

**Environmental Impact Assessment of
Nepal Health Sector Program - Implementation
Plan (NHSP-IP)**

Ministry of Health

June 2003

Abbreviations

ARI	Actual Respiratory Infections
BCC	Behavior Change Communication
CB-IMCI	Community Based- Integrated Management of Childhood Illness
CDD	Control of Diarrheal Diseases
CEOC	Comprehensive Emergency Obstetric Care
DFID	Department for International Development
DHS	Demographic and Health Survey
DOHS	Department of Health Service
EA	Environmental Assessment
EHCS	Essential Health Care Services
EIA	Environmental Impact Assessment
EPA	Environmental Protection Act
EPI	Expand Program on Immunization
GTZ	German Development Aid Organization
HCF	Health Care Facility
HCM	Health Care Management
HCW	Health Care Waste
HCWM	Health Care Waste Management
HMGN	His Majesty's Government Nepal
IDA	International Development Association
IEE	Initial Environmental Examination
ILO	International Labor Organization
KfW	Kreditanstalt für Wiederaufbau
LMD	Logistics Management Division
MLD	Ministry of Local Development
MOH	Ministry of Health
MOI	Ministry of Industry
MOPE	Ministry of Pollution and Environment
MTEF	Medium Term Expenditure Framework
NGO	Non Government Organization
NHRC	Nepal Health Research Council
NHSP-IP	Nepal Health Sector Program-Implementation Plan
PAMP	Physical Assets Management Project
PER	Public Expenditure Review
PPP	Public Private Partnership
PRSP	Poverty Reduction Strategy Paper
SDS	Service Delivery Surveys
STEP	Strategies and Tools against Social Exclusion and Poverty
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization

MNT	Maternal Neonatal Tetanus
DOTS	Directly Observed Treatment Short Course
HP	Health Post
SHP	Sub Health Post
MDT	Multi Drug Treatment
STI	Sexually Transmitted Infection
CHI	Community Health Insurance

Table of Contents

	Page No
Abbreviations	i
Executive Summary	1
1. Introduction	5
1.1 Background	5
1.2 Need for an EA	6
1.3 Structure of the Report	6
2. Project Description	7
2.1 Project Components	7
2.1.1 Strengthened Service Delivery	7
2.1.2 Institutional Capacity and Management Development	7
3. Policy, Legal & Administrative Framework	9
3.1 Introduction	9
3.2 Ministry of Health	9
3.2.1 General Institutional & Administrative Framework	9
3.2.2 Provisions Pertaining to HCW Management	9
3.3 Ministry of Population & Environment	10
3.3.1 General Institutional & Administrative Framework	10
3.3.2 Provisions Pertaining to Health and HCWM	10
3.4 Ministry of Local Development	11
3.4.1 Provisions Related to Health and HCWM	11
3.5 Nepal Health Research Council	11
3.5.1 Provisions Pertaining to HCWM	11
3.6 Acts & Regulations	11
4. Identification of Environmental Impacts	13
4.1 Introduction	13
4.2 HCW Management	13
4.3 Use of Hazardous Insecticides/Pesticides	13
4.4 Construction Related Environmental Issues	13
5. Impact Analysis & Assessment	17
5.1 The Approach	17
5.2 HCW Management	18
5.3 Use of Hazardous Insecticides/Pesticides	18
5.4 Construction Related Environmental Issues	19

6.	Mitigation Measures & Environment Management Plan	20
6.1	HCW Management	20
6.1.1	The HCWM Strategy	20
6.1.2	The HCWM Action Plan	20
6.2	Handling & Use of Hazardous Insecticides/Pesticides	21
6.3	Construction Related Environmental Issues	21
6.4	Conclusion	21
Annex-1		
	Detailed Program Activities	22

