District Health Planning Manual

Toolkit for
District Health Managers

Ministry of Health
Government of Pakistan

In Collaboration with
Multi-donor Support Unit
(MSU)

Adapted form:

Planning for Health Services in the Districts

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Foreword

The **"District Health Planning Manual: Toolkit for District Health Managers"** has been developed to build capacity of the District Health Managers and the District Health Management Teams in the area of planning for health services in the districts. The need for District Health Planning has always been there, but has become more pronounced following the establishment of Local Governments in the districts of all the provinces.

The Ministry of Health in the new Health Policy 2001 has identified two key areas, that is, addressing inadequacies in primary/secondary health care services and removing professional/managerial deficiencies in the District Health System. This Manual would contribute to both, especially the latter. The Manual, however, can only serve as a useful guide and on its own cannot address these deficiencies. It is for the network of Health Services Academies, and the Provincial and District Health Development Centers in the country to proactively take upon themselves the challenge, and use this Manual in developing capacity for health planning in the districts. The Provincial Health Departments should facilitate these institutions in their effort to develop capacity for health planning in the districts.

The Manual is the outcome of the effort of the Multi-donor Support Unit (MSU) that has been working for the strengthening of the District Health System in Pakistan for almost two years. I would like to express my appreciation of the MSU for developing this manual on District Health Planning, and hope the Manual would be used extensively for developing district health plans that bring about a tangible improvement in the health services and eventually the health status of the population.

Ejaz Rahim
Secretary
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Preface

The capacity development need of district health managers has never been in dispute. The establishment of Local Governments has brought this need to the forefront. District managers are now expected to play a more proactive role in the development of a district than they have ever done before. Managers would be expected to plan, budget, implement, and monitor activities that have a direct or indirect bearing on health in their respective districts.

Under the Local Government set up, District Health Managers and the District Health Management Teams would be required to develop District Health Plans based on an appropriate Situation Analysis of the District Health System. These plans would assist the managers to prioritize problems, set realistic objectives and targets, select the appropriate strategies and interventions, spell out the activities to be undertaken, and give a budget and sources of financing for effective implementation of the plan. If institutionalized, District Health Plans would also facilitate the process of monitoring and evaluation of health related activities in the districts. Currently, such planning is not taking place in the districts.

The **"District Health Planning Manual: Toolkit for District Health Managers"** has been developed to assist the Executive District Officer (Health) and the District Health Management Team to develop District Health Plans. This Manual is the outcome of the effort of the Multi-donor Support Unit to contribute to the capacity development of District Health Managers in the area of health planning for strengthening the District Health System under the Local Governments.

This Manual has been adapted from *"Planning for Health Services in the Districts", by A.A. Kielmann; S. Siddiqi; R.K.N. Mwadime; German Agency for Technical Cooperation (GTZ), Health Services Academy Islamabad, Pakistan; University of Nairobi, Kenya*. The Multi-donor Support Unit acknowledges the authors for giving permission to adapt the manual for use in Pakistan. The effort of Dr. Tayyab Imran Masud, Consultant, MSU, in the adaptation of this Manual is also acknowledged.

It is hoped that this Manual would be used by the district health managers in developing District Health Plans and contribute to improved capacity for planning, implementation, monitoring and evaluation of health programs in Pakistan.

Jahed Ur Rahman
Chief
Multi-donor Support Unit

From the Authors

The **"District Health Planning Manual: Toolkit for District Health Managers"** has been adapted, from *"Planning for Health Services in the Districts", by A.A. Kielmann; S. Siddiqi; R.K.N. Mwadime; German Agency for Technical Cooperation (GTZ), Health Services Academy Islamabad, Pakistan; University of Nairobi, Kenya*. The original manual was the outcome of courses on Health System Analysis and District Health Planning, that have been taught over a decade in the Master of Public Health Programmes at the University of Nairobi, Kenya and the Health Services Academy, Islamabad. The adapted version has been developed by the Multi-donor Support Unit (MSU) to assist District Health Managers in strengthening their capacity for planning of health services in the districts. We encourage, and at the same time acknowledge the effort of the MSU to adapt the Manual for use in Pakistan.

The Manual provides a step-by-step guide to district health planning. However, we strongly recommend that District Health Management Team under the chairmanship of the Executive District Officer (Health) participate in a Planning Workshop to acquire an in-depth understanding of the process of District Health Planning. The Planning Cycle has 11 steps, while the first six have to be followed in the same order, the district planners can be more flexible with the next five.

It is important that Policymakers, as well as, Health Managers see District Health Planning in the context of the iterative process of Health System Review that gives the Situation Analysis, development of a District Health Plan, Plan Implementation, and its Monitoring and Evaluation, instead of a 'stand alone' activity of an academic nature. It is through this approach that the process of planning can become institutionalized in the districts and, at the same time bring about an improvement in health services.

The approach to District Health Planning followed in this Manual is meant to complement planning at the provincial or national level instead of replacing it. It is recommended that the preparation of the district health plan should be aligned with the Budget Cycle of Local Governments, so that the plans are adequately budgeted and have a realistic possibility of being implemented.

Finally, the Manual is not the last word in District Health Planning. The authors welcome comments from the users of this Manual, as this is an important source of feedback to continually improve and make it more relevant to its users.

A A Kielmann
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Acronyms

AIDS	Auto Immune Disease Syndrome
ANC	Ante Natal Care
CBR	Crude Birth Rate
CDR	Crude Death Rate
CFR	Case Fatality Ratio
CPR	Contraceptive Prevalence Rate
CSMR	Cause Specific Mortality
DHMT	District Health Management Team
DHQ	District Headquarters Hospital
DHS	District Health System
DOTS	Directly Observed Therapy Short course
EDO	Executive District Officer
EIP	Essential Intervention Package
EPI	Expanded Programme on Immunization
FP	Family Planning
HCDS	Health Care Delivery System
HE	Health Education
HMIS	Health Management Information System
IMR	Infant Mortality Rate
IUD	Intra Uterine Device
KAP	Knowledge Attitude and Practices
LHV	Lady Health Visitor
M&E	Monitoring and Evaluation
M&O	Management and Organization
M&S	Monitoring and Supervision
MICS	Multiple Indicator Cluster Survey
MMR	Maternal Mortality Rate/Ratio
MO	Medical Officer
NGO	Non governmental Organization
NPFP&PHC	National Programme for Family Planning and Primary Health Care
POL	Petrol Oil & Lubricants
THQ	Tehsil/Taluka Headquarters Hospital
U5MR	Under Five Mortality
UNDP	United Nations Development Program
UNICEF	United Nations Children's Fund
WHO	World Health Organization
ZOPP	*Ziel* (Objective) Orient Project Planning

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Section 1

1. District Health System and Devolution

1.1. District Health System

As defined by the World Health Organization, the **District Health System (DHS)** is a more or less self-contained segment of a national health system, which includes all the institutions and individuals concerned with the improvement of health.[1] As a decentralized part of a national Health System, the DHS represents a manageable unit, which can integrate health programs by adopting top-down and bottom-up planning, and is capable of coordinating government and private sector efforts. It can identify inequities in the sector and target them for action. Furthermore, it is the minimum level at which joint inter-sectoral action is possible and community participation more feasible. The three main criteria used for defining a DHS unit are:

i. A clearly defined area with local administration and representation of different sectors and departments;
ii. An area which can serve as a unit for decentralized inter-sectoral planning of health care; and
iii. A network of health facilities with referral support.

The districts are uniquely placed at a level where they are in a position to maintain a vertical relationship with higher management levels, horizontal relationship with other local departments and an external relationship with the communities and organizations they serve. Whereas the infrastructure for developing an effective **District Health System (DHS)** exists in all provinces of Pakistan, it has, so far, not been fully exploited.

The district is the basic administrative unit in Pakistan, which has been further reinforced with the establishment of elected Local Governments under the Local Government Ordinance 2001. The presence of district managers and supervisors led by the **Executive District Officer (EDO) Health** (District Health Officer under the previous setup) offers the opportunity to function as an effective team with support from the representatives of the other departments, the NGO and the private sector, as well as the community. Such **District Health Management Teams (DHMT)**[2] have recently been established in several districts of the country to function effectively as a team under the Local Governments.[3] One of the important functions of the DHMT is to prepare District Health Plans. Devolution offers the opportunity to improve health services

[1] Declaration of the Harare Conference on Strengthening District Health Systems based on Primary Health Care WHO. 1987 for the complete definition see Annex.
2 The District Health Management Team (DHMT) is an administrative body for all health matters in a district. It is a multi-disciplinary team with a wide range of functions.
3 Multi-donor Support Unit. Guidelines for Establishment and Operationalization of District Health Management Team; April 30, 2001.

delivery through bringing the decision-making closer to the actual beneficiaries of the system.

1.2. Devolution

Local Governments have been established to devolve power and responsibility to all districts of the country from August 14, 2001, under the SNPB Local Government Ordinance 2001.[4] The purpose of this Ordinance is to establish good governance, make service delivery more effective and decision-making more transparent through institutionalized participation of the people at grass-roots levels. Devolution of authority and responsibility to the district offers an opportunity as well as challenge for strengthening District Health Systems for the delivery of quality health services that are accessible, efficient, and equitable.

Devolution is a form of Decentralization in which responsibility and authority is transferred from central offices to **separate administrative structures** still within public administration, such as an elected Local Government. The box below presents a brief definition of decentralization, its potential benefits and its various types.

Decentralization has been defined as, "The transfer of authority and responsibility for public functions from the central government to subordinate office or quasi-independent government organizations".

Decentralization can be considered under:

- **Deconcentration** – which is the shifting power from the central offices to peripheral offices **of the same administrative structure** e.g., provincial department of health and its district offices;

- **Delegation** – in which responsibility and authority is shifted to a **semi-autonomous organization** e.g., Board of Governor's of an autonomous hospital;

- **Devolution,** shifts responsibility and authority from the central offices (MoH/MoPW/DoH/ DoPW) to **separate administrative structures** still within public administration such as an elected Local Government. They may raise their own revenues and have independent authority to make investment decisions.

Decentralization is **expected** to improve the health sector performance through:

- Improving allocative efficiency;
- Improving production efficiency;
- Service delivery innovations;
- Improving quality, transparency, accountability, legitimacy;
- Bringing about more equity.

[4] National Reconstruction Bureau. The SNBP (Sindh, NWFP, Balochistan, Punjab) Local Government Ordinance, June 30, 2001.

An important reason, among others, for poor health services delivery in the districts is the lack of capacity among district health managers to prepare district plans, inadequate use of information for informed decisions, failure to provide supportive supervision, to involve communities, and to effectively function as a coherent management team.

1.3. Purpose of the District Health Planning Manual

Under the Local Governments the district managers in health shall perform several functions, which were either being done for them by their provincial counterparts or were not being done at all. Among these, an important function is the development of district health plans, strategic as well as operational, use of information for preparing these plans, plan implementation and its monitoring and evaluation.

This manual has been developed in response to the capacity development needs of the district managers and the District Health Management Team in the area of **District Health Planning**. The purpose of this Manual is to enable the District Health Management Team (DHMT) to:

- **Correctly identify community health needs and priorities;**
- **Systematically assess the health care delivery system;**
- **Define appropriate interventions based on identified problems;**
- **Ensure equity in the distribution of services among the population;**
- **Coordinate on-going health care activities, including 'priority' programs at the district level;**
- **Determine resource requirements with respect to various plan components, and make efficient use of new and available resources.**

Section 2

2. Health System: Conceptual Framework

Several models of the Health System have been developed to illustrate the various components, functions, goals, and objectives of the health system. Each model demonstrates different aspects of the system. No model is universally accepted as a perfect model. Two Health System Models are presented here. The first is based on the **System Approach** and shall be discussed in some detail, as it forms the basis for this Planning Manual. The System approach is an effective analytical framework for the solution of problems and consists of six essential elements: identification of the problem, definition of objectives, examination of alternatives, evaluation and selecting solutions, integration of solutions and implementation, and the use of feedback through out the process. The second model has relatively recently been proposed by the World Health Organization, and is the theme of the millennium **World Health Report 2000 on "Health System: Improving Performance".**[5] Whereas, these two models do not contradict each other in any manner, the latter provides a comprehensive macro-policy framework for evaluation and comparison of overall functions and objectives, while the former is more apt for use at the micro-implementation level.

2.1. Health System Model –System Approach

The health system model based on a System Approach illustrates the three important elements of a district health system[6] - the community, the health care delivery system, and the environment in which the other two are located. The three elements may be visualized as three concentric circles with the **environment** forming the outer circle, the **community** the inner and the **health care delivery system** interspersed between the two (Fig 1).

The three elements are highly interdependent. The environmental ecology, that is, its socio-cultural, demographic, economic and political surroundings largely determine health problems and health needs of the community, and exerts a major influence on the nature, volume and quality of health service availability. The extent to which the community is involved with health care, influences health problems and health needs, on the one hand, and the nature and quality of the health services delivery system on the other. And lastly, the community largely determines the socio-cultural milieu and exerts a considerable influence on the physical environment.

If the Health Care Delivery System (HCDS) is to optimally serve the community within the given ecological setting, there must be a close 'fit' between these three elements.

[5] World Health Organization (2000) The World Health Report, Health Systems: Improving Performance, WHO, Geneva.

[6] Kielmann A.A; Siddiqi S.; Ngolo R.M. Planning for Health Services at the District. A Manual for District and First Level Care Facility Managers, GTZ, Health Services Academy, Islamabad, and University of Nairobi, Kenya (Unpublished document), 1997.

Health planners must, of necessity, consider the health needs of the community, the community's ability and willingness to participate with implementation of a HCDS, special constraints and conditions imposed by the ecology, as well as the effect the community exerts on its physical surroundings.

Figure 1: The Health System

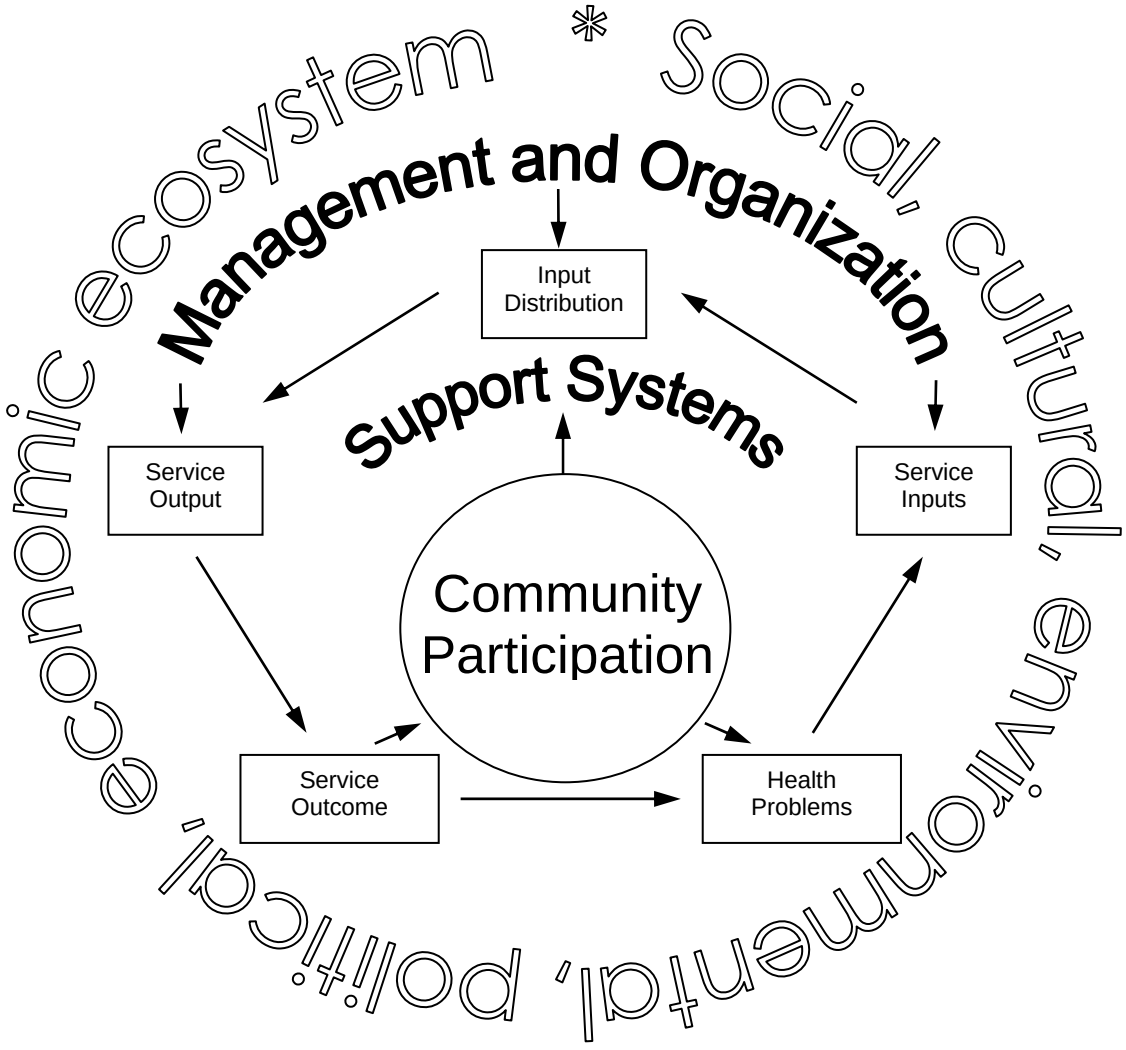


Figure 1 shows these three major elements together with the essential components comprising the Health Care Delivery System. Careful review of all of its elements constitutes a **System Review.** This together with the ensuing analysis and interpretation - referred to, as **Situation Analysis,** is one of the most important steps in the health planning process.

2.1.1 Ecosystem and Environmental Factors

This is the outermost circle of the model and comprises of all **Ecosystems and Environmental Factors**, which have an influence on the health system whether direct or indirect. Included, but not limited to these are, for instance the cultural, climatic, economic, geographic, political, and social settings the community lives in. These factors largely determine the nature of Health Problems and Health Needs, as well as the ways and means the community deals with them. For instance, it is very important to take into account the literacy level, social and cultural acceptability of proposed services, as well as the economic and political situation of the district when planning health service interventions.

2.1.2 Health Problems and Needs

At the lower right hand corner of this figure are Health Problems, Health Needs. These lie at, and must form, the basis of any health care delivery system. By definition, **Health Problems** are objectively verifiable (e.g. through epidemiological means) physical or mental conditions that reduce the quality, productivity or length of life. For the purpose of Health System Analysis, Health Problems may be all-inclusive or be limited arbitrarily to a defined condition, such as e.g. HIV/AIDS. **Health Needs** are problems identified and verbalized by health professionals, by other individuals or by the community.

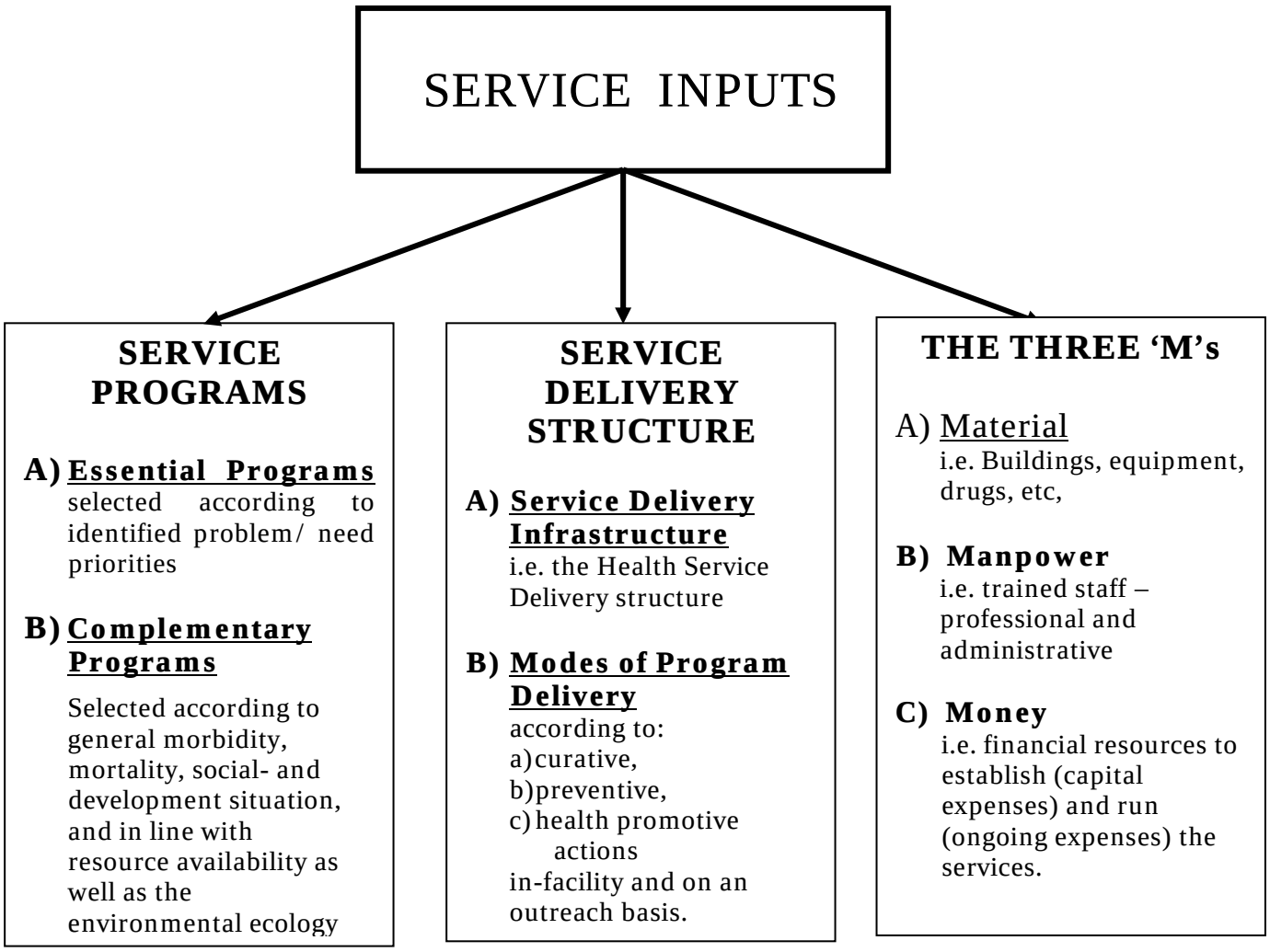
2.1.3 Service Inputs

Service Inputs are the individual program components of the health care delivery system, the infrastructure required to run the services and service programs, and the service delivery structure that is the way the services are set up. Among the first are specific services, such as for instance reproductive Health, Child Health, Outpatient (curative) Services, etc. Among the second are the three “Ms”, that is the Material Infrastructure (physical infrastructure including facilities, functional equipment, essential drugs and sundries), Manpower (or human resource – the various categories of trained staff), and Money, that is financial resources from various sources. Among the last are the modes and modalities of service delivery. These three elements are shown in Figure 2 below.

Assume a situation where high maternal morbidity and mortality, and high child mortality because of Diarrheal Disease, Acute Respiratory and Neonatal Tetanus have been identified as priority problems. Service Inputs then must, of necessity, contain a

program of *Reproductive Health Care*[7], a solid *Tetanus immunization* program, such as one for all women 15 years and older, and *Diarrhea Disease* and *ARI Control* Programs. The combination of such *minimal* interventions is commonly referred to as an ***Essential Intervention Package*** **(EIP)**.

Figure 2: The Nature of Health Service Inputs



[7] The precise content of such RHC would need to be defined in terms of specific services offered (e.g. prenatal care, natal care, postnatal care, Family Planning), their frequency and their mode of delivery.

2.1.4 Service Distribution

Service Distribution refers both to accessibility of such EIPs, i.e. from geographic, economic and social points of view, and their availability, in terms of function, minimally required infrastructure and resources. In other words, for services to be effective, the population must have ready access to them during most of the day, year round. Ideally, all members of the community should be able to afford this EIP, and the services must conform to their social customs and norms. Last not least, the services offered must adhere to standards of quality, i.e. be functional, to exert the desired effect.

2.1.5 Management & Organization

Management & Organization is responsible for ensuring both integrity and functionality of the entire health care delivery system. As such, all of the system's components and subcomponents, i.e. its ***Management Areas*** have to be covered by an appropriate ***Management Plan***. Efficient management & organization is essential for translating service inputs into the desired service outputs. As such, M&O serves as a 'lubricant' for the smooth functioning of the health care delivery system.

2.1.6 Support Systems

Support Systems include all those management and support structures and systems that are essential for health services to be established and to become functional. Among these systems are the transport, management information, repair and maintenance, drug and contraceptive supply, finance and budgeting, in-service training, and other important and necessary sub-systems. In the health systems model, these support systems closely relate to health service Inputs, as their functionality is essential to make health services accessible and of acceptable quality.

2.1.7 Service Outputs

Service Output refers to the number, frequency and quality of activities necessary to implement a given service program (service or administrative). In the above example, the number of pregnant women seen, the average number of prenatal visits per woman, and the number of tetanus immunizations given are indicators for Service Output. So are the number of packages of oral rehydration salts distributed, the number of children with ARI referred, the number of supervisory visits held, the number of health education talks given, the number of home visits made in a given unit of time. The number alone does not suffice to assure the desired effect. The right frequency of specific service activities as well as the quality of their execution is equally necessary to bring about the desired effect.

2.1.8 Service Outcome[8]

The service outputs logically lead to intermediate[9] effects, such as a change in knowledge, improvement in immunization status, which have been designated, as service outcomes in this model. Without such "service outcomes" there is little chance that the ultimate service objective, also referred to a Service Impact – e.g. reduction of a health problem – may be reached. **Service Outcomes**, hence designate intermediate results short of reaching the main, or principal objective. In our example above, covering 85% of women with reproductive health services and an equal proportion of females above 15 with tetanus immunization are desirable service outcomes. While it does not necessarily imply that the main objectives have been reached (reduction of maternal mortality and morbidity, and of neonatal deaths due to tetanus), they represent essential "milestones" towards that goal.

