levels for premium payments and improving the benefit structure to cover all services at the primary level for the insured, spouses, and dependent children up to the age of 12. The NMHP supports both of these initiatives

Also incorporated in the proposed IHSS initiative is an accelerated effort to expand coverage outside of the Tegucigalpa/San Pedro Sula area. In 1995, IHSS provided coverage in six areas under special agreements which provide coverage for a wider range of services. These arrangements are wholly funded by contributions from workers and employers with no public subsidy. Maximum salary for contributions ranges between Lps. 1,500 and 2,000

and, in a few settings, workers contributions are 3.5% instead of the general rate of 2.5%. Almost all of these programs have been implemented where IHSS does not have its own service delivery capacity. Rather, it has developed arrangements for the provision of primary and secondary services to beneficiaries by other public or private providers. (Tertiary care is provided on referral by IHSS facilities in Tegucigalpa or San Pedro Sula.)

These arrangements take many forms ranging from cost sharing to contracting directly for services. In general, IHSS pays the provider a fixed per capita amount in exchange for the provision of specified services to beneficiaries. In Juticalpa, this takes the form of a fixed per capita payment to the Hospital San Francisco in exchange for providing primary and secondary care for the approximately 7,500 IHSS beneficiaries in the hospital service area. The amount of the payment is a negotiated percent of the funds collected by the IHSS Juticalpa office under the health benefits program. The IHSS share covers its administrative costs and the costs for tertiary care referrals. The hospital share covers all primary and secondary services including drugs.

A number of aspects of these expanding IHSS arrangements are of particular importance for the overall health care financing effort. First, they all provide an expanded range of services, similar to those proposed by IHSS for general application under improved financing conditions, but IHSS is not, in most cases, the direct provider of these services. Second, the employer/employee premium payments are all based on a higher maximum salary, typically between Lps. 1,500 and 2,000, which generates a higher average health premium per covered worker. Finally, these programs of extension of coverage are designed to be "self financing." This means that the revenues are intended to provide total financial support for the benefits without public subsidy or internal IHSS subsidy from other funds. Although in some cases IHSS may participate actively in the establishment of the provider setting, its operational role outside of the two major urban areas is primarily that of an insurer, not a provider. This role is likely to expand in the future and opens significant new opportunities for improving the financial base for producing and distributing health services throughout Honduras.

Improving the financial basis of IHSS and extending the developing IHSS insurance model are both considered integral to the fullest implementation of the NMHP. In particular, failure to strengthen the IHSS revenues will result in a continued transfer of service delivery obligations for curative care to the MSP in the Tegucigalpa and San Pedro Sula urban areas.

This increase in demand will compromise the ability of the MSP to expand coverage to the population not now served and to support the recurrent costs of many of the programs identified as priorities for improving health in both urban and rural settings. Rather, the goal should be to support the ability of IHSS to provide in Tegucigalpa and San Pedro Sula an ever greater share of the health service requirements of their beneficiaries with resources generated from their insured population. Additionally, an improved financial base would permit IHSS to support a greater share of the community-based initiatives relating to emergency and low-risk delivery services.

The expansion of IHSS financial coverage outside of the major urban areas reinforces the general health financing objective of reducing the dependency on public funds for the provision of personal health services, particularly curative services. Implementation of these programs either reduces the dependency on public provision or provides financial resources to public providers (MSP) through per capita payments or fees for services rendered to beneficiaries. In every case, extension of IHSS coverage in these programs improves the potential of MSP cost-recovery programs to generate revenues and, as well, expands the access to health insurance to middle and lower income families currently unable to afford available insurance. Expectation for expansion of IHSS insurance outside of the two major cities is incorporated into the projections of potential future revenues prepared as part of the NMHP.

4) Expansion of private financing

Little expansion of private insurance in the general Honduran population is foreseen in the near term. However, over time it has the potential to increase in importance as a source of financial support for the production and distribution of health services. At present, the conditions necessary to encourage the development and expansion of health insurance are weak. Although it is discussed here as a source of financing for the sector, the role of health insurance is to protect individuals from the economic and financial risks associated with the use of health services. When few face these risks, the demand for insurance is low. Increasing the distribution of financial risk expands the demand for insurance as a way to reduce the individual's risks to acceptable levels.

At present, relatively few Hondurans face significant financial risks from the use of health services. Most of the users of services receive them from public facilities without

significant direct charges. For the more than 80% of the patients in national hospitals who paid for services in 1995, the average payment of less than Lps. 7 represented little consequential economic risk. Although there is widespread use of private services for ambulatory care where the costs are relatively low, there is considerably less use of more expensive private services. The option of essentially free public services places a floor on potential demand. The expansion of the MSP cost recovery efforts have the potential to modify this circumstance. By incorporating higher, more realistic charges the potential of economic risk becomes more widespread and family interest in the potential of insurance will increase. The experience of IHSS in expanding services through insurance mechanisms supports the view that there is a potential market of consequence. However, private health insurance will not be a significant short term financing source.

5) Projections of Future Revenues

To demonstrate the implications of the above analysis, a number of projections of future revenues for health were prepared. The projections provide estimates of revenues based on different macro-economics and institutional assumptions and are designed to provide a quantitative dimension to the assessment and recommendations made in the NMHP.

For the Ministry of Public Health, the projections of budgeted funds are based on maintenance of the current share of GDP, 2.5%. Differences in the projected revenues reflect different expectations about the growth of GDP and cover the likely range used for other macro-economics projections made by the Central Bank and the Multinational development banks. To these funds were added cost-recovery revenues based on the NMHP recommendations. For IHSS, a series of different projections were made based on the 1994 salary distribution and different levels of taxable salary. (refer to Table 6-3) For each, estimates were made of revenue per worker in 1994. These estimates were then projected over the life of the NMHP yielding a series of different estimates. It should be noted that the under the IHSS initiative to expand coverage outside of Tegucigalpa and San Pedro Sula, some of these funds would likely be used to support service provision through other MSP and private providers. Finally, estimates were made of the share of the funds transferred to the municipalities which would be used for health related activities.

The results of the analyses are presented in Table 6-4 and the assumptions used to prepare the estimates are provided as well. Estimates were prepared for 2000, 2005, and 2010 and