Executive Summary

Brief Project Description

His Majesty's Government of Nepal (HMGN) is committed to bringing about tangible changes in the health-sector development process. The aim is to provide an equitable, high quality health care system for the Nepalese people. The *Second Long-Term Health Plan 1997 –2017* seeks equitable access to quality health care for all people. Nepal's Poverty Reduction Strategy Paper (PRSP), the *Tenth Plan 2002/3-2006/7*, addresses social inclusion – aiming to bring the poor and marginalized groups into the mainstream of development, and stresses strategic cross-cutting approaches to: (a) redefining the role of the State, and limiting public interventions; (b) enlisting the private sector to play a leading role together with NGOs in complementing government efforts in service delivery; (c) promoting community participation in and management of activities at the local levels; and (d) accelerating the decentralization process. The Medium Term Expenditure Framework (MTEF) accords highest priority to Essential Health Care Services (EHCS). It proposes a redirection of public spending towards EHCS and away from tertiary care and lower priority services.

A series of stakeholder consultations and numerous studies were commissioned to develop a sector-wide approach to health development. The process culminated in the Health Sector Strategy – An Agenda for Change and the drafting of the Nepal Health Sector Program - Implementation Plan (NHSP-IP) 2003 – 07, which reinforce the above national policies and apply them to the sector. These policies are consistent in their emphasis on (i) prioritization of the EHCS and redirection of public resources to primary care; (ii) strengthened sector management and service delivery; (iii) targeted attempts to reach the poorest and marginal groups; (iv) decentralization to local bodies; and (v) public-private partnerships.

The NHSP-IP envisions the improvement of the health status of the entire Nepalese population by ensuring equal opportunity to quality health care services through an effective health system. It is consistent with the HSS, and Nepal's Poverty Reduction Strategy as reflected in the Tenth Five Year Plan. Other documents that have guided the development of NHSP-IP are the National Health Policy, 1991 and the Second Long Term Health Plan (1997-2017). The main reform actions identified under NHSP-IP are (a) prioritized allocation of resources and efforts to ensuring access to EHCS, especially for the poor and vulnerable ; (b) decentralization of the management of health services delivery to the local bodies; and (c) promoting Public-Private Partnerships (PPP) to increase access to and quality of services.

NHSP-IP also identifies specific results from the reform measures: such as better value for clients from their out-of-pocket health care expenditures; assured access to EHCS for the poor and vulnerable; greater efficiency of public health services; and more effective monitoring and evaluation of sector performance. NHSP-IP is pragmatic in its expectations for the EHCS: it recognizes the greater influence of the richer population groups on public policy and their increasing demand for the higher cost services outside EHCS. Thus the plan also addresses how services "beyond EHCS" will be delivered.

NHP-IP seeks to support the program of activities planned by the Ministry of Health (MOH) for the period July 2004 to June 2009 by financing a proportion of the MOH budget, and through

related technical support. More description of the program components are described in Section-2 of this document.

Environmental Assessment

As per the environmental regulation of the country, the proposed health program as such does not require any EIA to be undertaken. However, as the program envisages large number of activities, which can either directly or indirectly lead to environmental impacts, an environmental assessment of the entire program has been undertaken. The summary of findings of the Environmental Assessment is provided in the following sections.

Environmental Impacts

Environmental impacts associated with the health sector program have been identified by examining the ways the activities associated with different components of the program interact with the environment and its different components. Out of the two components of the program, component 2 exclusively deals with capacity building and management aspects. Therefore, no environmental issues are anticipated from such activities. Component-1 however has several activities which can either directly or indirectly interact with different components of the environment leading to environmental issues. The following three key environmental impacts have been identified to be associated with the program.

- HCW Management
- Use of hazardous insecticides/pesticides
- Construction related environmental issues

Expansion of healthcare service delivery is expected to increase the generation of HCW. Improper handling and disposal of HCW has several issues associated with it. It poses significant risks to both people and environment as they contain infectious materials and other hazardous substances. The environmental issues range from increasing the risk of spreading infections to increasing exposure to toxic emissions from poor treatment and disposal practices. Therefore, HCW management is identified as an important environmental issue in the context of the program requiring further assessment.