2.1.9 Impact

The term 'Impact', in turn designates the extent to which the main or principal objectives have been reached, and is indicative of the change in the health status that has been brought about by a specific intervention. In the health system model, **Impact** is best represented by the box on **Health Problems,** and ultimately reflects on the health status of the community, by measuring such indicators as the Maternal Mortality Ratio, Peri-natal mortality rate etc.

2.1.10 Community Participation

At the center of the system stands ***Community Participation***, without which services will not reach their full potential. Community participation/ involvement is reflected in the extent that the community:

- ***Organizes*** itself to address its health problems with participation of the vulnerable groups;
- Expresses its problems and needs, and contributes to the establishment of Health Problem Priorities through ***Health Need Verbalization*** (Demand for Services);
- Supports and contributes to, the implementation and running of services through mobilization of community resources. This process is referred to as ***Health Care Contribution***;
- Make use of the services offered in terms of ***Health Service Utilization***.

Service inputs, its support systems, input distribution and service outputs together with health service ***Management and Organization*** make up the ***Health Care Delivery System (HCDS).*** Appropriateness (to health needs) and quality of the HCDS will influence ***Service Outcome***. Service outcomes are the desired effects, which have major influence on the final result, the ***Impact***. The surrounding ***Ecosystem*** influences all components of this "*Wheel of Events*".

[8] In literature Impact and Outcome have been used interchangeably, however in this manual a distinction will be maintained between the two.
[9] i.e. before the main or principal objective – the Impact – may be reached.

Illustrative Example of a Hypothetical District Health System

In a predominantly rural "Tara" district, maternal mortality at 600 per 100,000 live births is very high and is a major Health Problem. For this (health) problem to become a health need requires it to be recognized by the community, the health care providers, or the society at large. In response to expressed health needs, one or several specific **Service Inputs**, one of them for instance, antenatal care is being put into effect. To carry out antenatal care, requires a minimum of resources, such as: well trained personnel, equipment (e.g. a weighing scale, fetoscope, etc.), drugs (e.g. iron and vitamin pills, tetanus toxoid, etc.) and educational materials. So that most pregnant women can avail themselves of antenatal care, service inputs should be accessible (**Service Distribution**) at no more than maximally ½ hour's walk. Services must also be available regularly and at all times convenient to members of the community, but especially to mothers. At all stations delivering services, the number of service activities, that is, **Health Service Outputs** must be sufficient in terms of quality and quantity before they may exert any beneficial effect. In other words, if 20,000 women are pregnant, and we wish to reach at least 40% of them, 1600 tetanus toxoid injections – minimally 2 per pregnant woman - should be administered. Each woman should have been seen at least 3 times – i.e. a total of 24,000 visits – before delivery. At the time of delivery, solid advise on the spacing of future pregnancies should be an integral part of the services provided. For these activities to be carried out requires the presence and functioning of a basic **Support System**, such as transport, regular drug and sundry supply, a record system as well as a maintenance-and-repair system that keeps the physical infrastructure and equipment operational. It is the responsibility of the **Management and Organization System**, to see to it that all components so far described are in place are functioning and that records are being kept that will allow continuous monitoring of the entire process. For this purpose an ongoing, regular supervision program needs to be operative that determines whether these 8,000 women indeed avail themselves of the services, whether the services are given in the right quantity and at times convenient for the consumer. The program also has to ensure that services are of high standard, and determine how many women, if any, may need specialized care for their delivery. Individual health workers found not to match up to standards will need to be retrained-in the course of in-service training and where necessary reprimanded and held accountable. The proportion of our 20,000 women effectively covered by antenatal care, that is, who were seen 3 times, received tetanus toxoid and have been checked for their height, weight, blood pressure and hemoglobin status, is a **Service Outcome** ultimately affecting maternal mortality. Unless the village community accepts and supports these services, and expresses its demand for specific services, such as by availing themselves of them, none of our activities thus far described will have any effect. Utilization of services by members of the community is an excellent proxy-indicator of both the demand for health services, and the trust and confidence the community puts in the formal health sector, but it alone does not necessarily reflect **Community Participation**. Expressing their wishes with respect to the nature of health services and their mode of delivery, assisting with service delivery, such as for instance, selecting village women to be trained in safe delivery practices, and contributing to the cost of antenatal services are complementary measures. The specific **Ecosystem** in which our community is embedded will affect all the above aspects. Geography may determine the presence of malaria, a main cause of pregnancy wastage. The state of economy will determine the extent to which services can be provided both qualitatively and quantitatively, as well as whether health workers can be trained well, supervised well and given-in service training.

Lastly, if in our example political or tribal considerations rather than sound public health guidelines and determine project inputs, such as in the selection and appointment of health personnel, the quality of the antenatal care program may well lag behind its potential.

2.2. Health System Model – Functions and Objectives

The theme of the millennium World Health Report 2000 is "Health System: Improving Performance ". The report defines Health Systems as comprising all the organizations, institutions, and resources that are devoted to producing health actions. A Health Action is defined as an effort, whether in personal health care, public health services or through inter-sectoral initiatives, whose primary purpose is to improve health.

OBJECTIVES OF THE HEALTH SYSTEM

Improve Health Status	• Improve overall health status of the population
	• Reduce morbidity, mortality and disability
Fair Financing	• Financial protection from the cost of ill health
Responsiveness to clients	• Dignity, confidentiality, autonomy of clients
	• Prompt attention, quality of amenities, access to social support networks and choice of provider

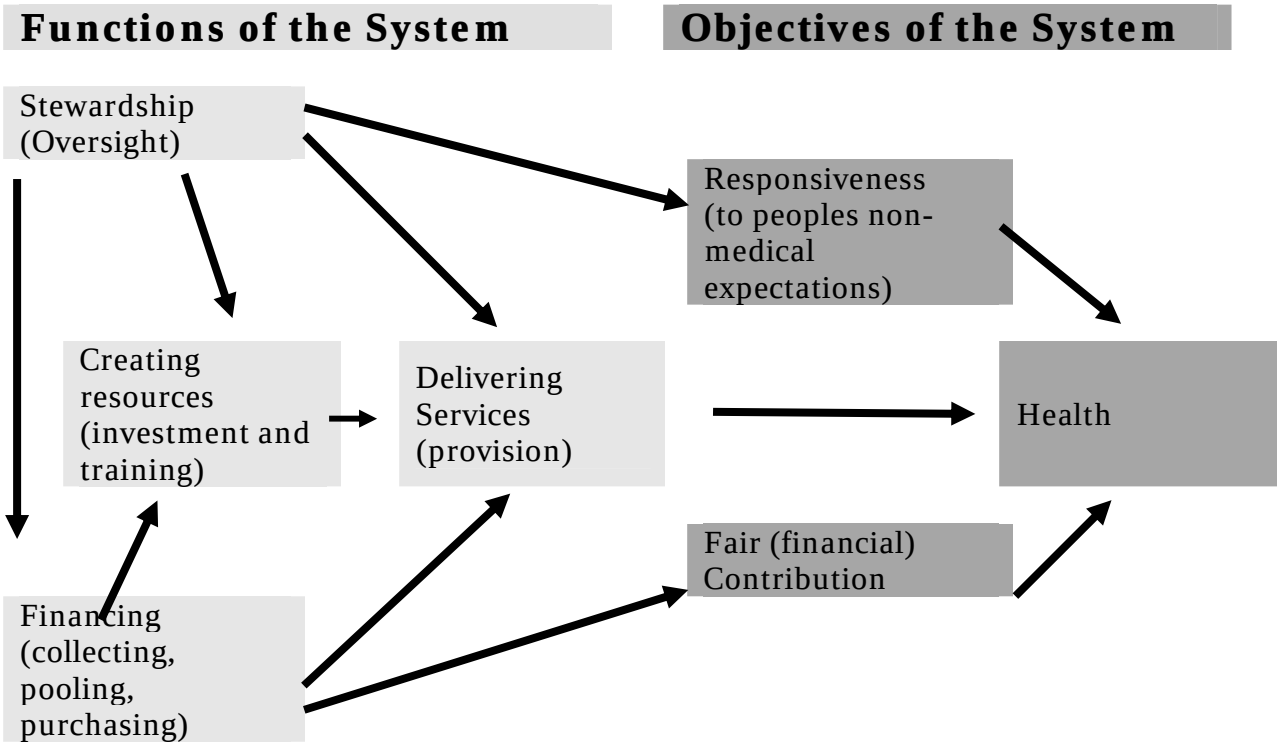
The Overall Objective of the health systems has traditionally been to Improve Health Status of its population. While this is and shall remain the primary objective of any health system, it is now being recognized that it is also extremely important to determine how Fair and Responsive the health system is to its clients and users. Fair Financing in health systems means that the risk each household faces with respect to costs towards its health care is distributed according to the ability to pay rather than the risk of illness. A fairly financed system ensures financial protection to every one. Responsiveness of health systems is a measure of how the system performs relative to the non-health aspects of the expectations of its clients and users. Responsive health systems ensure respect for the dignity and autonomy of patients and are oriented towards the satisfaction of its clients.

The health system can achieve these goals by performing certain **functions** (Figure 3). The World Health Report 2000 proposes four **functions** of the health systems to achieve its **objectives**. These functions include:

Functions of the Health System

- **Provision of health services**
- **Raising, pooling and allocating revenues to purchase those services**
- **Investing in people, buildings and equipment**
- **Acting as the overall stewards of the resources, powers and expectations**

Figure 3: Functions and Objectives of the Health System



2.3. Relevance of the Concepts of the Health System to the District Health Managers

The purpose of presenting the two models is not to confuse the district health managers but to clarify the expected roles that they have to fulfill in a devolved setup. The first model, based on the system approach, enables the district manager to systematically review and analyze the strengths and weaknesses of the health system, based on the priority problems identified in the situation analysis, and to develop a district health plan. **This approach will be followed right through this Manual.**

The WHO model based on objectives and functions adds a new paradigm of not restricting the district health manager to their traditional function of providing health services and achieving the objective of improving health status. The new concept of the health systems encourages the district management to play a proactive role to perform all the functions of the health systems and work towards achievements of all its objectives. This role is further reinforced in a devolved set up, where as a functionary of the local government, the district health manager has to function as the steward of the system, generate finances, create human and other physical resources, and provide health services that are better able to improve the health of the population of the district, protect the poor from getting impoverished as a result of ill health, and is responsive to the non-health needs of the clients of the system.

District health managers would thus require competencies and skills that would enable them to systematically analyze the health system and develop District Health Plans that successfully carry out all these functions and achieve the desired objectives.

Section 3

3. Introduction to Health Planning

3.1. Health Planning

Health Planning is the identification and elaboration (within existing resources) of means and methods for providing in the future, effective health care relevant to identified health needs for a defined population.

3.2. Aim and Objectives of Health Planning

The ultimate **aim** of health planning is to maintain and improve the health status of a given community. This is achieved through the provision of health services, which are **accessible** (e.g. geographic, financial, social), **effective** (service programs which successfully deal with high priority needs), **equitable** (that those most in need will receive proportionally more care), and of a **quality** to ensure their appropriate utilization.

3.3. Rationale for Health Planning

There are a number of reasons for the health planning process. The most common are:

- **Planning for delivery of effective health services to the population within the resources provided;**
- **Translation of a 'new' policy statement into strategic plan and subsequently an operational plan (Table 1);**
- **Translation of a 'master plan', such as a national (macro) plan into a regional or district (micro) plan;**
- **Re-planning on the basis of an already existing plan for the purpose of reviewing existing health problems and needs and rendering services more effective and efficient;**
- **Emergence of a 'new' problem or a problem configuration hitherto not recognized or paid sufficient attention to;**
- **De novo planning of health services for a population or community where no organized health care delivery system as yet or where an existing one is being extensively revised or re-organized.**

Table 1: The Sequence from Policy Formulation to Program Implementation

Action	Level, Location
Verbalization of (health) Needs Communities ⬇	**Political, Communities**
Policy Formulation ⬇	**Political, Central**
Policy Statement ⬇	**Technical, Central**
Macro (national) Plan Development ⬇	**Technical, Central**
Micro (district) Plan Development ⬇	**Technical, District**
Management System Development ⬇	**Technical, District**
Plan Implementation (plan of operations)	**Technical, District**

3.4. Types of Plans

Notwithstanding the basic definition of Health Planning, plans can be of various types. Any planning process should address the six basic questions – What and Why, that give us a sense of direction and vision for achieving our objectives; whereas, How, When, Where and Who show us the process of achieving these objectives. The first is more "strategic" and the second more "operational". While mutually not exclusive, various types of plans focus on various aspects of policy and implementation aspects of health care delivery. Thus, plans can be prepared for specific projects, programs, interventions, or they can be for all of the activities of the system for a defined period of time. The various types of plans are further illustrated below.[10]

i. **Strategic plan**- Document outlining the direction an organization is intending to follow, with broad guidance as to implications for service action;
ii. **Operational plan** - Activity plan detailing precise timing, methods and modes of implementation;

[10] Introduction to Health Planning in Developing Countries, Andrew Green.

iii. **Project Plan** – Plan focusing on discrete time related activities to meet specific project objectives, often through an independent implementation unit;
iv. **Program Plan** – Plan focusing on a specific health program such as FP, EPI, Nutrition as an integral part of the regular health care activities;
v. **Capital Plan** – Plan focusing on the capital development of an organization such as its building program.
vi. **Service Plan** – Plan focusing on the services to be provided. In many ways, a Service Plan is similar to a program plan.
vii. **Physical Plan** – Plan relating to construction, equipment, and transport elements.
viii. **Human Resource Plans** – Plan focusing on the human resource requirement and development of an organization or a country.
ix. **Macro-plan** - Plan usually developed at higher-levels, that is national and provincial levels, and usually (but not always) with a longer term, strategic perspective.
x. **Micro-plans** – Plan for services and interventions at the micro, that is regional or district levels, and usually (but not always) with a shorter term, operational perspective.

The characteristics of macro and micro planning are shown in Table 2 below:

Table 2: Characteristics of Macro and Micro Planning

Characteristic	Micro-Planning	Macro-Planning
Allocative Planning	+	++
Activity Planning	+++	+
Long term vision	+	+++
Strategic	+	++
Operational	+++	+
Policy related	++	+++
Management focused	++++	+
Economic Appraisal	+	+++
Level of Implementation	District/Tehsil (Taluka)	National/Provincial

3.5. District Health Planning

District Health Planning contains characteristics of micro- as well as macro-planning, however, it is more akin to the former. Micro-planning, as its name implies, comprises of planning services and interventions at the micro level, that is regional or district levels in detail. As such, it may serve the following purposes, most importantly:

- The development of an implementation plan for adaptation (of an existing macro-plan) to a specific regional/local situation with respect to needs and constraints (t**op-down**); and
- The elaboration of activity packages and support systems that make up the Implementation plan;

Or

- The development of district plans by the local (district governments), which then lead to the development of a 'macro-plan' (**bottom-up**).

Table 3: Example: Strategic Objectives and Operational Activities in a District Health Plan

Priority Problem	**High Maternal Mortality in the District**
Strategic Objectives	**Objective:** • Increase deliveries conducted by trained personnel from 20% to 50% in two years in the district **Strategy:** • Deploy trained midwives in all villages where a trained "obstetrician" is not available • Establish emergency obstetric referral system in the district
Operational Activities	**For Strategy 1** • Conduct 5 training courses of three months for 20 midwives in each course • Weekly monitoring and supervision of each trained midwives in the field **For Strategy 2** • Deploy trained obstetrician and anesthetist in all THQ Hospitals in the district • Arrange for 4 ambulances / transport for early transfer of complicated pregnancies patients to THQ Hospitals • Conduct weekly sessions for social mobilization of the community leaders for early transportation of such patients to hospitals

3.6. District Health Planning in the Devolved Districts

Five Year and Annual Development Plans have historically been prepared at the federal and provincial levels in Pakistan. Districts have been passive recipients of earmarked resources, and planning at the district levels has largely been restricted to preparation of annual budgets. Pakistan follows a rather rigid system of development and non-developmental (or recurring) plans. The principal instrument for the former has been the Planning Commission-1 (PC-1) Proforma and for the latter, the Annual recurring Budget.

Devolved districts have to play a more proactive role in preparing district health plans that incorporate developmental as well as recurring ongoing activities, and complement each other. Districts would thus have to prepare PC-1s for developmental projects and reflect them in district plans. While this Manual does not attempt to cover the subject of preparing PC-1s as it is beyond its scope, the steps involved in District Health Planning generate adequate information to provide adequately prepare PC-1 documents.

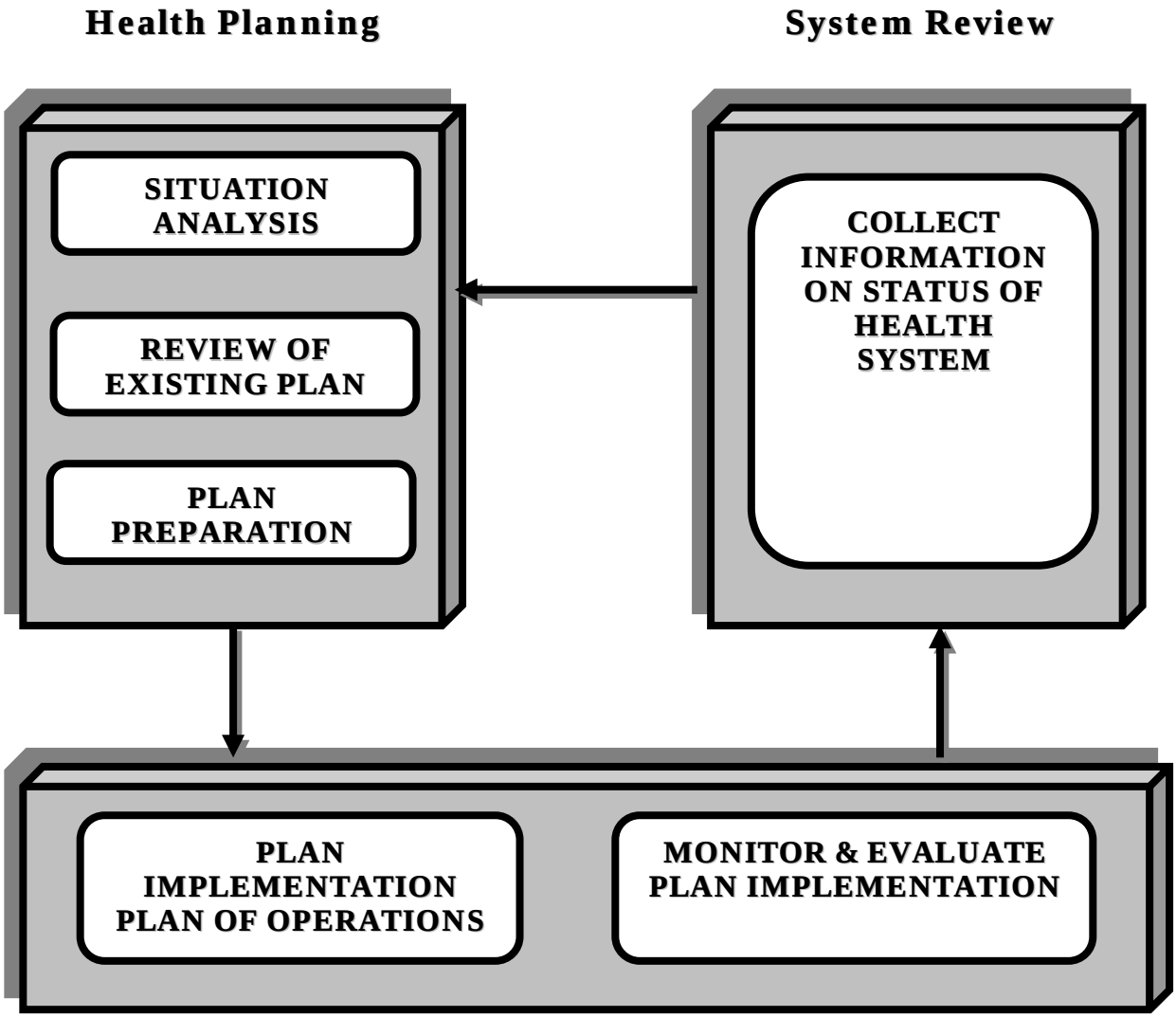
3.7. The Iterative (Cyclical) Process of Health System Review, Planning and Plan Implementation and Monitoring

Given that the primary goal of the health system is to improve health of the population through improvement in health services, where does health planning "fit" in the overall scheme of health related activities of a district? Improvement in health services can best be brought about through an iterative (cyclical) process of Health System Review, Health Planning and Plan Implementation and Monitoring (Fig 5).

During the course of the Health System Review, all relevant aspects of the Health System are examined. This is an on-going process and a major source of information is the Health Management Information System. Additional information, especially at the household level, is acquired through Special Surveys. However, information collection has to be timely and well before the formal commencement of the planning process. Preparation of the Situation Analysis report is the *outcome* of the *process* of System Review whereby relevant information is extracted from the available data and conclusions drawn as to the major health problems, problem priorities, and the underlying and contributory factors. Most important among these are the integrity and functioning of the health care delivery system.

Review of an existing plan, when present, with respect to its relevance and adequacy in the light of the Situation Analysis report, is usually the next step. Plan Preparation then follows, which is the basic theme of this Manual. Once the plan has been prepared, the next logical step is its implementation. Plan Implementation requires preparing a Plan of Operations, which clearly spells out the nature, content, frequency and timing of major management functions. One of these deals with the Monitoring and Evaluation of Plan Implementation.

Figure 4: Iterative Process of System Review, Health Planning and Plan Implementation



Section 4

4. The Planning Cycle

The Planning Cycle (Fig. 5) is a systematic process, which enables managers/providers to determine how resources are used in relation to achieving their goals and objectives. It consists of a series of eleven steps. Whereas the first six steps are sequential and their position should not be changed, the last five steps can be changed according to the needs of the existing situation. A brief description of the steps is as follows:

Step 1: Planning the Planning
To ensure that the Planning process is carried out smoothly, it is imperative that the prerequisites for the planning activity are in place and the issues relating to it resolved.

Step 2: Review of Policy Guidelines
The overall goals and direction set out by the government need to be reviewed, in order to develop plans, which are in tune with overall policy guidelines.

Step 3: Situation Analysis
The *Situation Analysis* is the process of analyzing and interpreting all information available from the various sources of information, on the current situation of the health system of a particular area. The specific purpose is to identify health problems, and of health (service) needs arising as a result of these problems.

Step 4: Review of Resource Availability
This is a preliminary orientation process to assist the planners in developing and selecting intervention strategies that are within the frame of realism and limits of available resources.

Step 5: Development of Interventions
This step identifies and develops the most appropriate interventions and intervention packages (strategies) for existing (health) needs from among a variety of potential interventions.

Step 6: Setting Plan Objectives and Targets
The process of defining what one wants to achieve, within the planned-for period of time, in the light of earlier identified health need priorities and prevailing ecological constraints**.**

Step 7: Determination of Resource Requirements
Identification of resource requirements is the systematic process of translating planned activities into resource needs. The specific purpose is to identify the extent to which existing resources could cover planned intervention packages, and to identify and quantify the need for additional resources.

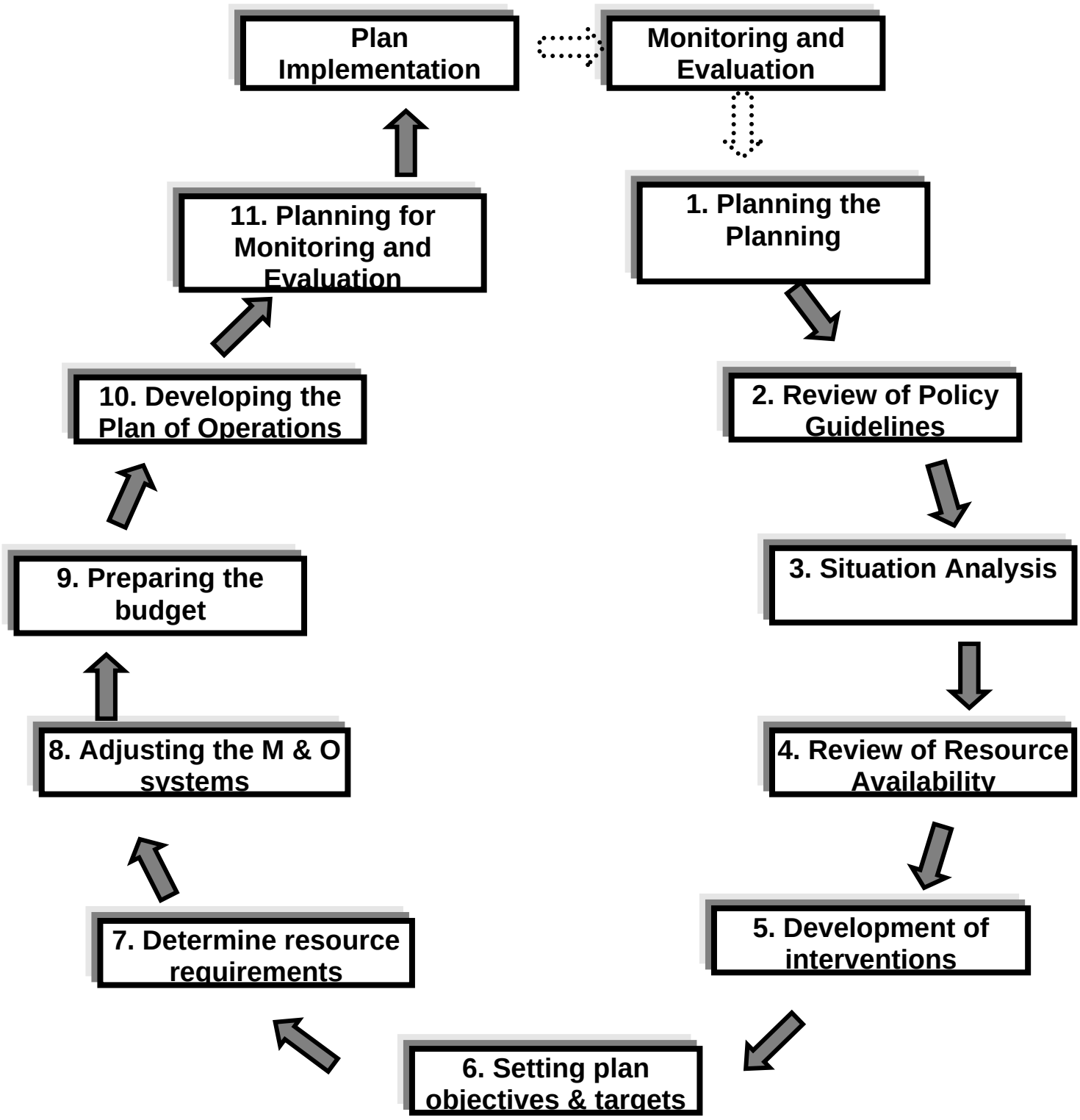
Step 8: Adjusting the Management and Organization System
The Management and Organization (M&O) system is the coordinating center for all health service activities. The main purpose of the M&O system is to ensure maximal efficiency and effectiveness of the health care delivery system. The purpose of this step is to fine-tune the management processes for effective implementation.

Step 9: Preparing the Budget
Preparing the plan budget is the process of translating required inputs, set targets and planned activities into financial requirements . The main purpose of "budgeting" is to identify overall financial needs by plan period, specific program and source of funding.

Step 10: Developing the Plan of Operations
A plan of operations is the (written) summary of the implementation plan specifying main objectives, (expected) results, and activities.

Step 11: Planning for Monitoring and Evaluation
Monitoring and Evaluation (M&E) is a quality-assurance mechanism and forms part of Management & Organization responsibilities. The purposes of M&E are to render health care as efficient and effective as is possible within given ecological and resource constraints**.**

Figure 5: The Planning Cycle



4.1. Step 1: Planning the Planning

What it is: **Planning the Planning stage deals with prerequisites that have to be in place and issues that have to be resolved before the actual planning exercise may start.**

Objective: **The objective of planning the Planning is to ensure that the planning process can be carried out smoothly.**

Before planning can start the planners need to:

4.1.1 Establish the Identity and Position of the Planning Body; i.e. the District Health Management Team (DHMT)

The identity and position of the planning body within the Local Government need to be spelled out or determined before planning takes place. In this case, it is the District Health Management Team (DHMT). Whatever the 'identity' and 'position' of the planning body, lines of responsibility need to be clearly established. To whom, specifically is the planning body responsible? For example, the DHMT will report to the *Nazim* or District Coordination Officer of the Local Government.

The DHMT is an administrative body for all health matters in a district. It is not an elected body, but is constituted by the EDO Health /DHO, who is the ex-officio chairman of the DHMT. In consultation with other district managers, the DHO nominates other members of the DHMT. So as to ensure a systemic approach to health care, i.e. one that takes the environmental ecology and situation into account, a multi-disciplinary management team should be established by the Local Government. The financial and administrative powers of the DHO have been assigned to the DHMT, to make decision making participatory. The DHMT has a **'core'** and **'extended'** team. The **core component** comprises members working within the District Health Office, while the **extended component** includes all other members of the DHMT. An important function of the DHMT is to develop district health plans. For the preparation of a district health plan, the planning body might include:

i. District Health Officer / Executive District Officer, Health - Chairperson
ii. Medical Superintendent DHQ/ Civil Hospital
iii. In-charge District Health Development Center
iv. Assistant/Deputy District Health Officers (all tehsils/talukas)
v. District Coordinator, NP for FP & PHC
vi. District Coordinator HMIS
vii. In-charge MCH/RH Services
viii. District Population Welfare Officer
ix. Representatives of Town/Municipal Committee
x. Representative(s) of NGOs
xi. Representative(s) of District Medical Association
xii. Elected Representative(s) of the community
xiii. Respectable(s) of the community

The DHMT has been established in several districts of the country, especially those being provided assistance by the Multi-donor Support Unit and/or the Women Health Project. The DHMT has yet to become established in the majority of the country's districts. The early experience of establishing DHMTs in several districts has been encouraging. The Multi-donor Support Unit has developed "Guidelines for the Establishment and Operationalization of the DHMTs".

4.1.2 Determine Specific Terms of Reference (ToR) of the Plan

4.1.2.1 What has to be planned?

Within the broad categories of comprehensive program and project planning, we need to know the specific subject of the plan, e.g. adapting the national (macro) plan to the regional (district) situation.

4.1.2.2 What are the specific objectives of the Plan?

For example, is it the reduction of preschool child mortality by a given percentage, or, more generally, provision of health services to minimally 80% of the district population, or to improve the health care delivery service in response to community needs?

4.1.2.3 What is the specific purpose of Planning?

District Health Plans may be required as part of **government policy** (e.g. National Program for Family Planning and Primary Health Care or Polio Eradication campaign) or because **donor** requirements (e.g. Women Health Project) stipulated a plan to have been prepared before funds for an identified program or project can be released.

Considering that the main job of the **'implementer'** is managing the system, the district plan further serves as the basis for developing the management system.

The plan also should form the basis for the **evaluator** – be it the community, the implementers, the donor agency or the government. A plan will greatly facilitate evaluation of health services.

4.1.2.4 Who is the target group?

We need to identify who specifically are we planning for? Is it the total population, women and children, factory workers, etc.

4.1.2.5 For what period of time is the plan?

Is it a short-term project we are planning, or implementation of a 3-year rolling plan?

4.1.3 Identify Resources available for, Timing, Tasks and Responsibilities of, the Planning Exercise

Being overall responsible for the plan, the team leader and the planning team should determine the planning mode, that is, whether to carry out a planning workshop, or as an ongoing process stretching over a longer period of time. In addition, identification

and reservation of secretarial services, availability of all equipment, relevant data, and information that are required for planning need be made available.

4.1.4 Assign Specific Tasks and Responsibilities to each member of the Planning Body.

To optimize the planning process, it is advisable to assign specific tasks and responsibilities to each member of the planning team. Assignment of tasks may be according to the various functions of the Health System in the course of preparing of the Situation Analysis, as well as according to the planning steps.

Specific responsibilities may be as follows:

4.1.4.1 Chairperson

i. Selection and assembly of the planning team who will develop and implement the DHP;
ii. Requesting all planning team members once identified, to start a System Review specific to their sphere of representation or specific area of expertise. **Such directive should be given at least 3 months prior to onset of the formal planning process;**
iii. Looking for and justifying the financial resources to produce the plan.

4.1.4.2 Coordinator/ Secretary

i. Informing each individual member of the team well in advance to allow him/her to obtain release from regular responsibilities;
ii. Ensuring ToR for each member of the team, tentative timetables, and deadlines for tasks to be undertaken. If a combination of individuals, that is, a group shall be required to produce an output, such must be stated in their ToR;
iii. Informing managers and decision-makers well in advance of the exercise. They indeed might well be asked to start and/or close the sessions;
iv. Enable that adequate secretarial services are well in place;
v. Ensuring that all the required background documents and information is available by the time the planning exercise starts.

4.1.4.3 "Core" Members of DHMT shall be responsible for all inputs such as:

i. Identifying policy guidelines as stipulated in the national health policy;
ii. Carrying out a Systems Analysis of health care delivery;
iii. Formulating (or identifying) the minimum service package and resources required;
iv. Determining and ensuring quality and quantity of services in the district in conformity with established standards.

4.1.4.4 Community Representatives are charged with:

i. Providing the ethnographic profile of the different communities in the district;
ii. Identifying and presenting objectives and sub-objectives, health needs and target groups of communities in the district;
iii. Suggesting possible health interventions acceptable to the communities;
iv. Advising the team on best strategies to implement identified programs or interventions, advising on enabling and limiting factors to be expected in the concerned communities;

v. Providing estimates on the resources and contributions to be expected from the communities; and
vi. after the plan is completed, interpreting the plan to the community at large.

The community members can be grouped as:

i. Elected representatives of the community, that is, *Nazim, Naib-Nazim*, Councilors;
ii. Respected members of the community, such as school teachers, *Imams* of mosques, philanthropists etc.;
iii. Community-based health care providers (Traditional Birth Attendants, trained traditional healers), etc.

4.1.4.5 Representatives from the other Departments of the District Government:

i. Planning Office, Agriculture, Social Welfare, Education Departments etc., shall inform the planners on the micro- and macro-policies of the respective sectors which may have influence on the district health plan;
ii. Provide related data and gaps in health related aspects, such as food production, water and sanitation, female education etc.;
iii. They shall also provide inter-sectoral co-ordination and sensitize other sectors on health related activities;
iv. Liaise with higher authorities on decisions likely to affect the implementation of the plan, that is, financial, personnel and support systems that depend on the local government administration;
v. In addition they shall advise and participate in the scheduling of health and health related activities in the district.

4.1.4.6 Representatives of NGOs should offer their suggestions with respect to:

i. How 'specific programs' may be better integrated with and coordinated within the district's health plan;
ii. Stating, as much as possible, their policy and limitations of operation;
iii. Submitting their plan for the coming year in order to have it synchronized with, the district plan. This will prevent duplication of programs or gaps in the health service delivery system;
iv. Identifying areas in which they can collaborate with the government services, such as in capacity building, contracting out services for specific tasks etc.; and
v. Like all other partners in the community development effort, providing health data and information from their catchment areas.

4.1.5 Evaluating the Planning Process and the Prepared Plan

Any activity drawing on public funds and their products needs to be evaluated. The process of planning, needs to be monitored and the product, that is the plan, evaluated. The objectives of such process are to determine:

i. To what extent the new plan fits the needs;
ii. Whether the interventions planned are indeed feasible, effective, efficient and are targeted at vulnerable groups;
iii. Whether the planning itself achieved its objectives, namely development of the plan, within earlier set limits of time and resources.

4.2. Step 2: Review of Policy Guidelines

What it is: **Review of Policy Guidelines is the process of familiarization with (government) directives and conditions that prevail and must be followed in the preparation of district plans.**

Purpose: **The purpose of such review is to ensure that the district plan is in line with the national or provincial policy guidelines, and that the latter are being translated into appropriate actions. It also helps to secure earmarked resources for the district plans.**

Despite establishment of devolved governments at the districts, planners need to:

4.2.1 Review National and Provincial Guidelines

Carefully **review central policy guidelines** governing the development of the implementation plan in terms of:

i. What programs are to be provided;
ii. What, if any, new or novel means of implementing these programs are used; and
iii. What specific constraints, rules, and regulations have to be followed in this process

4.2.2 Review Provincial Programs

For which of the priority programs, have the provincial governments earmarked **block allocations** and what is the time-frame of resources available for implementation of the plan in terms of developmental and operational activities.

Only in exceptional circumstances should provincial policy guidelines be overlooked. For instance in the case when an **emergency plan** is being developed for an epidemic such as the Crimean-Congo Hemorrhagic Fever epidemic in northern Balochistan. However, if these epidemics occur with some regularity these should become part of the policy guidelines and subsequently, the district plans.

Example: Provincial Guidelines Translated into District Plans in the Priority Area of Reproductive Health

Reproductive Health Package approved with the consensus of the federal Ministry of Health and Ministry of Population Welfare and endorsed by the Provincial Governments in 1999.

Nine Components of the RH Package identified with four Priority Areas

- ***Safe Motherhood***
- ***Family Planning***
- ***Sexually Transmitted Infections***
- ***Infant Health***
- Other Reproductive Health Problems of Women
- Reproductive Health Problems of the Adolescent
- Reproductive Health Problems of the Male
- Detection of Breast and Cervical Cancer
- Infertility

Current (and New) Public Sector Programs and District Plans / Activities have been (are being) developed in line with Priority Areas Identified

- National Program for Family Planning and Primary Health Care
- Family Planning Program
- Regular MCH services of the Government

- Women Health Project
- Reproductive Health Project (in the pipeline)

4.3. Step 3: Situation Analysis

What it is: **The *Situation Analysis* is the process of analyzing and interpreting all information available from the various sources, on the current situation of the health system as it prevails within the specific geographic area under consideration**.

Purpose: **Specific purposes of the 'Situation Analysis' are:**

- To identify health problem and health (service) needs arising as a result of these problems;
- To determine causes and circumstances underlying problems in the health situation as well as with the delivery of health services;
- To assess availability and adequacy of resource in the light of health service needs; and
- To identify gaps and weaknesses in the health care services, in line with health problems and service needs.

Initial problem diagnosis is one of the most important, yet neglected parts of health planning. **Problem diagnosis should be the basis of any plan**. However, frequently, planning is done largely based on poor information, on assumptions, or even, based on personal bias, special interest, or preference. Only if results from ongoing surveillance or surveys are not available, should experience-based information be the basis for planning.

The Situation Analysis consists of a descriptive and an analytic part. The **descriptive** part describes the situation as it is at present. This helps in assessing the magnitude of the problems, which, in turn helps in prioritizing the problems. The **analytical part** deals with the factors that determine the existing situation, and is used subsequently for developing appropriate interventions.

Situation Analysis of Contraceptive Use by Eligible Couples

Descriptive Component

- Contraceptive prevalence rate for all and for modern methods
- Types of contraceptives used by couples
- Unmet need for contraceptives

Analytic Component

- Knowledge about contraceptives among men and women
- Decision-making about use of contraceptives
- Contraceptive use by location, education, socio-economic status etc.
- Available Sources of contraceptives, their cost

4.3.1 Sources of Information for Situation Analysis

4.3.1.1 Vital Statistics

Information such as births, deaths, ages and causes of death, and at times, marriage and age at marriage may be available. In Pakistan, local administrative offices (Union Council Offices) are being used to record vital events. However, the quality and completeness of records is highly questionable.

4.3.1.2 Census

Provides information mainly on population size and distribution by age and sex, in addition it may also provide information about recent births and deaths in a household, causes of death, specific morbidity, and disability/invalidity prevalence. The last census in Pakistan was done in the year 1998, and the Census Commission of Pakistan has made available district census reports for all districts of the country. The census lacks information on vital statistics and only a few can be inferred from the census reports.

4.3.1.3 Health Information Systems

Several Health Information Systems (HIS) operate in the districts. The most elaborate is the facility based Health Management Information System. Others are part of various priority programs – EPI, Tuberculosis, Malaria, and NPFP&PHC. These information systems are primarily facility based and do not lend themselves to determine Incidence, Prevalence and Disability rates. However, the NPFP&PHC information system has the advantage of being a community based information system and has the potential to provide information on important outcome indicators such as IMR, MMR, and CPR etc.

4.3.1.4 Hospital Records

All public hospitals maintain records, which have information on outpatients, inpatients, and emergency services provided as well as matters pertaining to personnel, financial and physical resource use and management. These records are often incomplete and of poor quality and not necessarily part of a formal hospital information system, Nevertheless, they are an important source of information while reviewing the health system.

4.3.1.5 Health System Review, also called Health System Analysis[11]

Health System Review is the systematic examination of the health system, that is, the community and its health problems and problem priorities, the health service delivery system, and the surrounding ecology, which largely influences and determines health problems and community responses. It utilizes information generated through various information systems, facility records and, also relies on information generated through direct observation and interviews of various stakeholders of the health system.

4.3.1.6 Special Surveys in the Field

Household or community based cross-sectional surveys are done to collect information on various health issues such as EPI coverage, use of family planning

[11] Ministry of Health. Manual on Development of a District Health System Profile; December 2001.

services, nutritional status, KAP about common health problems or more general health and social sector surveys. The example of the latter is the Multiple Indicator Cluster Surveys (MICS) done by UNICEF.

4.3.1.7 Qualitative Methods for Data Collection

These include qualitative data collection methods such as in-depth interviews, interviews with key informants, focus group discussion etc.

Information on various aspects of the **private health sector** is not readily available and is often overlooked. Health planners should make a special effort to collect as much information as possible during the planning exercise, especially in districts where private sector is an important source of health care services.

Components of Situation Analysis

It is useful to consider a situation analysis under the following four components as later it may be of help while preparing a situation analysis report:

A. Determine existing problems;

B. Prioritize problems;

C. Ascertain available resources for addressing existing problems; and

D. Identify weaknesses and strengths of the existing system

A. Determine Existing Problems

4.3.2 Description of the 'Background'

As an introduction to problem identification, the planning team should describe the social, economic, political, religious and geographic environment of the geographic area (e.g. a district) to the extent that they impinge upon health problems or health service delivery. Such description would need to include district population size and, if available distribution, percent of annual natural increase, population density, major means of communication, the state of literacy, status of women, food production, and food security, as well as any special situation, as the case may be. Such 'background' information serves on the one hand to establish population and target-population denominators, establishes a basis for later comparisons, and most importantly, may help explain causes of health problems and identify important areas for intervention. Such information is usually contained in national census reports, development plans, alternatively from so called 'country profiles' developed by international and bilateral agencies, such as the World Bank, UNICEF, UNDP etc.

Example: 'Background Information' for a hypothetical district

Tara District is one of three districts of Karina Region. It is situated in the fertile plains. The district covers an area of 3,600 sq. km with annual rainfall of 800-1200 mm and a mean temperature of 24°C. Of the 410 km roads in the district, only a third are passable throughout the year, the remainder become impassable during the rainy season. The district's overall literacy rate has been estimated to be around 34%. There are 681 primary schools and 21 secondary schools. The average number of potential pupils per primary school is close to 90, yet less than 50% of eligible children are annually admitted to schools. Aside from governmental health services being provided through fixed facilities, there are two NGOs working in the field of health. The ratio of doctor to population is around 1:4,000, nurse/paramedical to population 1:20,000. The main occupation in the district is agriculture and livestock production (85%). Estimated annual income per capita is around Rs. 10,000. Major food crops are wheat, maize, and potato. Main cash crops are tobacco and cotton. Of the total arable land, 85% is cultivated. Males and females share farming activities, even though males are also occupied with non-farming income generating activities. According to the 1998 census, the district had a total population of 1,249,000 inhabitants living in 8 towns and 188 villages. The vast majority of the population is Muslim; a minority (<5%) belongs to the Christian faith. The current rate of natural increase is 3% giving a projected population for 2003 of 1,447,933. At that time, population density will be around 402 people per sq. km.. The population distribution by age and sex for each village and town is shown in.....

In case a district plan for a specific program is being revised and if such background had been stated in the last plan it need not be repeated. Instead, one should only state the changes that have occurred since the last plan was prepared that have a bearing on the situation.

4.3.2.1 Initial Problem Diagnosis

Next, the planning team should ask itself: 'What are the specific health problems and health needs of the community?'

Initial problem diagnosis is not easy – which perhaps accounts for its being neglected or avoided so often. Some of the common constraints to initial problem diagnosis include:

- Vital statistics, specialized statistics, and designations, as causes of death are commonly not available and are more often than not, unreliable.
- Frequently, identified problems derive from highly selective, non-representative population segments, such as inhabitants of the capital, hospitalized individuals, or private practitioners' patients. These are not representative of the population at large
- Specificity of the problem is rarely sufficiently great. For example, it may be known that child mortality is high, yet the causes of high child mortality are not entirely being properly assessed.
- Problems are often of a nature that cannot easily be summarized in statistical terms and may be far removed from the circumstances of poor health of an individual. Indeed, planners all too often are drawn to the tangible, documented problem, and the emergency or clinical interventions needed to alleviate the problem, but are completely oblivious to broader factors underlying poor health.

To determine the **status of health** as well as of conditions conducive to and responsible for poor health requires information of varied nature. Most importantly, it depends upon the nature of the plan itself. It is imperative that one knows the goal of the planning process before starting to collect data. Thus if 'improvement of nutritional status for a given population' is the overall goal, the problem diagnosis is less broad than if the goal is 'strengthening rural health services'.

4.3.2.2 Indicators of Health Status

With the above limitation in mind, let us choose a measure of health. There are two main categories of health indicators:

Primary Indicators of health status are objective, statistical indicators associated with tangible physical measures. These are the ones usually employed by, and available from professional health workers, physicians, epidemiologists, bio-statisticians, and demographers.

Secondary Indicators of health status are those which tend to be associated with, or are causally related to, the primary indicators, are less easy to quantify and do not (individually) give a good indication of the status of health.

Summary Indicators/ Measures of health status are an attempt to capture the morbidity, disability, and mortality in one composite indicator. These are now being used more frequently in the literature.

Below are examples of both primary and secondary indicators as they are commonly used in health planning.

Primary indicators of Health Status

Primary indicators are derived from the natural sequence of life, that is, birth, illness, disability, invalidity, death. The numbers of events for each of the above are not primary indicators per se but when used as numerator, or denominator, as the case may be, will assist in the development of primary indicators of health.

Births:

- **Crude Birth rate (CBR)**

$$\text{CBR} = \frac{\text{No. of live births during the year}}{\text{Average (mid-year) population}} \times 1{,}000$$

Example

According to the 1998 District Census Report, the population of district Bahawalpur was 2.43 million and the total number of live births during previous 12 months was 56,534. The CBR would then be 23 per 1,000 population. This may well be an underestimate as in poor countries, such as Pakistan, infants who die shortly after birth frequently are neither registered of having been born, nor subsequently, of having died.

Deaths:

- **Crude Death Rate (CDR)**

$$CDR = \frac{\text{No. of deaths during the year}}{\text{Average (mid-year) population}} \times 1000$$

Example
According to the Pakistan Demographic Survey 1999, the crude death rate for Pakistan is estimated at 8.3 persons per thousand population. The total population is estimated at 128,230,211 whereas 1,064,875 deaths occurred during the year.

- **Infant Mortality Rate (IMR)**

$$IMR = \frac{\text{No. of deaths in the first year of life in a given year}}{\text{Total no. of live births in the same year}} \times 1000$$

Example
According to the Pakistan Demographic Survey 1999, the total number of infant deaths were 315,923 and the total number of live births were 3,876,658; the infant mortality rate for Pakistan hence, amounts to 81.5 per thousand live births. Considering that Vital Events Registration in Pakistan is by no means complete, this figure is likely an underestimate of the real magnitude of infant mortality.

- **Under-Five Mortality Rate (U5MR)**

$$U5MR = \frac{\text{Total no. of deaths in children from 0-4 year of age in a given year}}{\text{Total no. of live births in that year}} \times 1000$$

Example
The under five mortality rate is estimated to be 126 per thousand live births for 1999. Economic Survey 2000-2001

- **Maternal Mortality Ratio (MMR)**

$$MMR = \frac{\text{No. of deaths in females 15-49}[12] \text{ years of age from causes related to pregnancy \& puerperium in a given year}}{\text{Total no. of live births in that same year}} \times 100{,}000$$

Example
Estimation of maternal mortality is a difficult task[13] and accurate data is currently not available., However, the national maternal mortality ratio is estimated to be around 340 per 100,000 live births. This may well be an underestimate as there is virtually no information on most of rural Pakistan where most of the MM occurs.

[12] In some documents, the age range for the MMR is given as 15 to 45.
[13] As it requires surveillance of a very large population segment for several years.

- **Cause-Specific Mortality Rate (CSMR)**

$$\text{CSMR} = \frac{\text{Total no. of individuals dying as a result of given cause in a given year}}{\text{Average (mid-year) population in that year}} \times 100$$

Example
Estimation of Cause Specific Mortality Rate can be determined only if the total numbers of deaths from a specific cause are known. E.g. if in a given year, a total of 500 persons died of typhoid fever out of a population of 500,000 then the CSMR for typhoid in that population would be 0.1% deaths due to typhoid fever.

- **Case Fatality Ratio (CFR)**

$$\text{CFR} = \frac{\text{Total no. of individuals dying as a result of a given cause in a given year}}{\text{Total no. of cases of the cause in the same year}} \times 100$$

Example
Estimation of Case Fatality Rate depends on knowledge about the total numbers of deaths from a specific cause. In the above example, if in a given year, a total of 500 persons died of typhoid fever out of a total of 5,000 cases of typhoid fever in that year then the CFR for typhoid in that population would be 10% of deaths among those who contracted typhoid fever.

Morbidity:

- **Prevalence of selected conditions or diseases**

$$\text{Prevalence rate} = \frac{\text{Number of existing cases of a disease at a given point in time}}{\text{Total population}}$$

According to the recent estimates of the World Health Organization the prevalence of open pulmonary tuberculosis in Pakistan is 250 cases per 100,000 population

The level of prevalence is greatly influenced by the average duration of the disease process. Chronic illnesses, such as Tuberculosis (TB) and Leprosy as a rule are of long duration. Acute Respiratory Infections (ARI) and Diarrheal Disease (DD) are of short duration, yet even though the incidence of the latter two conditions vastly surpasses that of the former, their point and period prevalence may be quite similar.

- **Incidence of selected conditions or diseases**

  Incidence rate = Number of new cases of a disease over a period of time
  Population at risk

  The Pakistan Integrated Household Survey 1998/99 gives the incidence of childhood diarrhea as 120 episodes of diarrhea in three months per thousand children under five years of age. This is likely an underestimate considering that in the majority of developing countries an average of four episodes of diarrhea per preschool child per year has been observed.

Measuring incidences is very important for determining the course of epidemics.

- **Disability is** expressed as a prevalence figure, that is the number of individuals in a given community who have been found to suffer from a given disability per 100,000 members of that community.

Secondary Indicators of Health Status

The Table below summarizes some important secondary indicators of health status, as they are available within specific sectors.

Table 4: Secondary Indicators of Health Status

Sector	Indicator (examples)
Demographic	Age distribution of the population Population growth Population density, urban-rural distribution
Socioeconomic	GNP per capita Human development Index (HDI) Per capita calorie/protein consumption
Political	Elected vs. non-elected government Support available at the District assembly Health Budget approved by District Assembly or allocated from higher level
Culture & tradition	Prevailing marital norms, monogamy, polygamy, polyandry Rights of women to inheritance Prevalence of breast-feeding in the community
Health Care Delivery	Facility to population ratio Physician to population ratio Nurse/paramedic to physician & population ratio Bed to population ratios Percentage of population within 5 km. of health facilities

4.3.2.3 Summarizing the health situation of the community

It may be useful to first provide few overall indicators of the health and development of the community, such as the catchment population of a district in terms of its economic status, its fertility, mortality, and (natural) population growth:

- GNP per capita
- Total Fertility Rate, Maternal Mortality Ratio (MMR)
- Annual Population Growth Rate
- CBR/CDR

Next, health problems of the community need to be specified more precisely. They must be differentiated at least according to the age groups:

- Pre-school children (under 5 years)
- School children (5-14 years)
- Women 15 to 49 years of age
- Adult population

For these groups, major disease problems, and for the first, mortality rates as well as causes should be provided. Mortality rates should be given as:

- Neonatal Mortality Rate
- Infant Mortality Rate (IMR)
- Under Five Mortality Rate (U5MR)

Where precise information on births and deaths is not available, regional estimates should be used. In addition, all major disease problems prevailing in the district should now be listed (data retrieved from sources already mentioned). Data thus collected may then be summarized as in our example given in Table 5.