Use of different types of insecticides for prevention of vector borne diseases is the common practice in many countries. While use of such insecticides do assist in protecting people from vector borne diseases, improper handling and use of such substances does pose health risk to both general public and persons handling such substances. The range of healthcare services to be strengthened and expanded also includes control of vector borne diseases requiring use of insecticides/pesticides. Health risks arising from improper use of such substances is therefore identified as an issue requiring further assessment.

The program envisages expanding the health care service network, which is expected to involve construction of new facilities of different levels at different locations in the country. Construction activities, if not managed properly, often lead to environmental impacts such as air, water, noise and land pollution as well as ecological degradation. The extent of such impacts largely depend upon the location of such facilities as well as the construction practices followed. Therefore, environmental issues arising from construction activities is identified as an issue requiring further assessment.

Assessment of Impacts

The three impacts identified were subjected to qualitative analysis and assessment. The impacts were analysed against broad parameters such as scale, severity and duration. The analysis concluded healthcare waste management to be the significant environmental problem of the sector.

HCWM is an issue associated with all kinds of healthcare facilities including healthcare related laboratories, academic and research institutions etc. Such facilities are spread all over the country. The impacts associated with improper management of HCW can damage the environment and affect the health of people both directly or/and indirectly. The stakeholders that get impacted due to improper HCW management are many, which include, hospital staff including the workers who handle such wastes; the patients and attendants due to improper handling and storage of wastes within the healthcare facilities; the municipal workers due to improper containerization of HCW; the general public due to improper transport, treatment & disposal of HCW; and the environment, as its quality deteriorates due to improper treatment & disposal.

The present practice of HCW management in almost all the healthcare facilities in the country is very poor barring few piecemeal efforts to improve the situation. The problems range from lack of awareness to technical and financial constraints. Developing and implementing a strategy and action plan is therefore considered as the mitigation measure for this critical issue. The EA has therefore recommended a larger study as part of the EA, to develop a strategy and Action Plan to achieve gradual improvement in HCWM.

Mitigation Measures

Based on the recommendation of the EA study a detailed review of the HCWM across HCFs in the country was undertaken. As part of the study a review of all earlier relevant studies were undertaken and visits were undertaken to several HCFs. The study found that none of the HCFs have full proof HCWM system in place and recommended a strategic approach to improve the situation. Salient features of the recommended strategy and Action Plan are provided below.

The HCWM Strategy

Based on the recommendations of the HCWM review study, a strategy and action plan has been developed in consultation with other MOH, DOHS and its various divisions, MOPE, NHRC , the private agencies, donor agencies, NGOs and general civil societies . Key elements of the strategy for improving HCWM are the as:

- Formulation of a vision & policy
- Creation of appropriate institutional framework
- Building awareness and capacity at various levels
- Creating appropriate legal/regulatory framework
- Targeting phased implementation of HCWM programs in healthcare facilities
- Encouraging private sector participation in HCWM
- Making budgetary provisions for HCWM

The HCWM Action Plan

Improving HCWM requires significant efforts at various levels ranging from creating awareness at grass root level to formulating policy/regulation to improve HCWM. Accordingly a time bound action plan has been developed in line with the recommended strategy. The key activities included in the action plan are the following:

- Establishment of a HCWM co-ordinating agency at the centre
- Making specific budgetary allocation for HCWM in the overall health budget
- Enacting HCWM legislation
- Developing of HCWM Policy and guidelines
- Dissemination of HCWM Policy and guidelines to all stake holders
- Awareness and capacity building at various levels
- Detailed feasibility study of various technical options
- Establishment of a funding mechanism for HCWM activities
- Establishing a HCW Information Management System
- Implementing HCWM program
- Monitoring and evaluating the HCWM program.

Cost associated with implementation of the Action Plan has been estimated. The implementation of the Action Plan and actual improvement in HCW management and its progress will be monitored and analyzed. Detailed monitoring plan in this regard has been developed.

Consultation

Findings of the HCWM review study were discussed with several Govt. departments, large number of private organizations and NGOs. The inputs and comments received during such discussions were incorporated while developing the strategy and an Action Plan for improving HCWM in the country. The draft strategy and Action Plan was then discussed with several stakeholders in a public workshop conducted at Kathmandu during March 2003. Relevant suggestions/comments received during the workshop have been incorporated into the final document on strategy and action plan.

1. INTRODUCTION

1.1 Background

His Majesty's Government of Nepal (HMGN) is committed to bringing about tangible changes in the health-sector development process. The aim is to provide an equitable, high quality health care system for the Nepalese people. The *Second Long-Term Health Plan 1997 –2017* seeks equitable access to quality health care for all people. Nepal's Poverty Reduction Strategy Paper (PRSP), the *Tenth Plan 2002/3-2006/7*, addresses social inclusion – aiming to bring the poor and marginalized groups into the mainstream of development, and stresses strategic cross-cutting approaches to: (a) redefining the role of the State, and limiting public interventions; (b) enlisting the private sector to play a leading role together with NGOs in complementing government efforts in service delivery; (c) promoting community participation in and management of activities at the local levels; and (d) accelerating the decentralization process. The Medium Term Expenditure Framework (MTEF) accords highest priority to Essential Health Care Services (EHCS). It proposes a redirection of public spending towards EHCS and away from tertiary care and lower priority services.

A series of stakeholder consultations and numerous studies were commissioned to develop a sector-wide approach to health development. The process culminated in The Health Sector Strategy – An Agenda for Change and the drafting of The Nepal Health Sector Program - Implementation Plan (NHSP-IP) 2003 – 07, which reinforce the above national policies and apply them to the sector. These policies are consistent in their emphasis on (i) prioritization of the EHCS and redirection of public resources to primary care; (ii) strengthened sector management and service delivery; (iii) targeted attempts to reach the poorest and marginal groups; (iv) decentralization to local bodies; and (v) public-private partnerships.

The NHSP-IP envisions the improvement of the health status of the entire Nepalese population by ensuring equal opportunity to quality health care services through an effective health system. It is consistent with the HSS, and Nepal's Poverty Reduction Strategy as reflected in the Tenth Five Year Plan. Other documents that have guided the development of NHSP-IP are the National Health Policy, 1991 and the Second Long Term Health Plan (1997-2017). The main reform actions identified under NHSP-IP are (a) prioritized allocation of resources and efforts to ensuring access to EHCS, especially for the poor and vulnerable ; (b) decentralization of the management of health services delivery to the local bodies; and (c) promoting public-private partnerships (PPP) to increase access to and quality of services.

NHSP-IP also identifies specific results from the reform measures: such as better value for clients from their out-of-pocket health care expenditures; assured access to EHCS for the poor and vulnerable; greater efficiency of public health services; and more effective monitoring and evaluation of sector performance. NHSP-IP is pragmatic in its expectations for the EHCS: it recognizes the greater influence of the richer population groups on public policy and their increasing demand for the higher cost services outside EHCS. Thus the plan also addresses how services “beyond EHCS” will be delivered.

The project seeks to support the program of activities planned by the Ministry of Health (MOH) for the period July 2004 to June 2009 by financing a proportion of the MOH budget, and through related technical support. More description of the program components are described in Section-2 of this document.

1.2 Need for an EA

As per the environmental regulation of the country, the proposed health program as such does not require any EIA to be undertaken. However, as the program envisages large number of activities, which can either directly or indirectly lead to environmental impacts, an environmental assessment of the entire program has been undertaken for the overall program. This report presents the environmental assessment undertaken by the Department of Health Services, Govt. of Nepal in association with external consultants.

1.3 Structure of the Report

The contents of the report have been structured in the following manner

Section-I	: Background to the EA
Section-II	: Project Description
Section-III	: Policy and Regulatory Framework
Section-IV	: Identification of Environmental Impacts
Section-V	: Mitigation Measures & Environmental Management Plan

2. PROJECT DESCRIPTION

2.1 Project Components

The NHSP-IP, describes two broad areas of work, here referred as project components: (i) Strengthened Service Delivery; and (ii) Institutional Capacity and Management Development. These components are further described in the following subsections.