With respect to mortality rates, fertility, population growth rates and specific disease prevalence or incidence rates, values obtained may now be compared to those prevailing in the industrialized world to visualize both the need and potential for improvement in health status. However, they need above all, be compared to the national objectives and goals too.

Table 5: Health Problems Among Vulnerable Population Segments and in the General Population in a Hypothetical District of 1,000,000 Population

Age group	Health Problem	'Best Estimate'	Estimated No. of affected individuals
Pre-school children (approx. 16% of population)	High IMR	90/1000	2,700 deaths per year[14]
	High U5MR	135/1000	4,050 deaths per year
	Diarrhea Disease	4 episodes/ child /year	640,000 episodes[15] per year
	Acute Respiratory Infection	5 episodes / child / year	800,000 episodes per year
Women 15 to 49 (approx. 20% of the population)	High MMR	340/100,000 live births/year	102 maternal deaths
	Gynecological problems	20% prevalence	40,000
	Anemia	35% prevalence	70,000
	Low Contraceptive Prevalence Rate (Married couples 17%)	22%	Met need 37,400 Unmet need 132,600
General population	Open pulmonary tuberculosis	200/100,000 population	2,000 cases
	Fatal traffic accidents	45/100,000	112 deaths
	Smoking in adults[16] (15 years and above)	20%	110,000

B. Problem Prioritization

To ensure that health and other social services shall indeed be available and directed towards most pressing needs, health problems have to be prioritized. Prioritization subsequently permits focusing on key problems and ensuring that these can be considered preferentially.

[14] Assuming a CBR of 30 / 1,000 population
[15] Assuming 16% of population to be children less than 5 years of age
[16] Mainly males

4.3.3 Ranking of Health Need / Problem Priorities

Needs are based on the problems identified through either the perceptions of the public health professionals termed as **normative needs** and those perceived by individual(s) or community termed as **felt needs**. While there are going to be large areas of agreement between professionals and the community in their judgments of need, there will also be some differences. Consideration of normative as well as felt needs is essential for proper prioritization of problems.

Unless priorities have been set at the central level, they are usually determined by examining specific characteristics of health and other problems against a set of criteria. Important criteria for ranking health & nutrition problems are:

i. **Magnitude,** in terms of the proportion of the general population or of specific subgroups of the population, such as women, pre-school children, school children, the elderly, etc. are affected;
ii. **Severity/danger** to the individual and the community. How serious is the condition. Does it threaten life, cause major suffering, and decrease the ability to lead a normal life, reduce productivity;
iii. **Vulnerability to intervention.** If a problem is not vulnerable to intervention, it makes little sense to include it in the list of those targeted for action;
iv. Cost of intervention, expressed in term of **Cost-effectiveness** must continuously be kept in mind in the prioritization of problems; and
v. **Political expediency.** Even if a problem fulfills all of the above criteria, if it is not recognized as such by the district or higher authority, it is very difficult to include it among the high priority list, even when such action goes both against wisdom and common good.

These are semi-objective criteria, so they use judgment of managers or DHMTs. Therefore, while using these, it may not be necessary to assign equal score to each. The team may give its own score to each of these criteria. The example in Table 6 may help explaining the above.

The number of 'priorities' to be included in the list should be limited to that for which programs can indeed be developed and implemented within the (proposed) life of the plan. The larger the resource base and the less the number of 'obligatory' vertical programs that have to be implemented because of central decision, the more health need priorities may be included. As a rule of thumb, however, their number should be limited to no more than five.

Health need priorities may vary from one tehsil/taluka to the other in the same district, especially if the district is heterogeneous with respect to topography, ethnicity, economic situation, and religious and tribal affiliation. In this case, health need priorities for each of these subgroups have to be established and considered in the development of services.

Table 6: Problem Prioritization by Planning Team for District during a Planning Workshop

Health problem	Magnitude	Severity	Vulnerability to intervention	Cost-effectiveness	Political expediency	Total score
ARI and Diarrheal Disease in Under 5 Children	++++	++	++++	++++	+	15
Maternal Mortality	+++	++++	++	++	++	13
High Fertility	+++	+	+++	+++	+++	13
Pulmonary Tuberculosis	+++	++	+++	++	++	12
HIV/AIDS	+	+++	++	+	+++	9

Scoring category is from a scale of + to ++++

4.3.3.1 Matching Problem Priorities with Causes & Consequences

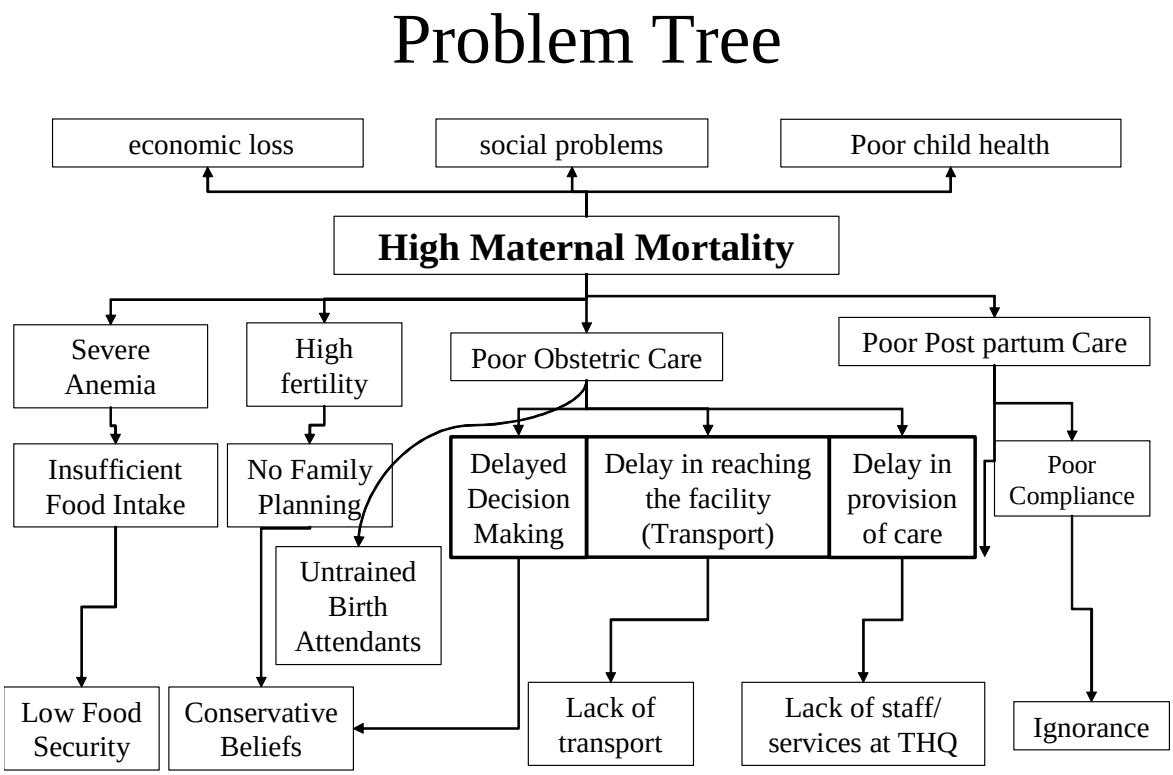
To be able to solve health problems 'effectively' requires that one knows their underlying causes. Addressing these will help **prevent** the problems from arising. There are a number of planning tools that help identify both causes and effects of health problems. Among these are, e.g. the Problem-Tree-Needs-Tree-Analysis, the Fishbone Diagram, and the 'But Why' technique (see Annex. Among these, the most useful, hence commonly used tool is the 'Problem and Needs Tree', which can be conveniently used by the members of the planning team.

4.3.3.2 The 'Problem Tree'

Once health problem priorities have been identified, their underlying causes as well as consequences (for overall development) need to be examined. For this purpose a 'Problem Tree' is to be developed for each of the health problem priorities.

The planning team will need to ask itself, how problems and causes interrelate. For example Diarrheal Disease (DD) may be the cause of, i.e. bring about under nutrition. It may also be a consequence, i.e. problem caused by poor sanitation. In the Figure 6 (using the example from Baraka district), high Maternal Mortality is identified as the central problem, together with some major causes and consequences.

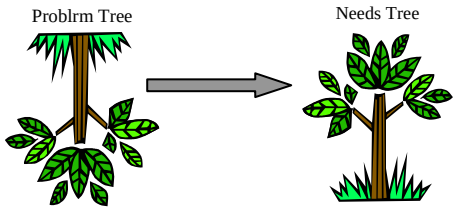
Figure 6: Problem Tree Showing Causes and Consequences of High Maternal Mortality



As shown in this specific example, the planning team has to identify and include a variety of needs relating to health, such as (lacking) household food security, high fertility, and (maternal) ignorance in the development of 'Problem Tree'. Others equally important might have been (poor) environmental sanitation (pesticides, water pollution etc.), (lack of) safe water, high workload of women, poverty, and others.

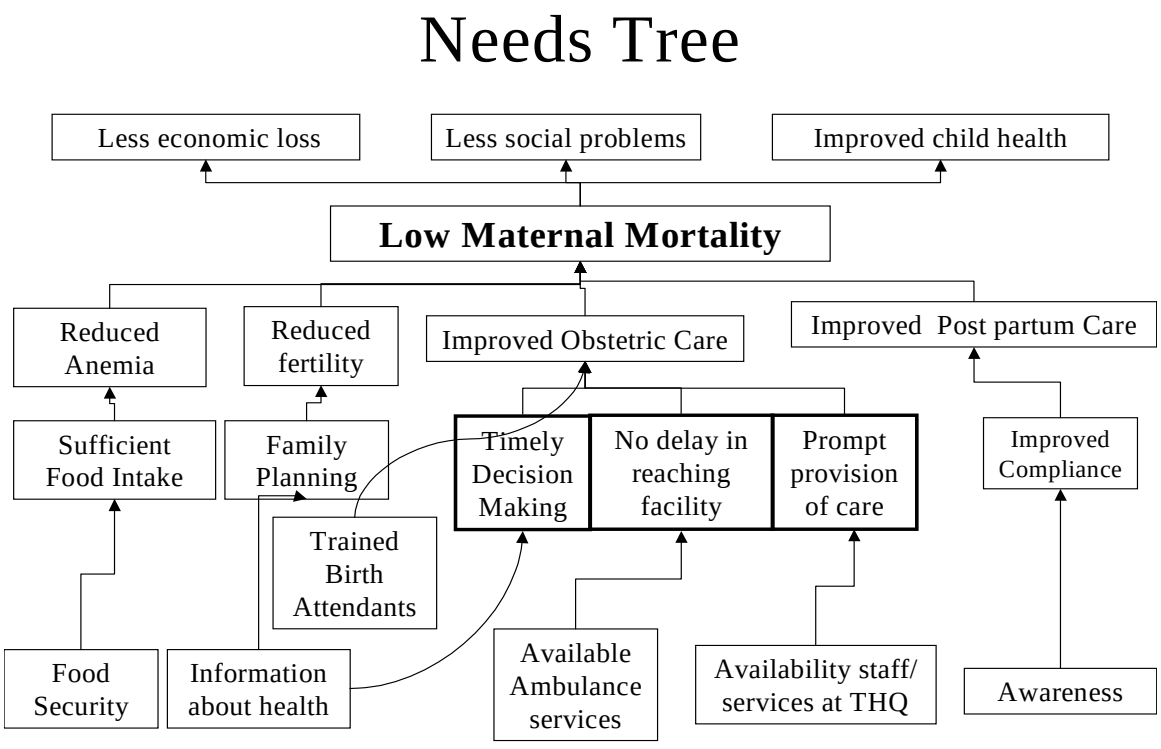
4.3.3.3 Identifying Priority Health Service Needs

In Figure 7, the 'Problem Tree' is being reversed to provide a list of health need objectives that would have to be achieved with the health plan, i.e. a 'Needs Tree'. To what extent are services and inputs, in place addressing the main (central) as well as underlying problems?



To the extent that major causes can be addressed realistically, they now have to be translated into needs, that is health need objectives, as shown in Figure 7. In the above example, the 'Three Delays', Well-trained TBAs, Improved Food Security, Increased Community Compliance, and Reduced Anemia become major 'Goals' of intervention for the identified priority problems.

Figure 7: Needs Tree for Addressing High Maternal Mortality



C. Assessment of health services programs.

Once health needs are known, existing health services can be appraised as to their adequacy and appropriateness for dealing with identified priority health problems. For this purpose the planners should revert to Figure 3, showing the Health Service Delivery System within the Health System Model.

4.3.4 Assessment of Health Service Inputs (Programs)

The planning team now needs to answer the following questions:

i. Given the identified priority health problems, **what health programs need to be offered** to the community?
ii. What **health programs are currently being offered** in the community?
iii. **Are they appropriate** for the community's health needs?
iv. What are major **strengths and weaknesses of the system**?

Before further assessment of availability and appropriateness of services (to needs), a **list of the number of facilities** should be established**:**

i. by type (hospital, health center, dispensary, health house);
ii. by operating authority (government, mission, other NGO, private organization, donor); and
iii. by location.

As a first step in this assessment, health services need to be evaluated in terms of availability of the "basic" and "essential" health care services in light of identified problems. Health services programs can be divided into ***curative***, ***preventive*** and ***health promotive*** activities. **Curative services** traditionally respond to crisis, pain, suffering, and accident and include allopathic medical specialties, such as internal medicine, surgery, obstetrics, pediatrics, etc.

Preventive and health promotive services concern themselves, as their names imply, with keeping the individual and the community from getting ill, becoming disabled, from dying prematurely. **Preventive** services include immunization, environmental sanitation, family planning, etc. **Health promotive** activities relate to promoting healthy life styles in a community, such as through raising women's literacy, targeted health education, etc.

In line with the above, the planning team will have to decide which service programs are essential and/or important on an outpatient, inpatient and outreach basis. For this purpose, the following list may serve as a guide.

Outpatient care	Inpatient (clinical) care	Outreach & Community-based services
• Antenatal care • Delivery care • Family Planning services • General curative care • Crisis/emergency services Children's clinic • EPI • Growth monitoring/ nutrition surveillance[17]	• General care • Maternity care • Pediatric care • Surgical care • Emergency care	• Home visiting through community health workers • EPI • Domiciliary midwifery services • Health education & promotion • Family planning

The next step would be to match the various health needs identified for the priority health problem, with the help of the 'Needs tree' with the type/category of health services being offered. For example, an identified need is to reduce anemia, the most appropriate health service program which lends itself to addressing the problem would be outpatient or outreach services. The process may be summarized as in figure 8.

From this process it becomes quite obvious, that:

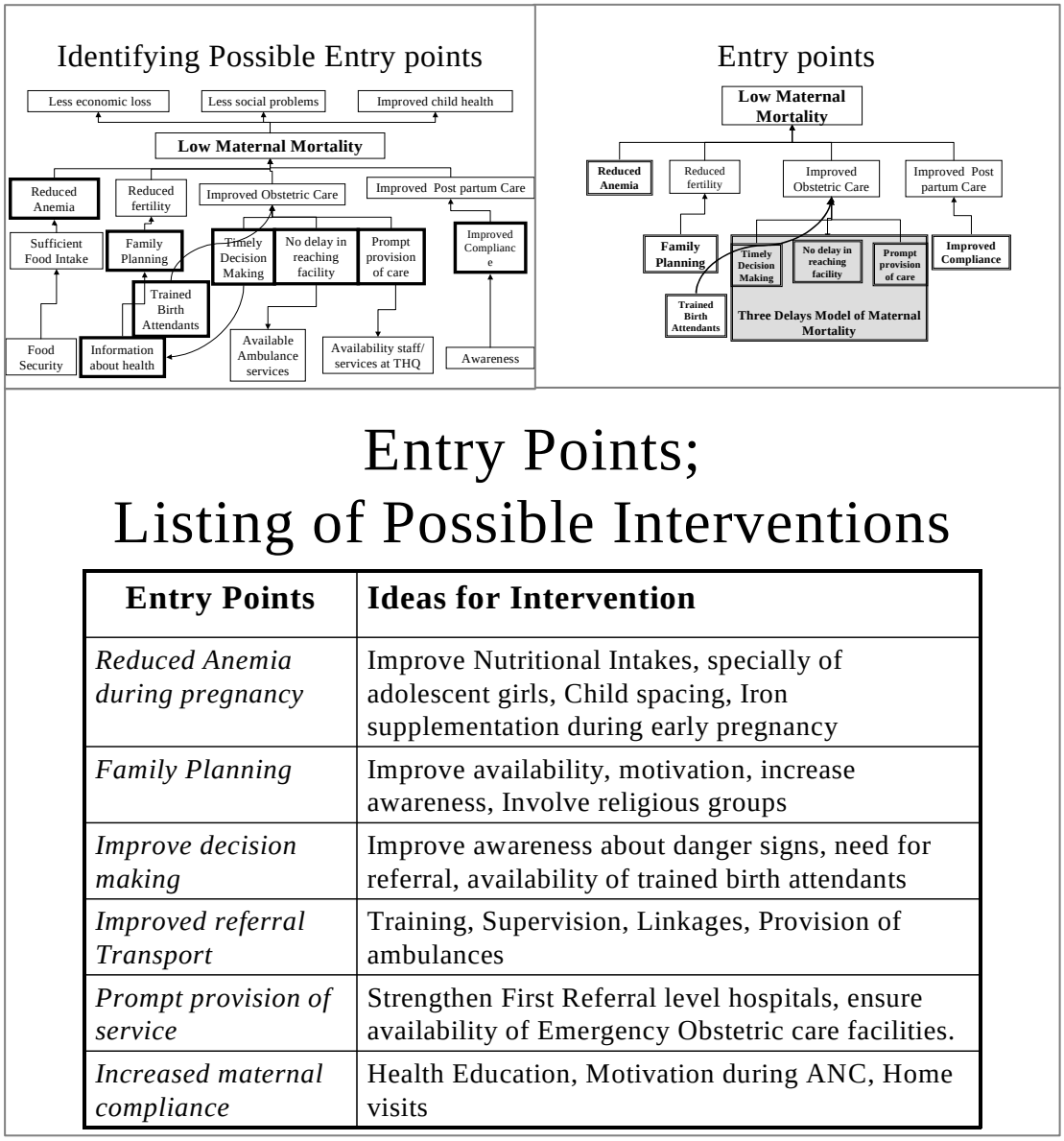
- a number of intervention measures are required to attack any single problem or need;
- what works for one does not necessarily work for the other need;
- health education may be one of the most important means to affect both health and health- related problems and needs, due to its action at multiple levels.

The planning team should now be able to summarize whether:

- The vast majority of health facilities, that is, more than 80%, offer programs essential and important to control major health problems;
- Health service programs are functionally integrated as far as possible, so that none draws on resources of, or competes with others, and maximal use of available resources is made;
- A referral system is in place and adequate to handle those problems that cannot be taken care of at the primary health care facility level.

[17] Growth monitoring has rarely shown to be effective in routine health service delivery settings, and because of its high input requirements is not considered to be a cost-effective intervention.

Figure 8: The Process of Identifying Possible Interventions from Health Needs



Entry Points; Listing of Possible Interventions

Entry Points	Ideas for Intervention
Reduced Anemia during pregnancy	Improve Nutritional Intakes, specially of adolescent girls, Child spacing, Iron supplementation during early pregnancy
Family Planning	Improve availability, motivation, increase awareness, Involve religious groups
Improve decision making	Improve awareness about danger signs, need for referral, availability of trained birth attendants
Improved referral Transport	Training, Supervision, Linkages, Provision of ambulances
Prompt provision of service	Strengthen First Referral level hospitals, ensure availability of Emergency Obstetric care facilities.
Increased maternal compliance	Health Education, Motivation during ANC, Home visits

The matrix given in Table 7 below lists the identified health needs and compares the service provision through the existing health care programs in the district to the health needs identified through the problem tree-need tree approach. The matrix is helpful in identifying the programs requiring strengthening to address the health needs and the areas where de novo interventions are required to solve the problem.

Table 7: Coverage of Health Needs through existing Health Care Programs

Available Service Programmes	Health Needs					
	Reduced Anemia during pregnancy	**Family Planning**	**Improve decision making**	**Improved Referral & Transport**	**Prompt provision of services**	**Increased Maternal Compliance**
Facility Based Services						
• General Curative	√	√	X	X	X	√
• Ante Natal Care	√	√	√	X	X	√
• Delivery Care	√	√	X	√	√	√
• Post Natal Care	√	√	X	X	X	√
• Growth Monitoring	X	X	X	X	X	√
• EPI	X	X	X	X	X	√
• Nutrition (WFP)	√	X	X	X	X	√
• Family Planning	√	√	X	X	X	√
• Health Education	√	√	√	X	√	√
Outreach						
• Midwifery training	√	√	√	√	√	√
• NPFP&PHC	√	√	√	√	√	√
• EPI	X	X	X	X	X	X
• CDC	X	X	X	X	X	X
• Sanitation	√[32]	X	X	X	X	X
• LHV home visits	√	√		√		√
Referral Services	X	√	√	X	√	√

After having examined the availability and appropriateness of health service programs, availability and integrity of the material infrastructure has to be looked into. Can the available infrastructure support essential service in all programs and facilities, relevant to the identified health needs?

The assessment of service inputs is primarily done to assess the availability indicated by the matrix of health programs and health needs. For example if the Lady Health Worker Programme covers only 25% of the population it would not be feasible to make it the mainstay of any intervention which requires a broader coverage. On the other hand if there are only 10% LHVs posted in the district any intervention requiring LHVs would be non productive unless the availability of LHVs increases.

Service inputs traditionally include the three '**M**'s'.

Adequacy of **Manpower** is assessed in-terms of their availability, distribution, and functional capacity.

[32] in areas where schistosomiasis, hookworm and malaria are prevalent

Availability is measured in terms of:

- ratio of specific health care cadre to population
- ratio of supervisory staff to corresponding health care providers
- the number of staff available per facility after hours and on holidays
- the number of hours per day that qualified manpower is present in, and provides services out of, a health care facility

Distribution relates to the proportions (or equivalents) of staff engaged in:

- supervision
- basic versus in-service training
- outreach activities
- preventive services (immunizations, sanitation, under-fives clinics, mobile clinics, disease control programs, etc.)
- clinical services

Functional capacity is measured in terms of:

- achieved levels of training
- staff knowledge and skills
- output
- physical presence (staff absenteeism)

Adequacy of **Material Goods** is assessed in terms of their availability, distribution and functional capacity.

Availability may be measured for instance, in terms of:

- types and numbers of facilities
- facility to population ratios
- percent of facilities having recourse to essential drugs and sundries
- percent of facilities having all essential equipment
- essential drugs, equipment and sundries present in a given facility

For the assessment of financial adequacy, **Money,** the following indicators might be applied:

Percentage budgeted for:

- clinical services (hospital and peripheral levels)
- preventive services (peripheral levels)
- supervision by clinical and preventive services
- in-service training
- recurring facility maintenance costs
- recurring clinical service costs
- recurring preventive services costs
- capital investment in clinical services
- capital investment in preventive services

4.3.5 Assessment of the Health Services Distribution

Next, availability and accessibility of these services in the community will have to be examined. It makes little sense to have a first class modern treatment center in the capital where usually less than one third of the population lives and leave the countryside devoid of quality care.

Availability is generally determined by the geographic distribution of fixed or mobile health care facilities. **Accessibility** in addition includes the cost and time involved as well as the social acceptability of the services being offered. The planning team should find out to what extent are services available and accessible, **who**, and **what** proportion of the population is currently not getting services?

Service inputs, including the support system, need to be distributed in such a way that the majority has ready access to them. Accessibility needs to be looked into in the following aspects:

- **Physical accessibility**
  - Proportion of the population living within 2 or 5 km or alternatively 20 and 60 minutes walking distance from a primary health facility with the relevant staff posted and available
  - In-patient facilities with surgical, obstetric, and pediatric beds are available within 4-6 hours displacement.
- **Financial accessibility**
  - Cost for services must not exceed the economic capacity of the majority of the population.
- **Social accessibility**
  - In terms of religious, tribal and cultural barriers, institutional accessibility, or availability of services. For example, in Pakistan and in many other "culturally conservative" societies, female health care providers are essential for the provision of Antenatal, Natal and Post natal Care.

4.3.6 Assessment of Management & Organization

Management and Organization (M&O) serves the function of a "lubricant" for the smooth functioning of the health care delivery system. Smoothly functioning M&O helps translates the service inputs into the desired outputs. For the sake of convenience M & O can be considered under as follows:

4.3.6.1 Human Resource Management

i. Manpower recruitment, deployment (transfer, posting), promotion
ii. Preparation, availability and regular up-dating of job descriptions
iii. In-service training
iv. Performance evaluation of staff and career structure
v. Monitoring of staff absenteeism as specific indicator of staff morale

4.3.6.2 Financial Resource Management

i. Sources of financing
ii. Budgeting of financial resource requirements

iii. Allocation of resources by:
   a. Levels of care (primary and secondary)
   b. Salary and non-salary
iv. Releases and utilization
   a. Amount released and utilized
   b. Timing of release
v. Relating resource utilization to performance evaluation
vi. Revenue generation and utilization

4.3.6.3 Physical Resource Management

Availability and integrity of:

i. Building
ii. Vehicles
iii. Medical and general equipment
iv. Drugs and consumables

4.3.6.4 Support systems

Functioning of various support systems such as:

4.3.6.5 Record and Information Systems

A record system must be in place and functional covering all major aspects of service administration that minimally covers health problems/needs, e.g. vital statistics, service inputs, service outputs, as well as service management and organizational aspects. Since in many of the developing countries HMIS are either in process of being worked out, or are being introduced, examination should focus on whether it is being used, and if so correctly and uninterruptedly.

4.3.6.6 Monitoring and Supervision (M&S) System

Perhaps the most important component of the support system is M&S. **Monitoring** refers to the on-going process performed by the program implementers to determine the extent to which activities have been performed in order to achieve planned targets. **Supervision** consists of a set of activities aimed to ensure and improve staff competence, effectiveness, and efficiency through observation, discussion, support, and guidance. An M&S System relies on a functioning information system and the ability and initiative of a manager to solve problems relating to human, physical, and financial resource management.

4.3.6.7 Communication System

The communication system at the district level revolves essentially around five channels:

i. Communication with higher echelons of the health care infrastructure,
ii. Communication with the community,
iii. Communication with local authorities,
iv. Communication with health personnel,
v. Communication with (external) donors on programs they support in the district

4.3.6.8 Transport System

Transport is required both for health care delivery, i.e. curative, preventive and health-promotive services, as well as for administrative functions. Both are equally important. Administering any motorized transport system minimally implies:

i. Monitoring of vehicle (transport) use, both with respect to driving habits and mileage driven;
ii. Ready access to repair & maintenance vehicles;
iii. Qualified drivers;
iv. Regular safety and functionality checks;
v. Coordination of transport needs and use

4.3.6.9 Repair and Maintenance System

Without an ongoing maintenance and repair system, even at the level of the peripheral facility, but especially at the district level, the physical, infrastructure will neither last nor will it maintain service efficiency, aside from significantly increasing the cost of health care by requiring 'premature' replacement of expensive equipment.

4.3.6.10 Drug and Contraceptive Supply System

Regular supply of drugs and contraceptives is critical to the functioning of health facilities. Regular procurement, distribution, dispensing and replenishment of drugs and contraceptives at health facilities and their monitoring is part of a drug and contraceptive supply system.

4.3.6.11 Logistic Support

Logistics include the presence and integrity of a minimally necessary physical infrastructure, availability and functioning of transport and communications facilities, availability and functioning of essential equipment and utensils, as well as reliable and continued supply of essential drugs and other consumables.

4.3.6.12 Referral System

The referral system is essential for maintaining quality of care. Its presence and smooth functioning are important prerequisites for making health services cost efficient through making optimal use of "higher" centers of care and freeing these from the more voluminous responsibilities of primary care.

For the Referral System to be effective implies:

i. Every level of the health service delivery has access to a higher level of care for patients whose condition can either not be satisfactorily diagnosed or managed at the referring level.
ii. The next (higher) referral level is better able to handle given health problems than the referring facility.
iii. Administrative rules and regulations governing referral have been worked out for all members of the health service facility, and are available for scrutiny at both the referring and referral facility.
iv. Every center that carries out referrals determines the material infrastructure minimally required to effect referral.

v. Health personnel carrying out referrals have been trained to recognize problems that cannot be satisfactorily handled at their level of care.
vi. The flow of information concerning the referral is bi-directional that is from the referring facility to the referral center and from the latter back to the former.
vii. Referral either up or back down the levels of health care can readily be demonstrated to occur on a regular basis through examination of treatment records.
viii. The community is aware of referral system and readily follows its rules.

4.3.7 Assessment of Service Outputs

Next the following questions will need to be answered:

- Is the number of service activities large enough to cover population needs?
- Are services being delivered conscientiously, correctly and in line with standing orders?
- Which service activities are done poorly, adequately or performed well?

Health services have no effect unless those activities that make up the individual programs are in fact being carried out with respect to the number of activities as well as their quality. Outputs cannot be adequate if some or all of the service delivery components such as Inputs (programs, resources), Input distribution, Management & Organization and Community Participation are insufficient.

Health services outputs must be sufficient in terms of ***quality*** and ***quantity*** before they may exert any beneficial effect. To assess service outputs with respect to their quality and quantity, several indicators may be used. All indicators refer to the situation from either a recent *Health System Review* or from observations and records collected in the preceding year.

- In terms of **quantity**, service counts may be used, for example
  - the average number of daily (out-) patients that is seen by each health worker actually delivering health services;
  - the average (yearly) number of home visits paid to each household within the catchment area of the facility;
  - the average number of children vaccinated;
  - the average number of contraceptives distributed in the community,.

- With respect to **quality**
  - levels of knowledge and skills of health workers in fundamentals of health and health care delivery;
  - quality of record keeping, as well as actual spot-observation of services being delivered;
  - the amount of time consumed by the worker in actual delivery of services, may be used;

Where existing programs fail to bring about expected result, even though they seem appropriate in their nature and composition to address a given need or problem, the service process, that is input, distribution and output, have to be examined for shortcomings and weaknesses before alternative interventions should be considered. Thus in our example, if consumer compliance were to remain low despite major efforts and inputs into **health education**, planners will need to examine whether the educational material that was being provided is:

- clear and **easily understandable;**
- **culturally acceptable;**
- **available** to the target population;
- being made **available in the expected frequency.**

If the answer to any of this is negative, the planners have to ask why. Thus they may find that:

- the language used is too complicated;
- the message is in writing but the audience is largely illiterate;
- illustrations used are foreign to the culture of the target population; and
- health education is given but very infrequently.

4.3.8 Assessment of Outcome Parameters

Planners will next have to answer the following questions:

- To what extent if any, do service inputs and outputs bring about the desired outcomes?
- Are intermediate outcome variables being determined and are they being monitored?

The term 'Outcome' for planning purposes refers to intermediate results short of the final, desired effects, i.e. the impact, which have major influence on the Impact.

4.3.8.1 Service outcome (preventive)

- The proportion of pregnant women from within the catchment area having received at least two tetanus immunizations;
- the proportion of children 12-23 months of age who have been fully immunized;
- the proportion of homes covered by active F.P. outreach services.

4.3.8.2 Behavioral and cognitive change outcomes (community)

- levels of knowledge and practice of ORT to treat children with diarrheal disease;
- use of condoms by community members to prevent AIDS or reduce/space pregnancies;
- the extent to which pit latrines have been built by the community and are being used by household members
- the percentage of eligible couples practicing family planning, etc.
- health facility utilization rates.

4.3.8.3 Hospital or facility's outcomes (curative)

- Proportion of high risk pregnancies managed in hospital/facility settings
- Percentage of cases referred to higher centers, and percentage of feed back on referred patients received from higher centers
- Percentage of autopsies performed on deceased patients,
- bed occupancy rates, as extracted from the health service records

1. 15.4 Impact Assessment (preventive/curative)

- Percent reduction in Infant Mortality Rate
- Percent reduction of Post-partum septicaemia
- Percent reduction in 'Under-five' deaths from diarrhea disease
- Percent reduction in perinatal deaths from neonatal tetanus
- Percent reduction of general fertility rate, etc.

4.3.9 Assessment of Community Participation

Unless the community identifies with, and accepts the health care system, the latter will have little, if any, chance of bringing about change. Appraisal of the community participation may be considered by looking at:

i. How the community is organized, that is, do they have community committees, if so, are they functional, and whether there is any women representation or not?
ii. Whether they are aware, and to what extent do they verbalize their problems?
iii. What is the extent of community contributions (money, kind or labor)?
iv. What is the extent of utilization of health care services?

The planning team should answer the following questions:

i. What efforts are being made to involve the community?
ii. Is utilization, especially by the most vulnerable groups being monitored?

4.3.9.1 Assessment of the Effects of the Ecology

The environmental ecology that is its socio-cultural, demographic, economic and political surroundings (embedding both the community and the health care delivery system), largely determine health problems, resource availability and the interventions that are selected to address these. The planning team needs to assess and take into consideration main effects of the ecosystem. Following are some specific examples:

4.3.9.2 Geographic

For a district with difficult terrain, establishing communication and transport facilities may be as important, or even have priority over health care delivery issues.

4.3.9.3 Social

If the majority of the population of a district is illiterate it may be necessary to develop health education material that is mainly pictorial and

easy to understand from looking at illustrations. Existing material may have to be revised and adapted similarly.

4.3.9.4 Cultural

Interventions may have to be developed that bypass or neutralize some "harmful" cultural practices. Among these are, for instance, the common practice of withholding milk or fluids from a child with diarrhea, pregnant women 'starving' themselves during pregnancy for fear of delivering too large a child, refusing immunizations for false or superstitious reasons, refusal by, or lack of permission for women to be seen by a male health care practitioner.

4.3.9.5 Political

What is the political status of the local government? Is it elected or nominated, centralized or devolved? How are resources allocated to health and redistributed between preventive and curative services

In this context, the planning team should be able to respond to the following queries:

i. What are the influences, negative as well as favorable, that the ecosystem, within which the district is situated, exert on health status and health care delivery?
ii. Are there any special groups that are affected?
iii. To what extent can such harmful effects be neutralized, or made use of when potentially beneficial?
iv. To what extent is the existing health service delivery system able to manage sudden emergency situations?

D. Identifying Weaknesses and Strengths of the Health System

SWOT analysis

Strengths, **W**eaknesses, **O**pportunities and **T**hreats **SWOT** Analysis

'SWOT' Analysis is a useful analytical tool to qualitatively and quantitatively examine and assess a system, such as the district health system with respect to all of its individual system components. As such it may be used to complement (but not replace) a System Review. As indicated from its acronym, a system, or specific system components, are reviewed with respect to their strengths, their weaknesses, the opportunities they present for the improvement or health care or betterment of health status, and the potential threats that may prevail for the system or system component under scrutiny, as well as the threats that may emanate from the system or a given system component. Results from a SWOT analysis are presented in a logical framework matrix featuring the 'aspects of examination', i.e. Strengths, Weaknesses, etc. along the vertical, and the System Components to be examined as well as the Findings or Attributes on the horizontal axis. This analysis may be conducted for the district health system as a whole or for each strategy/intervention separately. The primary purpose of conduction of this analysis is to synthesize all information gathered up to this point in time in one summary table. Most commonly, this table should address inputs, input distribution, outputs, M&O, and briefly summarize the situation for each intervention strategy identified in Figure 8 above.

SWOT Analysis of a Hypothetical District Health System

	Components	**Findings/Attributes**
Strengths	Service Inputs	Paramedical Staff available, population per FLCF is approximately 1500 per center, sufficient budget is available for ongoing programs
	Service Distribution	Most FLCF's located conveniently, paramedical staff posted at all FLCFs, MCH services available at 70% of the facilities
	M&O	Drugs available, supervisory visits conducted regularly, Referral facilities available at DHQ
	Service Outputs	RHCs had 25,000 patients per RHC, All MO's received training in Diarrhea, HMIS. 100 referrals made to the DHQ from FLCFs
	Service Outcomes	BCG Immunization coverage 90%, 90% of pregnant women seen at FLCF had two injections of TT
Weaknesses	Service Inputs	Obstetrician not available, THQ's lack equipment to handle referral, MO posts are vacant in 60% of FLCFs,
	Service Distribution	No MO's or LHVs posted in far flung areas,
	M&O	Ambulances not functional, supervision for EPI is nonfunctional, communications system is weak, drug distribution system is very slow
	Service Outputs	BHUs had OPD of less than 10 patients per day, Growth monitoring is not functioning in the district
	Service Outcomes	Only 15% of expected pregnant women registered at FLCFs, Fully Immunized children are less than 50%
Opportunities	Ecosystem, Environmental factors	District Assembly is sensitized to the need for better maternal care, some funds have become available
	Community Participation	There has been verbalization of the need for improved delivery care at THQs and RHCs by the community

	Components	**Findings/Attributes**
	Service Inputs	WMO may be trained as Obstetrician and supported by district surgeon can handle majority of complications, THQs may be strengthened through the new program being launched this year
	Service Distribution	Each MO and LHV can successfully manage two FLCFs
	M&O	Support for purchase of ambulances and supervisory vehicles is available in the new program
Threats	Ecosystem, Environmental factors	Obstetrician may still not be available, funds allocated may be inaccessible due to their being allocated to other programs
	Community Participation	Community sentiment is against delivery at health facilities; establishing allopathic services may polarize the community,
	System factors	Difficult to convince MOs and LHVs to handle two FLCFs each, and if enforced may bring about a demonstration of "Parkinson's Law[18]" . Two BHUs are inaccessible even in good weather and six more are inaccessible in rainy season,

[18] Individuals are promoted, and assigned responsibilities, until they reach incompetence.

4.4. Step 4: Review of Resource Availability

What it is: **A preliminary process to assess resource availability that would assist in determining the scope of the district plan and the selection of intervention strategies.**

Objective: **The objective of reviewing resource availability is to enable the planner to stay within the frame of realism and limits of available resources in the development of intervention packages.**

Having completed the ***Situation Analysis***, the Planning team is aware of the gaps in service programs, of shortcomings in the required infrastructure and of the need for specific interventions. Before the team can plunge into developing interventions, it is essential that a careful review of all resources available for improving and changing various system components be made. Failure to do so will result in plans that are doomed to be shelved before they have even been finally typed.

4.4.1 Resource Availability

During the situation analysis a preliminary assessment of Resource Availability has already been done. In this step, a detailed review of resources will be undertaken. The assessment of the currently available resources has been done in the situation analysis. Now the planners need to assess the current as well as the future projected/promised resources. Review of resource availability implies checking both the current as well as future situations in the district with respect to the three "Ms" that is manpower, material and money. For that purpose, inventories need to be prepared in all three domains and for the existing, as well as expected future resource base.

- **M***anpower* or Human Resources, in terms of number, cadre, gender and quality of the human resource.
- **M***aterial* or Physical Resources including building, equipment and transport, drugs and contraceptives, and dealing with the availability and functioning of these.
- **M***oney* or Financial Resources to see how the financial resources are allocated, in terms of their distribution with respect to salary and non-salary, their release and utilization etc., and whether the facility is government or non-government (private, NGOs etc.) financed.

There are two major aspects of looking at current resource availability:

- Comparing the inventory list with national standards. This relates mainly to staffing and equipment, and lets the planners know whether they have received all they are entitled to; and

- Comparing available resources to what is actually required by existing and planned service programs. This step is clearly more difficult as it depends on the availability of the results of an earlier Situation Analysis. Even though this second alternative is more cumbersome and time consuming, it provides for a more rational use of resources, as it allows a better match between existing health problems/needs and the subsequent development of appropriate interventions.

Resource availability does not confine itself only to monetary resources but includes human and physical resources as well. For services to become functional requires:

- a minimum of trained staff;
- some essential buildings and fixed structures, furniture and equipment;
- essential drugs and sundries;
- functioning of essential support services; and
- a minimal recurrent budget.

4.4.2 Sources and Use of Information on Resource Allocation

Resource information is also important for planning and management. Resources can be tangible and intangible. Whereas, **M**anpower, **M**aterial and **M**oney are ***tangible*** resources, information is an ***intangible*** resource. There are two major sources of information on the distribution (and use) of health resources:

- Official documents stating policies, goals, objectives, and programs; implementation plans; and technical descriptions;
- Financial reports describing methods of costing, cost objectives, and programs; approved budgets, and expenditure and accounting reports.

The planner needs to recognize and understand the contribution to health resources by not just the government (including bi-lateral external assistance), but also contributions by the community, religious groups, and private voluntary organizations. These often provide considerable contributions both in kind as well as in terms of levels of effort, which are frequently counted neither by the government nor the official health care providers.

4.4.3 Resource Planning

With respect to expected resources for plan preparation the following four alternatives present themselves:

- **Future resources are to be reduced**

In the first case the planning team's effort must be concentrated on finding means and methods of optimizing whatever resources shall become available by deleting or “pruning” all non-essential activities, and improving the effectiveness

and efficiency of essential ones through re-deployment and reshuffling of available resources.

- **Resource base remains as is**

In this case the planning team's efforts must be directed at minimally maintaining the existing status, better still making existing services more effective and efficient.

- **Additional resources shall become available for specified use,**

In the third case, planning must focus on the program or intervention strategy for which additional funds have been earmarked. Provision of additional resources are frequently made available by external donors who wish to newly implement a project or program aimed at a specific health or development problem, or strengthen an existing one. Examples are strengthening of HIV/AIDS awareness, Family Planning-, Tuberculosis, Integrated Management of Child Illness (IMCI) Programs.

- **Additional resources shall become available for unspecified use**

In the last case only, is the entire spectrum of health care delivery open for improvements, innovations, and new additions. This situation is indeed rare in routine government services. When such additional resources are provided, it is usually in the course of a donor-sponsored project.

4.4.4 Sources of Resources

District planners have traditionally relied on Public Sector resources for implementing health services. Unfortunately, due to macroeconomic factors the financial resource base has shrunk and particularly affected the non-salary component of district budgets. District Planners thus, would have to use innovative means and methods for Alternate Resources to expand the resource base. These resources could be both monetary and non-monetary. Devolution offers the opportunity to be able to use these alternate methods more effectively. The following section provides a brief overview of alternate modalities of financing health care.

4.4.5 Health Care Financing

In addition to preparing a plan, district health planners (or planning team) also have the responsibility of looking for ways and means of increasing the financial resource base.

The term "Health Care Financing" is generally used to describe the various methods and means of financing health services - curative as well as preventive - for a given community or country. HCF may be limited to one single source, that is the government, but usually covers a broad range of sources for, as well as

specific methods of, funding a given health service delivery package, such as the government, the community, external donors, etc., through direct allocation of funds, risk sharing schemes, fee for service, etc. It makes relatively little sense to set objectives and targets within a given District Health Plan, without at the same time examining the sources for, and potential of HCF.

The cost of health care basically comprises the service costs of providing medical care and the operating costs of support services. Additionally, there are investment costs, whenever modernization, rehabilitation or expansion of health services becomes necessary.

Resources generated by health institutions adopt various alternatives of health care financing to fulfill three objectives:

- Resources may be used for bridging the gap in **operational costs** to meet the needs of existing medical care or support services;
- Resources may be utilized towards **investment costs** for initiating newly planned, or improving existing activities;
- Diverting resources to areas where they are needed most, such as for emergency measures or promotive and preventive care.

Modalities of financing health care

4.4.6 Major Types of Health Care Financing by Source of Finance:

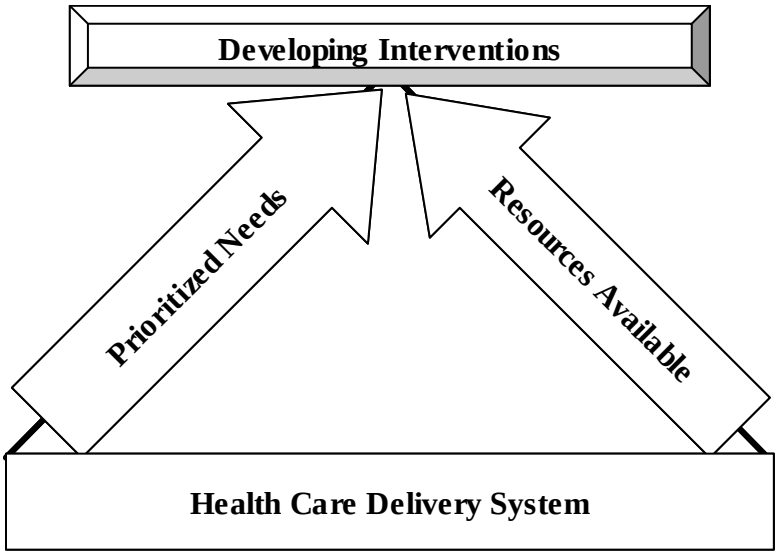
Source of Finance	Method of collection	Management	Provision of Care	Benefits	Risks/ drawbacks
Government Subsidy	Government Budget	Government	Public	Ensures provision of Public goods and free care to all	Budgetary constraints lead to insufficient allocation which leads to poor quality
Fee for Service	Out of pocket	None	Private	Open competition leads to improved service provision	Commercial provision of services excludes public goods
User Fee or Drug Charges	Consumer + government subsidy	Government/ Community	Public	Primarily a revolving drug fund	Equity and quality issues
Community Financing	Yearly payments + government subsidy	Government /Community	Public	Health care available to the community at a very low cost	Capacity to manage, needs a government subsidy to be viable
Social Insurance	Yearly payments premium based on principle of solidarity	Government /Community	Public	Health care available to the community at low cost	Capacity to manage, needs a large subscription to be viable
Employer/ Salary	Compulsory deductions from salary	Social Security Organization	Private	All workers are covered and receive care at the time of need	Choice of provider is limited, quality of care issues
Insurance	Yearly premium based on individual risk	Private	Public/ Private	Health care available to covered persons	Equity and quality issues arise

4.5. Step 5:Developing Interventions

What it is: **It is the process of identifying, short-listing and developing intervention measures from among a variety of potential interventions.**

Objective: **To identify and develop the most appropriate interventions and intervention packages (strategies) for existing (health) needs**.

In the previous sections, planners have identified specific **health needs** prevailing in the district, and from among these have selected **health need priorities**. Through use of the ***'Problem Tree'***, underlying causes and circumstances of these priority needs were identified. The team has further examined the **resources available** and has recorded these. In this section, planners shall now identify, and work out, intervention measures and "packages" that can best address both. As shown in the fig below.



In the course of doing so, one has to:

- Select the appropriate interventions/ strategies to address the priority problem.
- Adjust the existing services; establish additional services and overcome constraints to effectively implement the appropriate interventions/ strategies.

4.5.1 Identifying Intervention Components or Strategies

Specific service, organizational and community activation activities, etc, in terms of the above listed health system components, that are lacking but found to be necessary for the solution of "high priority health needs" and weaknesses identified in the course of the *Situation Analysis* have to be worked out and introduced. See ***Figure 8*** List of possible interventions

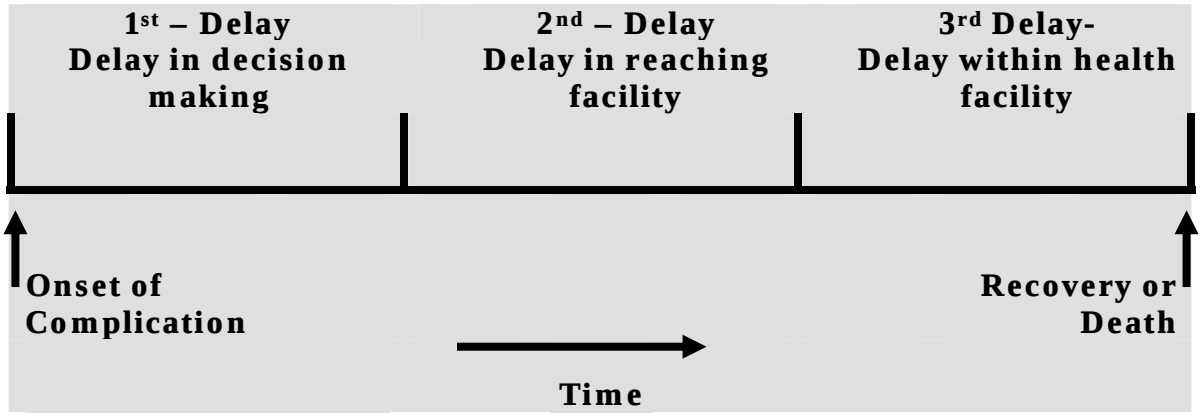
Strategies might, for instance, be listed as:

- To carry out community-based distribution of family planning services program containing education and distribution of condoms through Community Health Workers (CHWs). This is to be combined with a facility-organized outreach service for the distribution of pills, as well as advise on other FP methods such as injections, IUD or sterilization, which are to be carried out in a health facility following consultation of a physician.

- To set-up an emergency obstetric referral system involving all the stakeholders such as community members, trained birth attendants, service providers, and the pregnant mother for the purpose of reducing high Maternal Mortality Ratio.

Strategies may have to be stated in terms of (major) activities or activity packages in order for health service teams to understand and be clear about what precisely is to be done and how it relates to the priority health problems, and health needs. Using high maternal mortality and morbidity as example, the three major reasons (delays) known as 'The 3 Delays Model of Maternal Death' is given below.

Figure 9: The Three Delays Model of Maternal Death[19]



Interventions to reduce maternal mortality would then have to be based on the identified cause(s) for the delay in providing care to the patient. Thus, if the major problem is the first delay due to failure to recognize a serious condition and/or seek professional help promptly, then a social mobilization and education campaign would become essential. For the second delay a transport system, and for the third delay a well functioning first level referral facility that can handle obstetric emergencies would need to be parts of the intervention package. In practice, however, it is often a combination of causes responsible for the underlying problem for which a set of interventions is required. Table 8 gives the

[19] Three delays model by McCarthy, J & Maine ,D. Studies in Family Planning 1992; 23, 1: 22-33

various interventions for addressing the various delays in handling of maternal complications.

Table 8: Intervention Matrix for High Maternal Mortality

Problem	Interventions
Delay in decision making	• **Inform, educate and mobilize** the family/community regarding danger signs and from whom, and where to obtain help
Delay in reaching facility	• Work with communities to **improve access to care-**for example community arranges transport on a permanent basis for such purposes. • **Rational placement of all facilities** providing maternal care services to enhance coverage and minimize client's travel time.
Delay within facilities	• Ensure ready **availability** of staff on a 24 hour basis • Relevant **training** of staff • Ensuring that **equipment** is in working order • Timely replenishment of **supplies** • Timely **referral** to a higher level of care, if necessary

4.5.2 Adjust Existing Services, Establish Additional Services & Overcome Constraints to Effectively Improve the Appropriate Interventions.

The Planners now have to list all existing service, management and support components that were found to be deficient with respect to high priority health needs.

In the selection of the most appropriate Intervention Package (IP) from those that may potentially be offered the following criteria must be used.

- Appropriateness of the strategy to the identified needs and problems;
- Feasibility of its implementation in light of given constraints imposed by the ecosystem, that is geographic, culture and political climate;
  - Does the strategy require resources up and beyond what is available, that is, physical infrastructure, manpower, equipment;

- Are existing management and organizational systems capable of handling the intervention package;
- Cost of the intervention package in relation to the overall budget.

Table 9: Priority Health Problems High Maternal Mortality, Health Needs, Limitations to Satisfying Needs and Suggested Strategies for Intervention.

Identified (priority) health need	Limitations/ deficiencies in existing system	Suggested changes/ interventions
Well-trained and supervised birth attendants	Lack of training program due to lack of trainers and funds	Train midwives, monitor & supervise
Increased maternal compliance	Ineffective health education programs, maternal illiteracy	Revise HE programs, collaborate with women's literacy programs
Reduced anemia	Poor maternal nutrition, high fertility	Nutrition education, Iron-folate supplementation program, FP education
Improve decision making at household level	Illiteracy, low awareness about danger signs	Improve awareness during ANC and home visits, early identification of danger signs
Functioning transport system	Transport / ambulance not available	Establish a transport facility through community support
Accessible emergency referral hospital	Trained obstetrician and anesthetist absent in hospital	Train and deploy trained staff to handle obstetric emergencies
Increased use of FP services	Religious, conservative outlook, weak M&O , weak HE program.	Discuss, clarify position of MoH vis-à-vis FP, revise HE program

Some programs such as AIDS control, EPI, TB DOTS, Control of Diarrheal Disease, come 'pre-packaged', that is their content, resource base and mode of delivery have earlier been determined and worked out for maximal impact. These need not be changed. However, problems with their implementation must be recorded and reported to those responsible for such programs at the central level. In addition, the district health planner must find the most efficient ways of integrating these services with routine care as well as ensure maximal population compliance.