2.1.1 Strengthened Service Delivery

Essential Health Care Services (EHCS) (WHO, UNICEF, DFID, USAID, UNFPA): The Program will support the expansion and/or strengthening of eleven priority cost-effective services. Expansion of each of these services will be phased: nationwide services with demonstrated success will be maintained, those with successful models but limited coverage will be expanded, and other key services without effective models yet will be refined and then expanded. EHCS will be strengthened by: (i) developing and implementing technical standards to improve service quality;(ii) providing in-service training to upgrade the technical skills of about 10,000 field workers; (iii) ensuring drug availability in health facilities by improved drug procurement and distribution; (iv) using Behavior Change Communication (BCC) to inform the public about services; to promote healthy behaviors; and to promote a client focused, gender-sensitive attitude among the providers; (v) improving outreach activities especially in the Mid and Far-Western Regions; (vi) contracting NGOs for service delivery to eight municipalities; and (viii) conducting Service Delivery Surveys (SDS) to obtain client and provider experience of and perceptions about the quality and adequacy of health services.

Greater local authority and responsibility over service provision (IDA, GTZ): The program will support capacity building for managing decentralized health services. By the conclusion of the 5-year program, responsibility and authority over health posts and sub-health posts throughout the country will be handed over to Local Bodies (i.e., local government structures). The program will articulate roles and functions of the Local Bodies in the health sector and provide training in leadership, setting local priorities in health, personnel management, performance appraisal, planning, budgeting, financial accounting and controls. MOH officials at all levels will be oriented on how they can help to advance the decentralization process.

Public-Private Partnerships (IDA, USAID): The MOH will appoint a focal point for PPP and social exclusion issues. The program will support guidelines, designing contracts, regulatory framework and training. New service provider agreements/contracts will be defined with NGOs and the private sector. Large district/zonal hospitals will be made autonomous, and NGOs/private sector will be contracted to manage others.

2.1.2 Institutional Capacity and Management Development:

Sector management (IDA): The program aims to develop and/or strengthen capacity in planning, budgeting and financial management. Functions and responsibilities for each arm of the MOH will be reviewed and made explicit. A management training program will be developed and implemented by the Nepal Administrative Staff College. The shift to a sector-wide approach is also intended to strengthen the ministry's capacity to plan, manage and implement a more cohesive development strategy.

Sustainable health financing (DFID, ILO/STEP, IDA): The sector-wide approach will provide greater transparency as regards resource allocation through the MTEF and PER, and as donor inputs are brought on budget. The annual PER -- together with the monitoring of implementation and results -- is expected to inform efforts to improve allocative efficiency of public expenditure. A financial allocation formula adjusted for poverty, morbidity patterns population size and population density will be developed for allocations to districts. A review of national experience with user fees (and the application of exemptions), community insurance and the community drug program will be finalized, and lessons derived to design interventions for future scaling up.

Drugs, supplies & equipment (KfW, WHO) The program will support decentralization of authority to purchase drugs and medical supplies to districts, while ensuring value and quality through the MOH Logistics Management Division (LMD). LMD will prioritize ensuring availability of Essential Health Care Services (EHCS) commodities and equipment, and will outsource distribution. A Logistics Management Information System will be enabled to support local-level decision making. Lastly, the management of medical waste will be addressed per the Medical Waste Management Plan which has been produced.

Human Resource Development (GTZ, WHO): As Local Bodies assume responsibility for health staff at district level they will acquire new skills in personnel management, and a level of authority to modify compensation in order to attract staff to underserved areas. Staff opinion surveys will be conducted to assess morale and motivation and to help diagnose administrative, technical and managerial work practices that impede staff utilization and efficiency.

Monitoring & Evaluation (UNFPA, USAID, IDA): A 'reporting needs analysis' will be carried out aimed at identifying what management decisions can be enhanced by the availability of regular information, and what regular reports can be generated automatically by the various data banks and sent to the managers for use in daily operations. Household and facility surveys will stratify results by socio-economic status to instill a greater appreciation for addressing differences of utilization and coverage among socially excluded groups.