4.6. Step 6: Setting Plan Objectives and Targets

What it is: **Setting plan objectives is the process of defining what one wants to achieve (sometimes also referred to as "expected results"), within the planned-for period of time in light of earlier identified health need priorities and prevailing resource constraints.**

Objectives: **The main purpose of "setting objectives" will be to:**

- **highlight what planners wish to achieve;**
- **quantify these; and**
- **enable a focused selection of inputs and activities that will bring about these.**

Plan objectives are set in order to provide the planning body with a list of results likely to be achieved through implementation of the plan in the course of the plan-implementation period.

4.6.1 Determining Plan Objectives

Having identified the most important and relevant intervention packages and their contents, as well as the limitations and constraints imposed by available resources, we now have to determine both levels and increments of health indicators, services and system- function we wish to achieve through implementation of the plan. Planners hence need to establish clear and unambiguous objectives in each of the following areas:

- Health status;
- Service activity;
- Management & organization;
- Support systems;
- Community involvement;
- lnter/multi-sectoral integration.

In determining these "objectives", the following considerations need to be taken into account:

- What is the required level of effectiveness;
- What resources are available to translate the objectives into activities;
- How efficient is the system in translating objectives into outputs/outcomes;
- What political considerations, effects, obstacles prevail.

Whereas the Aim is stated in broad qualitative terms, Objectives must be stated in quantitative, i.e. **measurable** terms. They must be **specific**, reasonably **attainable** under given constraints of resources, management capacity and in the ecological setting, and achievable within the **specified period of time**.

Objectives need to be stated in terms of what can be achieved within a relatively short period of time, i.e. so called short-term objectives[20], which ultimately lead to achieving long-term objectives[21].

Example

Aim

Improve Reproductive Health Services in District Rajanpur

Long term objective:

* Maternal mortality shall be reduced from the current 340/100'000 to 300/100'000 within four years, i.e. from 2001 to 2004

Short-term objectives:

* All pregnant women in all villages of the district are given advise and are referred to ante natal services within the first year,
* By the end of 2003, eighty percent of women delivering in villages of the district are assisted by a trained TBA,

4.6.2 Setting Targets

In the previous two sections, intervention components have been identified and objectives have been set. Now planners need to determine and set the number and quality of specific activities that have to be carried out before objectives can be reached.

To reduce maternal mortality, it had been decided that midwives have to be trained and regularly monitored, and that tetanus immunization, prenatal care, and emergency obstetric referral system shall be provided. DHMT now has to determine all of the following **targets**:

- No. of midwives to be trained;
- No. of training sessions to be held;
- No. of tetanus injections to be given;
- No. and frequency of prenatal visits;
- Percentage of obstetric complications to be seen in a THQ/DHQ hospital

Only if activities are carried out in the right numbers, can the outcomes necessary to reach the objective, that is reduced maternal mortality, be reached. Outcomes would be coverage of 80% of pregnant women with at least two injections of tetanus toxoid, 80% of women delivered by trained TBAs, 70% of pregnant women attending antenatal clinics, 60% of complicated pregnancies referred to and managed at THQ Hospital etc. The Impact, on the other hand, would indicate the percentage reduction of MMR.

[20] also referred to as *subobjectives*
[21] also referred to as *"main objectives"* or just *"Objectives"*

The calculation of targets is very important at the planning stage as it gives the managers an idea of the magnitude of work required to achieve the objective. For example if the objective is to improve the EPI coverage from a current 60% to 80% then the targets for two districts with populations of 500,000 and 3,000,00 would need to be worked out as shown in Table 11.

Table 11: Calculation of Targets for Two Districts with different populations

		District A	District B
Population of District		500,000	3,000,000
Estimated proportion of children under one year of age		3%	3%
Current EPI Coverage		60%	60%
Desired EPI Coverage in 12 months **(Objective)**		80%	80%
Total Children to be vaccinated **(Target)**		12,000	72,000
Additional number of children to be vaccinated (20%)		3,000	18,000
Vaccinations per child		5	5
Number of vaccinations		15,000	90,000
Syringes required		15,000	90,000
Vaccine to be administered:	BCG	3,000	18,000
	DPT	9,000	54,000
	Polio	9,000	54,000
	Measles	3,000	18,000
Vaccine required (administered + 30% wastage)	BCG	3,900	23,400
	DPT	11,700	70,200
	Polio	11,700	70,200
	Measles	3,900	23,400

The following tables may serve as examples to the concepts presented so far:

Table 12: Developing the Matrix for Strategies, Interventions and Activities

Table 12 a: Strategy and Intervention Matrix for the problem of high maternal mortality in a district

Priority problem	Strategy/ Intervention	Objectives	Indicator/source	Risks / Assumptions
Improved obstetric care in all villages	Community-based obstetric care and referral to health facilities	All pregnant women in the villages advised and referred to the antenatal clinic 80% of women delivering in the villages assisted by a trained birth attendant	Percent of pregnant women registered for ANC out of expected (FLCF records, LHW registers) Percent of women delivering at home assisted by a trained birth attendant (LHW records, survey)	Birth attendants may not accept training opportunities
Increased compliance	Health education & community mobilization	60% of pregnant mothers attending ANC clinic (at least 3 times) in the dispensaries	Percentage of pregnant women having three ANC visits (FLCF records) Percentage of health facilities having Health Education material(FLCF records)	There is a general reluctance in the community to send pregnant women out of their homes Health education material may not be available for six months

Table 12 b Targets and Activities Matrix for the problem of high maternal mortality in a district

Priority problem	Objectives	Target	Activities	Indicators	Risks / Assumptions
Improved obstetric care in all villages	All pregnant women in the villages advised and referred to the antenatal clinic 80% of women delivering in the villages assisted by a trained birth attendant	Have at least one LHV per facility with midwives training skills upgraded Increase # of trained midwives to 50 and equip them by the end of year 1600 pregnant women to be delivered by a trained midwives	Send LHVs for 2 weeks course in midwife training and supervision Hold 14 midwife-training days (include equipping and practice on use) Carry out 75 midwife supervision visits (3 per village/year)	% LHVs trained in midwifery and supervision % of midwifery trainings held % of midwives equipped % of supervisory visits conducted as per schedule	Enough females will be available for midwifery trainings Equipment will be received as per plan
Increased compliance	60% of pregnant mothers attending AN clinic (at least 3 times) in the dispensaries	At least 1200 women attend 3 or more antenatal visits Have pre-tested education materials in AN care in 30% of villages	4000 antenatal services to be offered in the clinics or at home. Health education campaigns per village (10 villages) including providing /posting education materials	% ANC coverage % of villages where Health education sessions have been conducted	Service provision through females will enhance acceptability

4.6.3 Matching Targets to Performance Standards

Planned service targets should be matched against expected potential performance standards using the available mix of resources. If the planned targets are higher than the potential numbers of services that can be delivered, giving available or potential resources (and under prevailing constraints), objectives need to be modified to allow congruence between planned service targets and potential performance levels.

For instance, suppose in parts of a hypothetical district there are 2000 pregnancies. If our service objective is to reach 40% of the women with an average of three antenatal visits each, then one might conclude that we need minimally 2400 service contacts to be provided in only one health facility. If the health facility plans to hold four sessions per week (52 weeks in a year) and if the staff can handle an average of 20 contacts per sessions, then the clinic can accommodate 4160 service contacts per year. This is more than the planned service target. If the objective was now set at 60% of the women, calculated service volume would be 3600 and the available staff should seemingly be able to manage even that without additional resources.

One must be careful when stating objectives for services requiring more than one contact with the consumer. If effectiveness of service is measured by the number of contacts (e.g. # of doses of Tetanus toxoid given), then when we say we have to reach X% of the recipients with full dosage, there is always a certain fraction of recipients who will receive less than the 'recommended dose' (3 injections).

4.7. Step 7: Determination of Resource Requirements

What it is**: Identification of resource requirements is the systematic process of translating planned activities into resource needs.**

Purpose**: The purpose of this section is to identify to what extent existing resources cover planned intervention packages and to what extent additional resources shall become necessary.**

In the course of the *Review of Resource Availability* and through use of HMIS records, where available, planners get to know both nature and quantity of resources available to them in terms of the *'triple M:* manpower, material goods and money.

4.7.1 How Does One Determine Resource Needs?

In order to establish resource needs for planned activities and, at the same time verify resource availability, a resource inventory should be established for each program to indicate what is required, what is already available and which, if any additional resource needs are required.

To determine resource needs type and number of required resources as well as all major program activities need to be listed.. In the example given in Table 13 below, resource requirements have been determined to immunize 10,000 women between 15 and 49 years of age with two injections each of tetanus toxoid within one year.

Resource requirements may hence be determined for new programs or program components but also as part of program monitoring and evaluation for existing ones. In essence, it entails asking:

- What is available;
- What additional resources are required to carry out planned activities;
- Are the (additionally required) resources potentially available?

Table 13: Resource Requirements for an Immunization Program of Women against Neonatal Tetanus

Activity	Personnel	Physical Infrastructure	Equipment/ Material	Drugs & Supplies	Travel/ Transport	Funds
Training	6mm PHNs 2mm MD	DHDC x 5 days Accommodation for 4 MCHAs.	White board, 10 syringes, needles, 5 seater vehicle x 1 week	None	5 days of microbus	Rs. 18,000 (meals) Rs 1,500 (fuel & maintenance)
Immunization	48 mm MCH Aides	None	1 refrigerator, Minibus x 12 months, 4 cold boxes, 27,000 syringes	20,000 doses triple vaccine 7,000 measles	260 days of microbus	Rs. 90,000 to defray fuel & maintenance expenses
Health Education	None Additional	None (home)	Health education Material	None	None additional	None additional
Super-vision	12 mm PHN	Office for record keeping in Health Center	1 clipboard 1 motorbike	None	200 days of motorbike	Rs. 10,000 fuel & maintenance Rs. 18,000 per diem
Planned total (a)	18 mm PHN 48 mm MCHA 2mm MD	Training center office in Health Canter	1 white board 28,000 syringe vehicle 1 refrigerator 4 cold boxes 1 motorbike 1 clipboard	20,000 doses tetanus toxoid	380 days of vehicle 200 days of motorbike	Rs. 136,800
Existing & potentially Available (b)	4 mm PHN 12 mm MCHA 2mm MD	Training center	1 refrigerator 1 cold box H edu. Material	2,000 doses tetanus toxoid	Non available	No funds currently available
(a-b)	14 mm PHN 36 mm MCHA	Office in Health center	1 4-WD vehicle 1 motorbike 3 cold boxes 22000 syringe 1 white board 1 clipboard	18,000 doses tetanus toxoid	380 days of vehicle 200 days of motorbike	Rs. 136,800

PHN= Public Health Nurse, MD= Medical Doctor, MCHA= Maternal and Child Health Aide

Where an existing program needs strengthening, such as following program review or evaluation, the planner should carefully review planned strategies and associated activities and then determine **overall and additional resource implications**. The objective in our earlier example was to reduce maternal mortality. Ongoing services featured routine ante-natal services which were found to be weak and needed strengthening. The (newly added) intervention components include strengthening of ante-natal services, training and supervision of trained birth attendants, and establishing emergency obstetric referral. Additional resource requirements might have been determined as shown in the example table 14.

Table 14: Additional Resource Requirements for Strengthening Antenatal Care

Additional Resource Requirements	Total required in plan year	# Available	# Needing Repairs	# Need to be provided/ repaired
Personnel				
LHV trainer	60 person days*	0	N.A	120 person days
Midwife supervisor	60 person days	0	N.A	
Equipment				
Weighing scale	50	26	13	24
Tape measure	50	0	0	50
Fetoscope	50	18	0	32
Health educ material	50	0	0	50
UNICEF kits	53	36	8	14
OT equipment	2	1	0	1
Furniture				
Examination couch	2	1	1	1
Transport				
Ambulance	2	1	1	1
Suzuki Pickup	1#	0	1	1

* Even though 1 LHV is currently available in each facility, 60 additional person x days are required for training and supervising train attendants in the first year of the program.
# To be used by the trainer/ supervisor

In determining resource requirements, all of the following system components have to be looked at: **Service Inputs** (Personnel, buildings, furniture, equipment, etc.), **Support Systems** (transport, communication, drug supply, record system, etc.), and **Management & Organization** (trainers, supervisors, wall charts, planning guides, etc,).

If the (additional) resources needed to implement strengthening of a service cannot be raised, planners may have to:

- identify alternative, less costly strategies to bring about the same effect;
- identify alternative sources;
- reduce or cut out other non-essential or less essential programs components or programs.

In addition to the resources listed above, there are yet others the planner would need to enumerate and quantify, namely **consumables,** such as drugs, sundries, the (additional) cost for water, electricity, the content of delivery kits, stationary, instruments to implement an HMIS, etc. Aside from these, funds may also be required for overtime pay, patient and health worker transport, and per diems. These should be stated in monetary terms and featured as such in the budget.

Not only resources "belonging" to the government services, but also those under the direction of the community, and/or of private, multilateral or bilateral organizations may be made available for the delivery of' health services in a given district. These should have been listed and been enumerated in the earlier "situation analysis", While resources shall unlikely be administered out of a "common pot", that is non-governmental programs will want to continue controlling their funds, services and activities should, indeed be controlled through the relevant district office.

4.8. Step 8: Adjusting the Management & Organization System

What it is**: The management and organization system (M&O) is the coordinating center for all health service activities. The Executive District Officer (EDO) Health heads it with the assistance of a team of district managers.**

Purpose: **The main purpose of the M&O system is to ensure maximal efficiency and effectiveness of the health care delivery system.**

Once the plan has been developed and plan-activities and targets identified, there is a need to revisit and if necessary readjust the existing M&O system before going into plan implementation,. As has been alluded to earlier in the 'Situation Analysis', a functioning M&O system acts as a lubricant for efficient conversion of 'Service Inputs' to the desired levels of Service outputs.

4.8.1 Adjusting Management & Organization Functions and Activities

The M&O system serves to control and monitor all aspects of the health system, that is health needs, health problems, health service inputs including the (management and) support system, their distribution, health service outputs, outcomes and community involvement. As such it assures that all aspects of the health service delivery system function smoothly and efficiently.

Among several functions of the M&O system, the more important ones address **M**anpower, **M**oney and **M**aterial issues, and the functioning of the ***support systems, in general***.

Example
In the case of EPI, and with respect to the 3 'Ms', the DHMT needs to review availability of vaccinators and supervisors, adequacy of vaccines, adequacy and functioning of the cold chain equipment, availability and integrity of transport as well as petrol, oil, lubricants and essential spares, of other necessary equipment, availability of financial resources for field monitoring, and availability of a record system, before implementing a plan for improving EPI coverage in the district.

4.8.2 Support Systems

4.8.2.1 Monitoring and Supervision

After the planners have established the nature and number of essential support systems, checked their findings against those actually present, and made arrangements for setting up those additionally required, they need to adjust the M&O system so that monitoring of all support systems is in fact included in routine M&O functions.

- ***Monitoring of activities.***
- How do you plan to monitor quantity?
- How do you plan to monitor quality?
- How to monitor overall staff performance?
- What measures of staff appraisal are to be instituted, and at what intervals?

- ***Supervision of the different programs***
- Estimate the number of supervisory activities required;
- Determine who will carry out supervision, and for which program;
- Develop supervisory schedules for each program.

Alternatively, and if resources are limited, selective supervision may be carried out. Selective supervision implies that only those programs, program areas, geographic areas or specific health facilities/cadres might be included in the process of supervision that have earlier been identified of having problems and weaknesses , such as through analysis of an ongoing HMIS.

4.8.2.2 Collection and Analysis/Reporting of the HMIS Data and or the information from Health System Analysis

Maintenance of quality of the record and reporting system (that is HMIS) in terms of continuity and internal consistency, and continuous analysis, interpretation and use of the information for decision making. Specifically,

- How are the data to be summarized, how often, what indicators are to be selected? (they need to be simple, few, appropriate);
- How may the information gleaned be mapped or plotted, by facility, by geographic or administrative unit, etc.?

4.8.2.3 Ensuring a functional Referral System

The Referral System refers to the potential for, and practice of:

- Sending patients to a higher level care center with underlying assumption that these centers are better equipped in terms of diagnostic and curative facilities than the ones from which the referral emanates; and
- Providing feedback and advice on follow-up to the lower level facility once the referral has been successfully taken care of.

The Referral System forms an integral and essential part of the support systems of the health care delivery system. It is essential for effective functioning of a health services delivery system especially for linking the lower levels of the system with the higher ones. The referral system can be looked at with respect to the following aspects:

- Does the referral system extend to all levels from the community/peripheral health care facilities to the THQ/DHQ hospitals?
- Is the referral system operational, and is it functional?

- Have suitable referral sites been identified for the various health problem categories requiring referral?
- Has the community been made aware of the need for, and nature of the referral system?

4.8.2.4 Repair and Maintenance

Ensure that there is a system for controlling and maintaining equipment and materials. This involves setting up ways and means for immediate reporting and repairing of defects, maintaining equipment at functional levels, ensuring cleanliness, and accountability in case of neglect or loss. Develop and use inspection aside from an inventory that could serve as monitoring tools for this function.

4.8.2.5 Drugs and Contraceptives supply system

Management of drugs - educating staff and patients in use of drugs; procurement of drugs; drug quality monitoring in terms of checking expiry dates, monitoring storage conditions; ensuring a functioning and a monitored cold chain; regular supply of contraceptives; monitoring stocks of essential drugs at health facilities and taking appropriate action, have all to be considered under an effective M&O system.

4.8.3 Coordination of Activities

- Synchronizing activities of all "stakeholders" involved in the delivery of health care, in terms of time, content and methods;
- Liaison with other sectors within the government that provide health related services which may be needed in the villages (such as water and sanitation, elementary education, agriculture, construction & works (C&W), the planning office, the local government, and leaders of the ruling party, etc.);
- Coordinating the activities of "vertical programs" like EPI, TB, malaria etc.;
- Continuous working and planning together (that is, scheduling of major activities like training, community surveys, outreach services, LHW supervision) with other health providers (bilateral, multilateral, or NGOs) in the district.

4.8.3.1 Coordinating different Organizations or Sectors

DHMT provides the forum for the different groups or sectors to interact. Each group's responsibilities need to be specified and monitoring mechanisms agreed to ensure that shortcoming are detected early and acted upon. All above functions as well as performance indicators for these may be found in the manuals on HMIS. For each function, both the person responsible for carrying it out, as well as the one responsible for supervision should be identified, unless such is clearly indicated in existing guidelines.

4.8.4 Community Mobilization

- In what areas, and with what activities should the community get involved with the improvement or delivery of health care?
- What actions are expected from the community?
- How may community involvement be monitored?
- At what frequency, and when are meetings with community representatives to be held?

In addition to the above, the following program components similarly need to be "fleshed out" and included in M&O activities:

- Ongoing financial management according to government or donor requirements;
- Monitoring the health services' material infrastructure;
- Communication to all concerned of planned objectives, plan of implementation, and of other decisions made;
- Day to day administration of all the above activities.

In a hypothetical district, the M&O functions might have been spelled out as follows:

Table 15: Management & Organization Functions Required to Improve Maternal Care Programs

Service Programs	M&O functions	M&O content
Tetanus Immunizations	Assign responsibility for:	• determining the amount of vaccines required • ordering the vaccines • coordination of vertical programs • keeping records • registering pregnant women
	Set-up record system for	• pregnancies occurring in villages • tetanus immunizations given to pregnant women
Service Delivery	Assign responsibility for:	• training of TBAs • monitoring of TBAs • procuring delivery sets • ordering replacement drugs for delivery sets
	Set-up record system for:	• pregnancy outcome • TBA performance
	Develop supervisory schedule for:	• Supervising TBAs

4.9. Step 9: Preparing the Budget

What it is: **Preparing the plan budget is the process of translating inputs, targets and activities into money.**

Purpose: **The main purpose of "budgeting" will be to:**

- **identify overall financial requirements by plan period and individual year;**
- **identify financial requirements by line item and by specific program, and**
- **enable performance budgeting.**

Even though all health care providers active in a district should plan together, each of them needs to prepare a separate budget covering their planned expenditures. Each of the health care providers should state at the planning session how much funds they have available according to the program they shall be responsible for, and in detail for each line item within the Program.

In the preparation of budgets there is always some confusion about what to include and what to leave out, and what use budget figures are for, other than telling us, what implementation of a given program or service shall cost. Are assets already in place and part of an ongoing system to be included in a "forward budget" or do you only state "additional" financial needs arising out of additions to and changes in the program? Does one budget only for those programs and activities under your direct control (funds allocated by district government), or do you include those for which a higher authority is responsible (NPFP&PHC)?

If you prepare a plan for the implementation of a government macro-plan within your district (for example Polio Eradication), or need to add on a program component not covered in the national (macro) plan, you need to budget for

- only those inputs and activities that will become necessary in order to implement government policy under existing, local constraints, or
- to allow the additional program to take off and run:

For example, let us plan for an (additional to routine services) program component aimed at reducing maternal mortality. First we need to review strategies and activities associated with the program. These may broadly be listed as:

- training new personnel (midwives) and retraining existing staff;
- providing new equipment and repairing existing one;
- providing for transport, its maintenance, repair and replacement if necessary;

- providing for salaries for new staff and overtime pay (where applicable) for existing staff;
- providing for consumables as needed;
- paying for necessary utilities where appropriate (water, electricity, etc.).

4.9.1 Steps to Preparing the Budget:

1 The most logical first step of the budgeting process is the review of previous year's budget, assessing the levels of expenditure and comparing it with the service targets set in the plan.

2 Service objectives and targets may require some modification in the light of previous year's performance, allowing for change in emphasis in different areas of service.

3 Carefully read through the current year's plan and identify all activities that could possibly consume resources. For example, while preparing a plan aimed at reducing maternal mortality, and having reviewed the strategies associated with the program, carefully review and assign costs to the activities. These broad activities form the basis for preparing a Line *Item Budget* for the program component on reducing maternal mortality as shown in Table 16.

4 At this stage it is useful to distinguish whether the line item falls in the category Capital or Recurrent Budget. Capital budget items are those that can be considered as 'one-time-only', as compared to recurrent budget items which are required repeatedly. The example of the former is construction of building and the latter procurement of drugs. It is customary to include items under recurrent budget, which are procured on an annual or a shorter term basis.

5 All line items have now to be translated into monetary terms. This requires information on the Number of specific activities to be carried out and the Unit Cost of each activity. Whereas Costs represent the resources required in a particular situation to carry out an activity and for convenience are expressed in monetary terms, Unit Cost is the cost of one unit of a task or of an individual activity. For example, the Unit Cost for civil works could be the cost of constructing one square foot or meter of building. Similarly, the unit cost for training could be the cost per participant trained in a 10-day workshop.

6 Information on unit costs of various items is often available from the central planning department of the province or country. Sometimes when the unit costs are not available or are difficult to estimate a *Lumpsum* cost estimate has to be used.

7 Once the total costs for each line item have been calculated, computing the total cost of the budget is not difficult. Two issues require further

consideration. First, budgets should have some provision for unforeseen eventualities called *Contingencies,* however, under no circumstances should contingencies exceed 10% of the total amount. Second, budgets should have some *Line Item Flexibility,* which means that within limits (usually not more than 10%), funds can be re-allocated from one line item to another when there is strong justification to do so. For example, funds available under the heading 'Travel Allowances' should become available to purchase drugs, if they have not been or shall not require to be used fully, and the budget item "drugs" falls short because of special or unexpected needs.

Table 16: Budget Line Items for Maternal Health Program Component

Line Item	Unit	No.	Unit Cost	Total Cost (Rs.)	Source of Funds
Salaries and Allowances				**168,000**	
Additional Staff (Trainers)	Per month	12	7,000	84,000	WHP
Senior LHV (for M&S)	Per month	12	7,000	84,000	WHP
Non-Salary Budget				**2,194,000**	
Drugs and Supplies				**475,000**	
Iron (10,000 tablets)	Per facility	50	1,000	50,000	Regular
Folic Acid (5,000 tablets)	Per facility	50	500	25,000	budget
Safe delivery kits	Per TBA	2000	50	100,000	"
Health Education Material	Per facility	50	2,000	100,000	Donor
HMIS Instruments	Per facility	50	4,000	200,000	"
Utilities				**1,620,000**	
• Electricity	Per facility	50	24,000	1,200,000	Regular
• Water	Per facility	50	6,000	300,000	Budget
• Telephone	Per facility	10	12,000	120,000	
TA/DA	Per visit	1,000	200	200,000	
Repair and Maintenance				**200,000**	
• Transport	Ambulances	2	20,000	40,000	Regular Budget
• Computers & Printers		3	7,000	21,000	Donor
• Ultrasound	Equipment	1	50,000	50,000	WHP
Contingencies	L/S			**315,000**	Regular
Procurement of Durable Goods				**184,000**	
Essential Laboratory Equipment	Per facility	15	10,000	150,000	Donor
Weighing Machines	Per facility	17	2,000	34,000	Donor
Total				**2,362,000**	

Table 17 disaggregates a line item budget by programs in a given district. Such break-down may be required, aside from being useful to the district manager in identifying budgetary allocations by priority programs.

Table 17: Program Budget of a District for Major Preventive Programs (Recurrent Cost)

(Rs. 000)

Line Items	Regular Budget	Safe motherhood	Family Planning	Child Health	Comm. Disease Control	Health Education	Total
Salaries and Allowances							
Officers							
Support Staff							
Total Establishment Budget (A)							
Drugs and Consumables							
Utilities							
Monitoring & Supervision (TA/DA)							
Repair and Maintenance							
Contingencies							
Procurement of Durable Goods							
Total Non-Salary Budget (B)							
Total Budget (A+B)							

Even though done very infrequently, *Performance Budgeting* provides a powerful tool for evaluation and also may form the basis of eventual Cost-Benefit analyses. Once a program has been implemented, budgeting focuses on a redistribution of (still) available resources in light of past expenditures. At this point in time, it becomes important to compare planned with actual expenditures -so called performance budgeting. In our earlier example, if we have budgeted a total of, say Rs.600,000 to implement our maternal protection program, and we envisaged a total of 3,600 contacts, then each contact will cost us Rs.168 . If in the course of program review one year later, we find that we only covered 2,500 pregnant women the cost per (desired) outcome will have risen to Rs.240, in other words we have used up our available resources without reaching our target, or put differently, our program's level of efficiency was 30% lower than presumed.

In any case, whether newly planning a program or system, or revising and complementing existing ones, the procedure is essentially the same. Budgeting requires the ability to break down input and output requirements into money. There are several ways of stating a budget, depending on what the budget is for. If a new program such as HIV/AIDS control, or rehabilitation of facilities is to be undertaken, the budget will need to be more detailed than when one deals with the improvement or continuation of routine services.

The sources of funding of the different line items must be specified and where more than one funding agency is involved this should be stated. The total budget consists of the sum of the costs for budgetary requirements for each intervention measure. Budgets need not go into fine details such as nails, boards, ball-point pens, etc. It is very important to avoid double counting, that is that some items are being counted under two or more headings.

Apart from the preparation of an original (or first) program budget at the conceptualization of a program or a health care delivery system, individuals preparing revised budgets should be the same in charge of implementing the program.

In times of economic difficulties, frequently total budgets are reduced or there are budgetary cuts during the course of the fiscal year. The brunt of such cuts normally falls on the non-salary components of the budgets. In such a situation the options available to the planners are:

- To make efforts to enhance efficiency,
- To look for alternate sources of financing, and
- To cut out or reduce non-essential program components.

However, in practice it is often seen that managers go for the easiest option that is to compromise on the quality of health services.

4.10. Step 10: Developing the Plan of Operations

What it is**: A plan of operations is the (written) summary of the implementation plan specifying sequence and timing of, and responsibilities for, implementation of main objectives, (expected) results and activities.**

Purpose: **The Plan of Operations serves to enable the plan implementing team[22] to carry out all activities associated with the execution of the district plan according to predetermined criteria of time, quality and quantity.**

The operation plan provides a set of ready guidelines for the day to day running, and periodic assessment of the functioning of health services for the plan "implementer". Plan of operations are derived from the 'Targets and Activities' such as reflected in Table 12b, and further elaborate on the following operational aspects of the plan:

Information in Targets and Activities Matrix (12b)	**Information in Gantt Chart (Figure 10)**
• What is to be done; • How that has to be done; • By whom; • To whom; • When; • Through what means; • According to what Quality Control Measures.	• By whom; • When; • How often; • Over what period of time

Once responsibilities have been clearly divided among the various health care providers, they have to be broken down into further details, identifying agreed upon content, target populations, responsible health cadre, frequency of activity, time and locality of the services, as well as their duration.

One of the most useful tools in the preparation of a Plan of Operations is the Gantt Chart. When correctly done, the Gantt Chart provides at one glance information about what has to be done, when such has to be done, where in relation to plans current operations are, and how to "make up" or correct for missed or delayed activities.. Finally, planners will need to identify both the indicators for measuring to what extent activities have been achieved, as well as the tools of verification. They further have to identify the person or cadre responsible for the report, the frequency of reporting and who is to provide feedback. Figure 10 below, summarizes the plan for reducing Maternal Mortality. Depending on the specific program under consideration, other tables may be necessary.

[22] such as the DHMT or a government agency such as the Ministry of Health

Figure 10: Gantt Chart of Program Activities for Maternal Health Program

Activity	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Responsible Individual
Train midwives													LHV / Senior Midwives
Supervise midwives													LHVs
Immunize CBAs													Vaccinators
Mobilize leaders													Health Educator
Train health workers													Midwives
Distribute Iron / Folic Acid at Facilities													Person incharge of Supplies and Procurement

Note: that by examining this chart, you can tell what the program is supposed to do at any given point in time, what it was to have done, what still needs to be accomplished, and who is responsible for what has to be done. If there were delays, the chart allows you to identify a time period to make up for the delay.

4.11. Step 11: Planning for Monitoring and Evaluation

What it is**: Monitoring and Evaluation (M&E) is a quality-control mechanism and forms part of Management & Organization responsibilities. Because of its importance for the success of health interventions it is being elaborated here in greater detail.**

Purpose: **The purpose of M&E is to render health care as efficient and effective as is possible within given ecological and resource constraints.**

The last part of the planning process concerns itself with preparing for monitoring and evaluation. This process can be considered under process monitoring, periodic process evaluation and outcome evaluation.

Planning for M&E means preparing for quality control activities **before** implementing the actual plan. Implementation of M&E activities form part of First Level Care Facility (FLCF). As such, macro-, micro planning and FLCF management should be considered as a continuation of activities with ultimately the same overall aim.

Monitoring & evaluation serve to assess whether the first four components of the health care delivery system, inputs, input distribution, outputs, outcome, as well as the support and management & organization systems are in place, are functional and match earlier established quality criteria.

As such it helps to:

- Determine whether objectives and (expected) results are being reached;
- Verify whether plans are being implemented in the way and manner they were planned to be implemented;
- Ensure that all components of the health service delivery system are in place and functional; and
- Identify problems early enough to allow corrections.

Monitoring usually refers to an ongoing process carried out by the program "implementers", that is personnel from (government or mission) district hospitals or a health care facility run by a specific donor agency. Evaluations are carried out less frequently and though they may similarly be performed out of the district or administrative level, it is usually personnel from a higher level of the government such as the provincial Department of Health or an external agency such as the donors who request and arrange its implementation.

While monitoring and evaluation may cover the two major components of any program, that is, the **process** and the **outcome**, monitoring is usually limited to the process. Evaluation includes both process and outcome. Determining to what extent the earlier identified Primary Health Problem has been affected, that is, to determine whether the main or principal objective has been reached, is also referred to as *"Impact Evaluation"*. Determining to what extent intermediate results have been achieved is called Outcome Evaluation. Evaluating how both Outcome and or Impact have been achieved is referred to as: *"Process Evaluation"*.

The following illustration may serve to explain process and impact evaluation as well as clarify the difference between the two

If reducing maternal mortality is the main objective, *I*mpact Evaluation will focus on the level of MMR after a period of time. If the rate is indeed lower, the program has succeeded. If not, many reasons may be responsible for such apparent failure that only a process evaluation will identify.

In the course of a process evaluation, one may first want to examine to what extent intermediate results, that is outcome objectives have been reached. Thus we may find that instead of having 80% of pregnant women covered with antenatal care, less than half were actually covered. In the course of the process evaluation we may subsequently find thatinputs may have been insufficient, services might have been neither accessible nor available to the extent required to reach all women. Alternatively, the number of birth attendants trained may have been too low, or their training not good enough to change their performance. The support system, that is drug supply (tetanus toxoid, iron and folic acid) might not have been functional, but this was not discovered because the M&O system was non-functional.

Note that if coverage of '80% of women with antenatal services' had earlier been identified to be the main objective, evaluating to what extent this figure had been achieved represents an Impact Evaluation. Determining the percentage of TBAs trained for the purpose of carrying out antenatal services would be the Outcome evaluation and examining to what extent inputs, input distribution and outputs were in place and functional, whether M&O and support systems were established and functional and whether the community actively was involved with ongoing activities, are parts of the 'Process Evaluation'.

The planning team and/or the community should plan for program monitoring, which shall include:

- Periodic or continuous checking for quantity, quality and timeliness of activities;

- Regular feed-back and correction of detected weaknesses and inadequacies; and
- On-going assessment whether program objectives can still be reached.

For that purpose:

- Meetings need to be planned, individuals that are to be involved in the monitoring process should be identified and informed;
- Periodic data collection (e.g. periodic health system reviews) should be planned and responsibilities for their implementation be identified and assigned in terms of when, who, where, and what tools are to be used;
- Special attention should be paid to monitoring of resource availability and use, such as, e.g., ordering and tendering of drugs and supplies, inventory keeping, storage, stock rotation, etc.; and
- Areas for monitoring need to be identified which might require special knowledge, skills and surveys for their implementation, such as, for instance, appropriateness of prescriptions and drug use.

To plan for monitoring requires:

- Availability of a functional supervision and in-service training program for all staff engaged in service delivery activities;
- Functional and up-to-date HMIS system; and
- Availability of a chronology showing all major program activities in relation to time, that is weeks or months of the year, as shown in the *Gantt Chart*.

Next, planners will need to identify indicators for measuring to what extent activities have been achieved, as well as the tools of verification. They further have to identify the person or cadre responsible for the report, the frequency of reporting and who is to provide the feedback. Table 18 below gives a *"Monitoring Matrix"* related to the Antenatal Care Program is shown:

Planners need to identify specific and sensitive indicators that are relatively easy to collect. Ideally these should already be contained in the existing Health Management Information System. They should further develop a simple descriptive means for their analysis, reporting and feedback.

Table 18: Monitoring Matrix for Activities Associated with the Reduction of Maternal Mortality.

Activities / outputs	Measurable variable	Tools of verification	Who prepares report	When, how frequent?	Who to give feedback
Train midwives	# trained	Training records	LHV	Quarterly	Incharge RH
Supervise midwives	# superv. Visits	Superv. Records (HMIS)	LHV	Quarterly	Incharge RH
Immunize Pregnant Women	# tet. Toxoid inj. Given	MCH records (HMIS)	Vaccinator	Quarterly	DSV
Mobilize religious leaders	# religious leaders contacted, # of contacts	Monthly reports	Health Educator	Quarterly	EDO Health
Establish kitchen gardens	# of villages with kitchen gardens	Monthly reports	Agri. Extension officer (MoA)	Half yearly	EDO Agriculture
Train Health workers on HMIS	# of Hlth workers trained	Training records	HMIS Coordinator	Half yearly	EDO Health

It is obvious that a functional HMIS is a vital prerequisite to monitoring. In addition to activity monitoring as shown in the example above, matrices need to be prepared in similar fashion to include:

4.11.1 Specific Areas to be monitored

Following are the areas that require regular monitoring:

4.11.1.1 Monitoring the support system, e.g.,

- Drug ordering, receipt, availability and adequacy in terms of quantity, as outlined in the HMIS;
- Supplies ordering, etc., as above;
- Transport, in terms of availability, functional state, repair and maintenance, in terms of proportion of items repaired/serviced of those given for repair/service; and
- Others.

4.11.1.2 Monitoring the M&O System, e,g,,

- Training, in terms of # of training sessions held, proportion of trainees instructed of total staff; and
- Supervision, in terms of percent of scheduled supervisory visits carried out; and
- Implementation of the HMIS, in terms of continuity, comprehensiveness and accuracy.

4.11.1.3 Monitoring health services inputs, e.g.

- Availability of specific services, in terms of the ratio of the days selvices were offered to the days they were supposed to be offered;
- Availability of the required physical infrastructure (for example, the proportion of minimally necessary equipment that was functional in any given month, or the proportion of days water/electricity/gas/kerosene was available;
- Staff, in terms of their physical presence;
- Expenditures/budget at end of every quarter.

4.11.1.4 Monitoring service input distribution

Monitoring of Service Input Distribution need not be done on an ongoing basis as Service Distribution changes relatively little from one period to the other. It, however, is a *sine qua non* in preparation for the establishment of a new district health plan or a plan revision. The following information is then required:

- Proportion of population that lives within 1 hour's walk from FLCFs (to determine the potential population coverage with 'intensive' services,
- Proportion of population that lives within 1½ hour's walk from FLCFs (to determine the potential population coverage with 'extensive' services.
- Proportion of the population, especially of adult females, that can read (to determine the potential for spreading health education through printed material).
- Extent to which FLCFs provide services during prescribed times.

4.11.1.5 Monitoring health service outputs, e.g.

- Quantity of services, in terms of percent of specific activities accomplished (such as immunizations) of those planned;
- Quality of services, for instance, in terms of proportion of days that the cold chain was operative;
- Staff performance, in terms of knowledge and skill levels of staff compared to expected standards; and
- Outputs (quantity per period).

4.11.2 Planning for Evaluation

In planning especially for process evaluation, planners should minimally state planned (short-term) objectives of the evaluative process, what variables one proposes to use as indicators to assess evaluation results, whether stated objective(s) has(have) been achieved, and the means of verification proposed as shown in the Table 19.

The dates, methodology, and the persons responsible for carrying out the evaluation should be determined between the "Implementers" and the "Funders" of the different components of the plan. All decisions should then be documented (e.g. in the Gantt Chart. and the plan of operations). Availability of resources required to carry out the evaluation should be ascertained and included in the budget. Both **Impact** and **Outcome Evaluation,** but especially the former usually require an elaborate, epidemiologically sound study after a prolonged period of time, long enough for project/program activities to exert their expected effects. Such assessment is expensive and frequently is performed only at the end of the project, provided its cost has been included in the original plan. An **Outcome Evaluation** is less cumbersome as it requires less time to have evolved and less “vital events” to have occurred. However, it similarly has to be planned and carried out according to epidemiological criteria. Process evaluation makes use of both quantitative (inventory analysis, functional analysis, etc.) as well as qualitative research methods. Whereas **Process Evaluation** assesses the achievements and state of functioning of short-term objectives and systems, respectively, Impact Evaluation assesses achievement of the long-term objective. For example, if the long-term objective has been reduction of MMR, say from 600 to 400/100'000 live births within 4 years, measurement to what extent this target has been achieved falls into the category of **Impact Evaluation.** The extent to which intermediate results have been achieved – such as percent of pregnancies covered by intensive services – is an **Outcome Evaluation,** and the process through which both Outcome and Impact have been reached, represent a **Process Evaluation.**

Table 19: *Evaluation Matrix* for Activities Associated with the Reduction of Maternal Mortality.

Short-term Objectives	Measurable Variable	Means of Verification
Operative AN services in 80% of the facilities	# of facilities with operative AN services	• Physical observation • District yearly reports • Records
Train and supervise 50 midwives in 25 villages (2 per village)	# of midwives trained # of midwives receiving at least 3 supervisory visits/year # of villages with at least 2 trained midwives	• Records (register of training attendance) • Supervisory reports • Community surveys
Increase compliance to postnatal care from 50-70%	# of women attending post natal clinics	• Records • Community surveys
Functional service records available in the 25 facilities in the district	# of facilities with functional service records	• Reports • Physical observations of registers/records

Finally, once the planning exercise is completed planners should write the **Plan Document** following the outline shown in Section D. When the document is completed it should be handed over to those responsible for initiating the planning exercise to **ascertain its approval** and initiate the process of obtaining funds for its implementation

The **Plan Document** now should form the basis for initiating and monitoring implementation activities. It also serves as "baseline document" for succeeding planning exercises as well as a source of information for external evaluations

Section 5

5. Essential content of District Health Plan Document

This manual has given a conceptual framework and all the steps relevant to the planning process. But the final output will be the preparation of a District Health Plan Document. For that purpose the following outline may serve as illustration and model.

5.1. Executive Summary

- Plan Period
- Planning Team
- Priority Health Problems
- Plan Objectives and Targets
- Major Interventions
- Additional Resources Required
- Agency responsible for Plan Implementation and Monitoring
- Possible risks and assumptions

5.2. Introduction

- District Profile that is
  - The setting of the district in terms of the economic, social, geographic, political and cultural ecosystem, (available) infrastructure and communication systems.
  - The district's demographic profile.
  - Nature and magnitude of community involvement
- Provincial Policy guidelines

5.3. Situation Analysis

- Primary Health Problem
  - Listing of major health problems overall, and specifically in the last year in terms of :
    - Mortality statistics (e.g. IMR, MMR, U_5 MR),
    - Morbidity statistics by age and other groupings as applicable

Sources of statistics must be indicated.

- List Health Problem/ Need Priorities

- Major secondary (or contributory) Problems.

Major problems underlying poor health need in the context of each major, specific health problem.

Age group	Health Problem	'Best Estimate*'	Estimated No. of affected individuals
Pre-school children (approx. 16% of population)			
Women 15 to 49 (approx. 20% of the population)			
General population			

*Source

- Status of Health Services
    - Major health programs being implemented in the districts;
    - Health inputs (staff availability, facilities, equipment etc.)
    - Support services;
    - Management and Organization of services;
    - Health service outcomes;
    - Health service achievement and deficiencies.

	Health Needs				
Available Service Programmes					
Facility Based Services					
• General Curative					
• Ante Natal Care					
• Delivery Care					
• Post Natal Care					
• Growth Monitoring					
• EPI					
• Nutrition (WFP)					
• Family Planning					
• Health Education					
Outreach					
• Midwifery training					
• NPFP&PHC					
• EPI					
• CDC					
• Sanitation					
• LHV home visits					
Referral Services					

- External factors influencing health services – environment, community characteristics, parallel systems (vertical programs, NGOs, private sector etc.)

5.4. Resources Available for District

Tabulate available resources in terms of trained Manpower, Material and Money.

5.5. Planned Intervention Measures

In this section describe both Objectives and Targets, as well as the Inputs (Programs and infrastructural changes), that is what is proposed to be done in the Plan Year under each of the following headings:

- Service activity objectives and targets,
  - Service program interventions; strengthening health problem-specific routine strategies, addressing identified weaknesses in delivery faced in

the previous year, new service programs to complement the existing services/programs;
  - Improvements/ changes in Health Services Infrastructure in line with program improvements/ changes.
  - Service facility/ program distribution, improving accessibility, improve availability.

- Support systems objectives and targets
  - Strengthening Support System, such as maintenance and repair, transport, Vital Statistics and service record systems, etc.

- Management and Organizational objectives and targets
  - Describe future Management and Organization functions and content, esp., with regards to strengthening M&O capacity and functioning, e.g. in-service training, supervision, administration, monitoring and evaluation, personnel deployment, coordination etc.

- Inter/multisectoral collaboration objectives and targets

- Community (participation) objectives and targets.

5.6. Strategies and Interventions

- For each plan objective identify one or a combination of interventions
- For each intervention identify major activities;
- Present the priority problems objectives, strategies, major activities in a strategic framework

Strategies and Interventions Matrix

Priority Problem	Goal / Objectives	Strategies / Interventions	Indicators / Source	Risks / Assumptions

Activity Matrix based on the Identified Interventions

Priority problem	Objectives	Target	Activities	Indicators	Risks/ Assumptions

5.7. Monitoring and Evaluation

- Description of monitoring and evaluation system to be implemented in terms of content such as:
  - Problem monitoring (such as Vital Statistic collection and analysis)
  - Program inputs
  - Expenditure versus budget
  - Staff performance (knowledge, skills)
  - Output in terms of activities (numbers, quality, timeliness)
  - Outcome (coverage)
  - Community involvement, if any, in the monitoring process.

Activities / outputs	Measurable variable	Tools of verification	Who prepares report	When, how frequent?	Who to give feedback

5.8. Developing a Plan of Operations and Timeline (Gantt Chart)

Description of how these Intervention Measures are being implemented (e.g. such as in terms of frequency, time, where, by whom, through what means, when, etc.)

5.9. Budget

Prepare a detailed line item or program budget.

Line Item	Unit	No. of Units	Unit Cost	Total Cost (Rs.)	Source of Funds
Salaries and Allowances					
Non-Salary Budget					
Drugs and Supplies					
Utilities • Electricity • Water • Telephone					
TA/DA					
Repair and Maintenance • Transport • Computers & Accessories • Ultrasound					
Contingencies					
Procurement of Durable Goods					
Total					

ANNEX

The following may be included:

- Map of the district
- Average staffing pattern, total staffing,
- Special (e.g. vertical) programs in force,
- Different donor agencies active in the district,
- Composition (cadres) of the district health management team.

Section 6

6. Appendices

Indicators

What are indicators: They are basic tools used to measure progress and achievement of program goals. Indicators are variables that help to measure the changes in the health situation and assess the extent to which the objective and targets of a program are being attained. Indicators are usually expressed as percentages, rates, or ratios to allow comparisons being made. Example; Percentage of all births occurring in community A during 2002 that were attended by medically trained personnel

Components of an Indicator

An indicator is usually composed of five parts; Numerator, Denominator, Time, Geographic Area, Constant. In the case of the above example the parts are as follows:

1	Numerator:	Number of births attended by trained persons
2	Denominator:	Total number of births
3	Time:	Year 2002
4	Geographic Area:	Community A
5	Constant:	100 (to convert it into a percentage)

Rates, Ratios, Proportions

Relationship between numerator and denominator is very important.

- Rate — Numerator rose out of Denominator; every count in Numerator occurred to someone in the denominator
- Ratio — No similarity required between Numerator and Denominator
- Proportion — Similarity between Numerator and Denominator; but no special relationship as in rate, expressed as % e.g. 20% fruit basket are oranges

Types of indicators

Direct:

These indicators directly measure what they are applied to for example Infant Mortality Rate.

Indirect (Proxy)

These indicators measure "something else", however that something else reflects more or less what one had set out to measure in the first place for example Maternal Mortality Rate is an indirect indicator of accessibility of Emergency Obstetric Care Facilities. However, indicators can be direct as well as indirect. They measure something directly and that information can be used to assess something else.

IMR: directly measures health status of children, indirectly measures social and developmental status of community

Absenteeism directly measure human resource availability, indirectly staff motivation

Common types of indicators

Indicators of availability:

Show whether something exists and is available

Number of facilities providing Emergency Obstetric Care per 500,000 population

Indicators of accessibility:

Show whether what exists is actually within reach of those who need the services

Percentage of births attended by trained personnel

Indicators of quality:

Show the standard of something

Percentage of children weighed for growth monitoring

Desirable Qualities of Health Indicators

1.	Valid	The indicator actually measures the phenomenon it is intended to measure
2.	Reliable	The indicator produces the same results when used more than once to measure precisely the same phenomenon
3.	Specific	The indicator only measures the phenomenon it is intended to measure
4.	Sensitive	The indicator reflects changes in the state of the phenomenon under study
5.	Operational	The indicator is measurable, quantifiable, definitions and reference standards have been developed and tested

Uses of Indicators in Health Systems Review

- As measures of health status, e.g. morbidity, mortality, disability, fertility
- As measures of economic and developmental status, e.g. Female literacy, GNP per capita, MMR
- To determine the integrity of a given health system component, e.g. Health services inputs, management and organization
- To measure the extent of community participation, e.g. Health services utilization, contribution to health services delivery

Five questions to answer when developing indicators

- How does one determine indicators for the assessment of a given health system component
- Which indicator from among several should be used to measure specific health system component
- Where and how can information on this indicator be collected
- What and how precisely does the indicator chosen asses / measure the specific component under consideration
- What additional information is required to make use of the indicator

Common Tools for Planning

1. Brain Storming:

Uses: To generate ideas

- An interactive group process
- Most "informal" technique of soliciting information from a group
- Used practically in all planning methods
- Get broad spectrum of responses
- 2-50 participants can take part in Brain Storming sessions.

Method:

- A person asks a question and all the answers are recorded on a piece of paper or (for better visualization) on a white/black board, flip charts, cards, transparencies, etc.
- After no more responses are obtained, the responses are analyzed and ordered according to arbitrary headings and subheadings.

Weaknesses:

- Quality of responses dependent of knowledge level of participants regarding issue.
- Owing to direct interaction – does not work in hierarchical settings

2. Nominal Group Process:

- A systematic Group process
- All participants given the opportunity to voice their views
- Diversity of responses; no idea gets lost
- Anonymity can be assured; overcomes power imbalances
- Immediate visualization
- 6-12 participants can join in
- Used for eliciting information and reaching group consensus
- Used in all stages of Planning cycle (a tool of planning)

Method:

- Convener selected on request
- Issue or question described
- Cards distributed to all

Option-1: (written)

- **Stage-1**: Each Participant writes down anonymously on a card without inter-participant discussion (*only 1 idea per card)*
- **Stage-2**: Moderator collects cards and pins/copies, without any comments
- **Stage-3**: With group consent, cards discussed, combined, some reworded and some eliminated (to avoid duplication)
- **Stage-4**: Additional cards are requested by the moderator, if group feels need for more information
- **Stage-5**: (optional) Problems are prioritized using ranking method: e.g. every group member can distribute points anonymously

Option-2: (verbal)

- **Stage-1:** Each person suggests idea, those pass who do not have any to contribute in that round and responses are noted on a white/black board, flip charts, cards, transparencies, etc.
- **Stage-2:** Convener goes around the group until there are no more ideas.
- **Stage-3:** Similar ideas are grouped together
- **Stage-4:** Suggestions discussed to reach consensus, when no consensus could be reached, create compromise solutions.
- **Stage-5**: (optional) Problems are prioritized using ranking method: e.g. every group member can distribute points anonymously

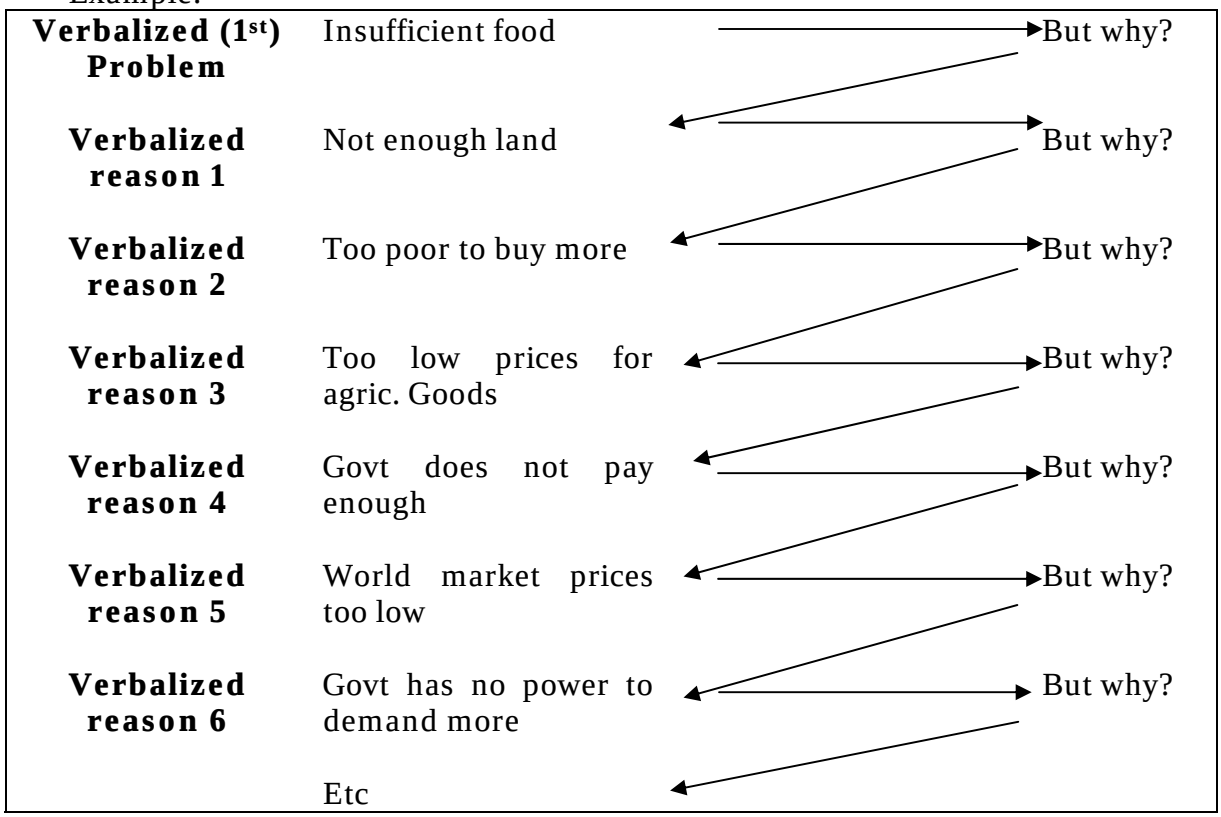
Limitations:

- Quality of responses dependent on Knowledge, attitude and training of participants
- Takes more time than brain storming
- Requires some material
- Convener/moderator can affect quality of responses
- Everybody do not participate equally
- Unorthodox views are usually left out or oppressed

3. "But Why?" Technique:

Useful means to arrive at presumed reasons for (a) given situation(s) through means of a "guided" Brainstorming and Nominal group process of a group of people.