More detailed information on the various activities involved in different components are described in **Annex-I**

3. POLICY, LEGAL & ADMINISTRATIVE FRAMEWORK

3.1 Introduction

This chapter provides an overview of the institutional and legal framework that exists in the country to provide sound healthcare services (as the project deals with health sector) while also protecting the environment. For better appreciation, the administrative and legal framework is presented institution wise.

3.2 Ministry of Health

3.2.1 General Institutional & Administrative Framework

The Ministry of Health has the overall responsibility for providing the Nepali people with basic health care. For this purpose the Ministry has established a system with small and large health care facilities all over the country, administrated by the Department of Health Services. Apart from medical services the Department of Health Services also take care of the administrative, logistical and training services, e.g. issuing permission for operating health care facilities, distribution of equipment and drugs to the health care facilities as well as providing training of health care staff.

Being engaged directly in providing healthcare services, Department of Health shares equal responsibility as do the private healthcare institutions in managing their HCW properly.

3.2.2 Provisions Pertaining to HCW Management

MoH has developed a Healthcare Technology Policy which has provision for developing and implementing specific policy on safe disposal of HCW management. The policy also has provisions for developing detailed procedures and guidelines for management of HCW. Recently the policy has been approved by the cabinet. *This policy provides a framework for introducing regulations to deal with HCW management issues.*

The Ministry has through its Logistic Management Division recently drafted a “Logistic Management Strategy” (ref. IX), which as - one out of seven objectives – addresses the health care waste management issue. The objective of this activity is to “Improve quality and safety of health services by establishing clear, functional policies and systems for physical asset and waste management”.

The target is “that during the period of the 10th Five-Year Plan, LMD will work with PAMP to develop and implement a plan for safe management of bio-medical waste.

The Physical Assets Management Project (PAMP) which is a programme supported by the German development aid organisation (GTZ), is among others developing concept for appropriate comprehensive health care waste management systems for health care facilities, in particular with focus on district hospitals.

Recently, PAMP, has published a report on “Hospital waste Management – Situation analysis and concept for improvement with sustainable HC design set” (Ref. XII). This report includes proposals for a comprehensive waste management system for all health care waste, including chemical waste and waste water, for a typical district hospital. The PAMP has estimated the cost of such a full system will be approximately 600 000 Nepali rupees.

3.3 Ministry of Population & Environment

3.3.1 General Institutional & Administrative Framework

The Ministry of Population & Environment (MOPE) was established in 1995 and has a staff of 93, divided on three divisions (population, environment and administration). There are one minister, one assistant minister, one ministerial secretary and three division chiefs.

The environmental division includes seven sections:

- Pollution control section (which has one staff)
- EIA section
- Standards, monitoring and evaluation section
- Land use section
- Planning section
- Policy section
- Legal section (which is across cutting section).

The existing Environmental Protection Act (EPA), and the Environmental Protection Regulations (1996-1997), include procedure for EIA (Environmental Impact Assessment) and IEE (Initial Environmental Examination) for certain types of activities to get permits. Small plants and activities have to apply for IEE, while larger plants, industries and activities with potential for larger environmental issues have to apply for EIA.

EIAs are submitted to Ministry of Industry (MOI), which then forwards it to MOPE for recommendation. The permits are issued by the MOI.

IEEs are submitted to MOI if they are related to industrial activities, or to the Ministry of Agriculture if they are related to agricultural activities. They are not forwarded to the MOPE.

3.3.2 Provisions Pertaining to Health & HCWM

According to the Environmental Protection Regulation the following activities with relation to HCWM require an EIA:

- Health Care Facilities with more than 25 beds.
- Hazardous waste treatment plants, no matter how much waste is treated.
- Landfilling of hazardous waste, no matter how much waste is landfilled.
- Handling and disposal of radioactive waste.

Although there is no specific mention of HCWM in the rules, it is expected to fall under the hazardous waste treatment and disposal category. The lacuna however is that there are no specific standards against which such facilities can be evaluated.