Example:



- A moderator formalizes a given problem, writes it down on a blackboard or piece of paper which he pin to a board,
- Asks the audience to give the main reason directly under deriving the problem. The moderator may ask the audience to do so through direct verbal exchange. Alternatively he/she may request respondents to print/write their statements on pieces of paper and hand them to the board, or copying them on the blackboard (if anonymity is desirable).
- Arranges them on the blackboard, or pin board in a logical and sequential manner and then asks the audience to repeat the process, now using the reason for the first problem as the new problem, and finding a or more reason(s) for the new problem. I.e. "But why is .....(i.e.) the reason)?"
- This process is repeated until no longer logical or sensible answers are obtained. An example of such "dead-end" reason may be, e.g. "because God wants it so". Or "because that's the way it is". Or "because that is our fate", etc.

Limitation:

If used in any context where injustice or negative social behaviour prevail, e.g., where poverty, exploitation, special privileges, or, alternatively, corruption, indolence, nepotism are major reasons, the technique powerfully visualizes the problem sequence, at times not without (perceived and or real) threat to the reigning establishment, and, in a repressive society, danger to the participants.

4. Delphi Technique:

- When expertise is needed for planning from outside, this tool helps planners to develop consensus. (*External source of information)*

- Physical presence of participants not required

- Draws multiple viewpoints without damaging or intimidating one another

- Quality of responses is very good

- Responses are impartial (depends on selection of experts)

When used?

- Planning team does not have adequate technical knowledge or experience in subject
- Sometimes to draw opinion of a group of participants on issue in which enough information does not exist

Method:

- Question or problem to be discussed is defined
- 5-7 experts identified and contacted
- Experts write and send back their opinions / suggestions
- Planning team analyses the responses
- If all agree (*rare)* this is taken as the answer
- If all do not agree, the summarized results are sent again for review
- Done as many times as needed until consensus is reached

Examples:

- The probability that a truly effective vaccine against HIV will be developed within next 5 years
- Conclusive factual information not available
- Yet not speculative either
- Enough information and expertise on subject exists
- The required probability is therefore a matter of opinion based upon experienced judgments

Limitation:

- Time consuming

5. Problem Tree- Needs Tree

- Modeling of problems in a sequential mode
  - Forces individuals and communities to think beyond immediate problem
  - Results are only as good as the understanding, comprehension and willingness to participate of the group members
  - Used extensively in situation analysis part of planning

Method:

- Problems are identified by means of guided Brainstorming, Nominal Group Process or Delphi
- Problems are prioritized to provide one or several problem "priorities"
- Various hierarchies identified are then arranged in sequential layers below the main problem (trunk) and inter-connecting lines are used to show their relationship with trunk and each other (roots)

6. Logical Framework For Planning And Evaluation

Broad programs are often made up of several interrelated projects, each of which must be planned to contribute to the overall effort. While anticipated project results must conform to broader program goals, they must also be clearly related internally to the resources and activities necessary to achieve project intentions.

Moreover, if the hierarchic relationships among inputs, outputs, purposes, and goals are to be more than conceptual, concrete measures of progress must be established, along with an information base for providing the data necessary for project monitoring and evaluation.

The hierarchical relationships and the basis for quantification have been incorporated into a matrix known as the **logical framework** shown in Figure 15. The hierarchic **vertical logic** of the framework clarifies why and how a project is to be undertaken. The **horizontal informational logic** depicts the evidence to be used to signal project success and to make explicit important assumptions, some of which may be so shaky that they deserve to be tested before the project starts. A project to immunize pre-school children against measles is used to illustrate these features of the matrix.

Vertical Framework

The project purpose must first be placed within the context of broader organizational aims. The immunization project, for example, may be part of a maternal and child health effort designed to reduce mortality and morbidity among infants and pre-school children. The direct purpose of the project itself might be the elimination of measles from the target community. Achievement of this result is presumably contingent upon the mobilization of certain resources to produce a targeted level of service coverage (assumption). Specifically, the output should be immunization of 80 percent of the target population of 10,000 pre-school children. This level of coverage is expected to require inputs of two person-months of physician effort, five person-months of nurse time, and ten person-months of input from health auxiliaries. Other input requirements for vaccines, transport, and so on, should also be specified.

Horizontal Framework

To make the preceding hierarchy of relationships operational, it is necessary to specify performance indicators that can be measured objectively so that performance can be reliably monitored. The matrix also indicates how the specified measures are to be obtained and verified. This ensures the practicability of the designated indicators and outlines the required system of data collection, including the need for special surveys. The matrix format requires that

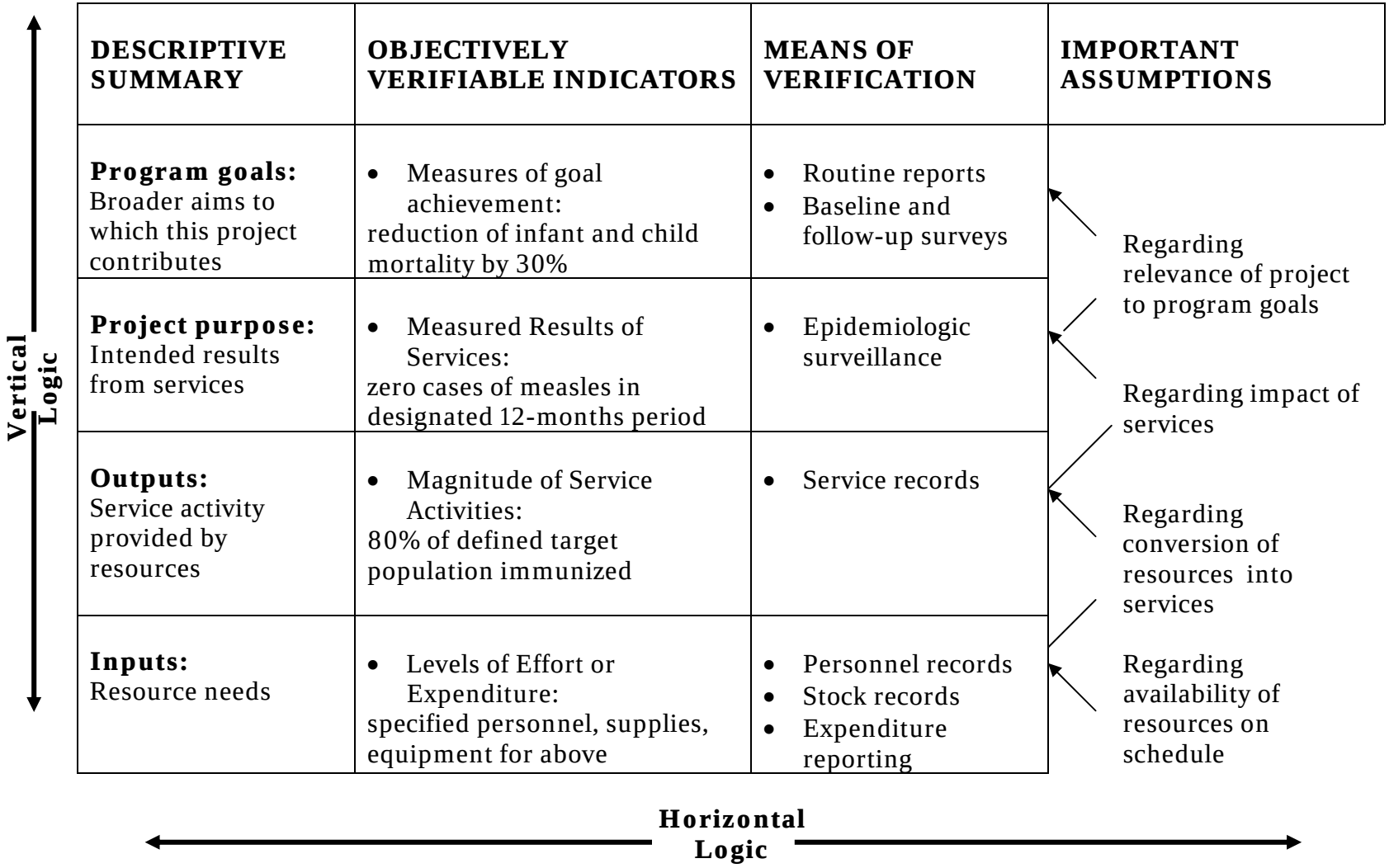
(frequently ignored) quality control procedures be incorporated explicitly into the data collection system.

Important Assumptions

The rationale behind the logical framework depends upon the validity of certain assumptions that underlie the linkages elaborated in the matrix. To further enhance the realism of the logical framework, the most important of these assumptions are recorded. Project objectives can thus be pursued with due caution, and in the event that expectations are not realized, the original assumptions can be examined.

In the course of project implementation some assumptions are inevitably invalidated, factors initially overlooked turn out to be severely constraining, certain planned inputs prove to be unattainable for well-documented reasons, and numerous other changes take place. The logical framework, therefore, cannot be an inflexible blueprint for action. Moreover, it must be supplemented by information systems that fully encompass the dynamics of monitoring and evaluation. Nevertheless, subject to appropriate modification as necessary, the logical framework can be a most useful tool for planning and evaluation.

LOGICAL FRAMEWORK FOR SUMMARIZING PROJECT DESIGN



Source: W.A.Reinke. (1988) Health Planning for Effective Management. Oxford University Press.

7. ZOPP[23]

Ziel Oriented Project Planning (ZOPP) is a planning method developed by the *Gesellschaft fuer Technische Zusammenarbeit* in the early '80s and based on the *Logical Framework Planning Method* of USAID. It consists of five main sequential steps, of which 2 are further subdivided:

1. Analysis of Participants

2. Problem Analysis

   2.1 Development of the Problem Tree

3. Objectives Analysis

4. Identification of Intervention Alternatives

5. Development of the Project Planning Matrix

   5.1 Statement of "Overall Goal", "Project Purpose", "Project Results/Outputs", and "Project Activities"
   5.2 Identification of important Assumptions
   5.3 Identification of Indicators
   5.4 Determining Means of Verification
   5.5 Determining the Cost of Operations

Planning by ZOPP is applicable for projects in practically all sectors - from agriculture to health development. It is carried out as a group process, including anywhere between 3 and 12 individuals representing the various parties interested in the "project" or undertaking, such as the host government, the donor as well as NGOs or other groups potentially affected by the project. It follows a logical sequence examining the interests and (potential) contributions of all parties involved, identifying major problems and problem consequences, ending with a "Project Planning Matrix" that summarizes goals and objectives, their (verifiable) indicators, means of verification as well as important assumptions underlying objectives and activities. The method makes use of a number of other planning tools, notably the "BUT WHY" technique, "Brainstorming" and a modified "Nominal Group Process". ZOPP lends itself very well to the planning of relatively small projects or the individual components of more complex systems.

To hold a ZOPP workshop requires on the average one week. From conceptualization to completion, it is suggested that each project be planned and re-planned, i.e. *"zopped"*, four times.

[23]More information on ZOPP, especially its latest version, may be obtained from: Abteilung 04, "Strategische Betriebsentwicklung, GTZ, GmbH, Postfach 5180, D-6236 Eschborn/Ts., Germany.

Major strengths of the method are its logical and sequential nature, involvement of all those present in the workshop, and relative ease of application. In addition, ZOPP by developing a "problem tree" lends itself almost automatically to iterative planning, provided participants include all relevant components of the health service delivery system.

Weaknesses relate primarily to:

a) it being totally dependent on knowledge and experience of participants present at the workshop – use of the Delphi Technique is uncommon.
b) Absence of a systemic approach – System Modeling, Review and Analysis are not part of the method. Because of this, ZOPP should not be used for the planning of complex programs or systems, such as represented by Health or the Health Service Delivery System.
c) Potential manipulation and domination by key individuals. This may be especially serious where the group consists of members from different organizational hierarchies and/or where the workshop is held in a hierarchical society.
d) ZOPP it frequently being used beyond its “capabilities”, such as when complex systems rather than individual system components are planned. Such situation might be compared to the occurrence of Parkinson’s law, except that here the individual is a method.

Since System Review and Analysis are not routine parts of ZOPP, plans developed through this method often tend to leave out major and essential system components, leading to a false and unjustified sense of “security” and unmerited impression of “professionalism”. As we have seen in Section I of this manual, the former are a *sine qua non* for ensuring that all essential components of the *Health System* have indeed been considered.

8.Cause and Effect, Fishbone, Ishikawa Diagram

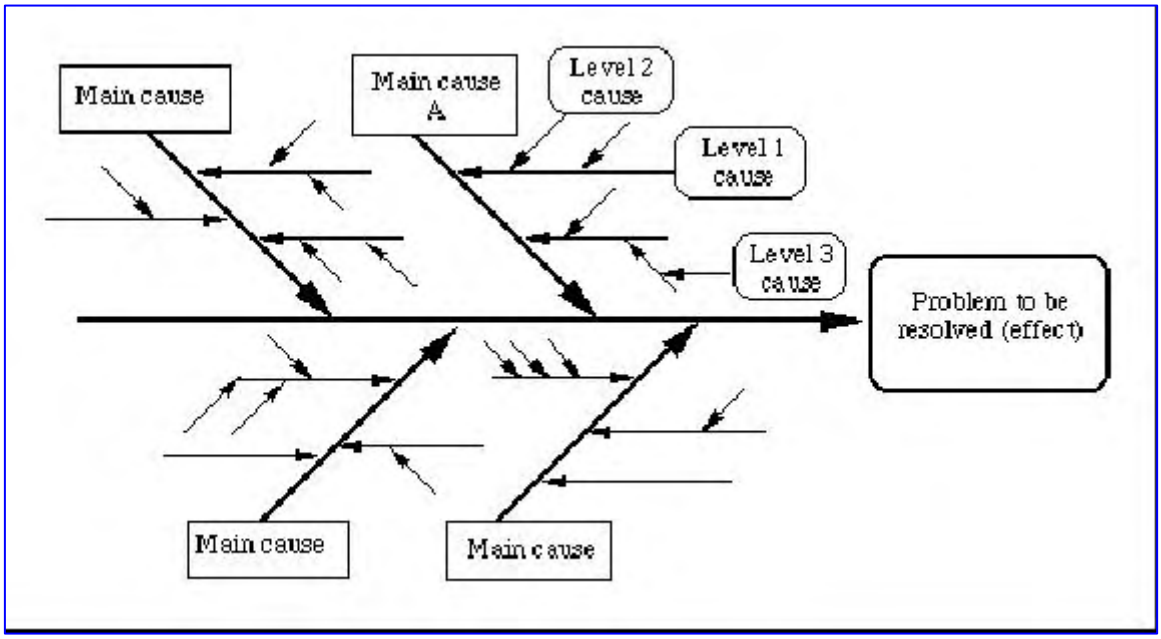
A method for supporting Brainstorming to identify causes of problems.

Employed to start from problem and work backwards, by repeatedly asking "why?"

Effect = problem to be resolved, opportunity to be grasped, result to be achieved.

Can become very complex. Can be difficult to identify or demonstrate interrelationships.

Four main causes frequently employed are: People, Methods, Materials, and Equipment



9. Prioritization Tools

Voting

- When options are fairly straightforward
- Time is limited

Straight Voting

- All options listed
- 1 person 1 vote (equally weighted)
- Counting made

Multi-voting

- Each person given multiple (but limited) votes
- e.g. each person rank top 3 or 5 choices
- used when desire is to pick more options than one

Weighted voting

- Each person given a possibility to assign values to options
- Totals are counted
- Overall scores give prioritized ranks

Prioritization Matrix

- Each individuals makes decision
- Criteria for judgment are pre-defined
- Used for complex and multiple options

Section 7

7. Glossary

Term	Meaning
Aim	Aim refers to the final overall "goal" of a project or program. An aim is usually not reached by any single program but requires the collaboration of many "programs". Aims are in general stated quite vaguely, such as "Improvement of the Health status of the population", "Improvement of Maternal health services"
Allocative Efficiency	The extent of optimality in distribution of resources among a number of competing uses
Assumption	"Assumptions" are statements specifying the conditions not under ones control, under which the programs or program activities are expected to proceed. These may concern the environment, the formal health service delivery apparatus or the community and deal with all aspects of or impinging upon health care delivery. Assumptions do not need to be always specified. However, they may be important to be stated if the success of a new program depends on it. Example: -the community is willing to contribute to the cost of health care delivery -the MOH will provide extra human resources (A "killer assumption" is one which cannot be fulfilled and it effectively ensures that the program or program activity will not succeed; Health care budget will be tripled next year)
Budget	A comprehensive plan of how much money is needed for any one year and how that will be raised and expended.
Capital	Economics define this to be any man-made aid used in production, commonly used to describe investments in terms of money, which are also called Financial Capital
Capital Cost	One-time investments of any sort, basically used to indicate developmental part of finances e.g. costs of buildings, equipment, land, etc.

Term	Meaning
Client Satisfaction	The extent to which individuals or the community agree with the nature, volume and quality of services offered in response to their (expressed) health needs
Cost	It is the price, cost, rate or charge for anything in financial terms.
Cost Benefit Analysis	Comparisons of cost to achieved benefits, where both costs and benefits are expressed in monetary terms.
Cost Effectiveness	Comparison of different interventions, which have the same effects/outcomes. Effects are presented in natural units such as number of lives saved, etc. The net gain in health or reduction in disease burden from a health intervention in relation to the cost. Measured in monetary terms per effect produced.
Demand	(Health) demands are (health) needs expressed by individuals or communities.
District Health System	"A district health system based on primary health care is a more or less self-contained segment of the national health system. It comprises first and foremost a well-defined population, living within a clearly delineated administrative and geographic area, whether urban or rural. It includes all institutions and individuals providing health care in the district, whether governmental, social security, nongovernmental, private or traditional. A district health system therefore consists of a large variety of interrelated elements that contribute to health and other related sectors. It includes self-care and all health care workers and facilities, up to and including the hospital at the first referral level, and the appropriate laboratory, and other diagnostic, and logistic support services. Its components elements need to be well coordinated by an officer assigned to this function in order to draw together all these elements and institutions into a fully comprehensive range of promotive, preventive, curative and rehabilitative health activities." World Health Organization, "Interregional meeting on Strengthening District Health Systems", Harare, 3-7 August 1987.
Economic Evaluation	The comparative analysis of alternative courses of action in terms of both their costs and consequences. Economic analysis seeks to identify and to make explicit one set of criteria which may be useful in deciding among different uses for scarce resources
Effectiveness	Effectiveness is defined as the extent to which a specific intervention procedure, regimen or service, when deployed under field conditions, does what it is intended to do.

Term	Meaning
Efficacy	Efficacy is defined as the extent to which a specific intervention procedure, regimen or service, produces the intended result under ideal conditions, such as in a laboratory
Efficiency	It is best described as obtaining the maximum output from a given input.
Equity	Equity is the principle of being fair to all, with reference to a defined and recognized set of values. It implies social justice in the sense that those with most health need should be provided with most care Equity – is related to concern for fairness and justice
Equity in Delivery of Health Care	Starts from the premise that health care ought to be distributed according to need rather than willingness or ability to pay
Equity in Financing of Health Care	The starting point is that health care ought to be financed according to the ability to pay 1 Vertical equity: persons or families of unequal ability to pay make appropriately dissimilar payments for health care 2 Horizontal equity: requirement that the persons or families of the same ability to pay make the same contribution [regardless of for example age, gender, marital status, occupation, place, residence etc.] Both interpretations require a clear definition of "ability to pay" – based on income, wealth etc. Vertical equity – payment according to ability Horizontal equity – Equal treatment of equals, equalization of the burden of risk
Fair Financing	The second goal of health systems as presented in World Health Report 2000 is fairness in financing and financial risk protection for households First, households should not become impoverished or pay an excessive share of their income in obtaining needed health care. In other words, fairness in financing requires an important degree of financial risk pooling. Second, poor households should pay less towards the health system than rich households, contribution to the health system should reflect the difference in disposable income between rich and poor
Finance	The word finance means money, which is something that is generally acceptable to everyone as payment for anything.

Term	Meaning
Health Problem	A health problem is a state of an individual or a community hindering normal activities, social, physical, economic development, or enjoyment. It may or may not be perceived as such by the community
Health Promotion	Efforts to maintain and improve the health of the individual or the community. Health promotion aims to prevent disease through improving awareness and promoting healthy lifestyles by providing an enabling environment
Health Service Utilization rate	It is the number of visits paid to the health services per individual per year. For health services to be effective, this rate is minimally accepted to be 2 visits per person per year
Health Systems Review	The systematic examination of the health system i.e. the community and its health problems and problem priorities, the health service delivery system, and the surrounding ecology which largely influences and determines health problems and community responses
Impact/Outcome Evaluation	Determining whether the ultimate/intermediate objective of the program or activity has been achieved.
Impact	It is the achievement of the ultimate objective e.g. reduction in maternal mortality, reduction in Infant mortality
Input	A term commonly used in health planning. Inputs are the programs that are being offered as well as the material prerequisites, usually referred to as the three M's (Material, Manpower and Money) necessary to run these programs.
Intervention	A specific activity meant to reduce disease risks, treat illnesses, or palliate the consequences of disease and disability
Management	Day to day organization and implementation of (health) policy and plan within well defined resource boundaries for the purpose of optimizing the health service systems efficiency. " Getting things done"
Needs	(Health) needs are health problems that have been recognized and expressed by individuals, the community and/or the health care professionals
Objective	Objectives define the ultimate achievement one wishes to obtain with a given input and process. Objectives must be **S**pecific, **M**easurable, **A**ttainable, **R**ealistic, and **T**ime bound. For instance, "To reduce preschool child mortality from diarrheal disease by 50% within a two year period."

Term	Meaning
Outcome	**Outcomes** are the intermediate results short of reaching the main, or principal objective. These may be coverage outcomes e.g. proportion of high risk children identified and provided service.
Output	Output refers to both the quantity and quality of health service activities that are being carried out, such as within a given program the number of workers trained, the number of children immunized, the number of condoms distributed.
Process	Process denotes all activities and components that enter into health care delivery to achieve a desired result. As such, it includes inputs, input distribution, M&O, and outputs.
Process Evaluation	Evaluating all those steps that are being implemented to achieve a desired objective but stopping short of examining the outcome/ impact of the project
Program	Health care activities that are an integral part of routine health services, such as MCH, FP, TB control, EPI, etc.
Program Budgeting	It refers to the itemization of cost according to the particular components and activities of planned programs.
Project	Health care activities that are being carried out on a pilot or demonstration basis.
Public Health	The discipline of medicine that deals with the health of the communities and countries rather than individuals. It includes many specialties, both clinical and non clinical; Infectious diseases, Biostatistics, Operations Research, Epidemiology, Operations Research, etc.
Recurrent Cost	Repeatable costs that occur each year for continuing any activity like Salaries, Drugs and Supplies, POL and Repair Maintenance
Resource	These are primarily the inputs required to make health systems work.
Situation Analysis	In health planning refers to the process of analyzing and interpreting all information available on the current situation of the health system as it prevails within the specific geographic area under consideration. It makes use of the full or partial results of the Health Systems Review

Term	Meaning
Responsiveness	The third intrinsic goal of health systems as presented in the World Health Report 2000 is to enhance the responsiveness of the health system to the legitimate expectations of the population for the non-health improving dimensions of their interaction with the health system Responsiveness expressly excludes the expectations of the public for the health improving dimensions of their interaction, as this is fully reflected in the first goal of population health. The term "legitimate" is used to recognize that some individuals may have frivolous expectations for the health system, which should not from part of the articulation of this goal.
Stewardship	A function of a government responsible for the welfare of the population and concerned with the trust and legitimacy with which its activities are viewed by the citizenry. It requires vision, intelligence and influence, primarily by the health ministry, which must oversee and guide the working and development of the nation's health actions on the government's behalf.
Strategy	In planning terminology strategy refers to the combination of interventions employed in order to achieve a given objective. If reduced IMR is the objective, implementing Diarrheal Disease and ARI control programs might be the strategy
Target	In the context of planning target refers to: o the group, the population, the age bracket (the target group) for which the plan is being prepared. o The number of activities that have to be carried out to achieve a (target number) given outcome or objective
Technical Efficiency	The extent to which the choice and utilization of input resources produces a specific health output, intervention, or a service at the lowest cost.