Due to growing demand for specific standards in the HCWM sector, the MOPE is considering bringing out such standards in the near future.

3.4 Ministry of Local Development

3.4.1 Provisions Related to Health and HCWM

It is the responsibility of the Ministry of Local Development to provide waste management services in their jurisdictions. It is however not specifically mentioned whether HCWM services also fall under their scope. So far the municipalities have been picking up wastes from large sections of healthcare institutions and disposing them along with the municipal solid wastes.

Availability of land is expected to be a concern if common HCW treatment and disposal facilities catering to several healthcare facilities are planned. Greater co-ordination between MLD and MOH would be required in this regard.

3.5 Nepal Health Research Council

3.5.1 Provisions Pertaining to HCWM

Nepal Health Research Council has in cooperation with WHO prepared and published the following publications addressing health care waste management and related issues (ref. IV, V and VI):

- “National Health Care Waste Management Guidelines”, Nepal Health Research Council and WHO, May 2002.
- “Training Manual for Medical Professionals”, Nepal Health Research Council and WHO, May 2002.
- “National Environmental Health Impact Assessment Guidelines – For Project Development”, Nepal Health Research Council and WHO, May 2002.

The two first publications are directly related to health care waste management, while the third is dealing with assessment of health impact of the various polluting activities, among other handling, treatment and disposal of health care waste.

3.6 Acts & Regulations

Different acts that have provision for environmental protection are summarized in the following table.

Sl. No.	Titles of different Acts	Environmental provisions
1	The Constitution of Kingdom of Nepal, 1990	<ul style="list-style-type: none"> ○ State to give priority to protection of environment ○ Prevent further environmental damage due to physical developmental activities
2	The Environment Protection Act, 1997	<ul style="list-style-type: none"> ○ Deals with pollution control, Initial Environmental Examination, Environmental Impact Assessment, conservation of national heritage ○ Has provision to stop emissions and discharging solid waste

		<p>against standards</p> <ul style="list-style-type: none"> ○ Makes EIA mandatory for establishment of certain polluting facilities including treatment plant, and landfill for management of hazardous wastes, ○ EIA required for establishing new healthcare facility with 25 or more no. of beds.
3	Solid Waste Management & Resource Mobilization Act, 1987	<ul style="list-style-type: none"> ○ Has provisions to manage solid waste and to mobilize resources ○ To minimize adverse effect of solid waste on public health and environment ○ The Act and the related rules empower the Solid Waste management and Resource Mobilization Centre in the matter of solid waste management
4	The Labor Act, 1991	<ul style="list-style-type: none"> ○ Regulates the working environment ○ Deals with occupational health and safety ○ Requires the management to make arrangements to remove waste accumulated during production processes and prevent accumulation of dust, fume, vapor, and other impure materials, which would adversely affect health of workers ○ Requires management to provide protective clothing and devices to workers handling chemical substances and other hazardous and explosive substances.
5	Industrial Enterprise Act, 1992	<ul style="list-style-type: none"> ○ Makes industrial license mandatory for activities relating to defence, public health and environment ○ The Act gives priority to industry based on waste products and industry manufacturing pollution control devices ○ Provision for industrial promotion board to direct industries to make arrangements for controlling environmental pollution
6	The Town Development Act, 1988	<ul style="list-style-type: none"> ○ Empowers Town Development Committee to regulate, control or prohibit any act or activity that has an adverse impact on public health or the aesthetic of the town, or in any way pollutes the environment
7	The Local Self-Governance Act, 1999	<ul style="list-style-type: none"> ○ Makes municipalities responsible for managing domestic solid ○ Act does not require the local governments to manage hazardous wastes, but empowers them to fine anyone up to Rs. 15000.00 for haphazard dumping of solid waste

4. IDENTIFICATION OF ENVIRONMENTAL IMPACTS

4.1 Introduction

Environmental impacts associated with the health sector program have been identified by examining the ways the activities associated with different components of the program interact with the environment and its different components. Out of the two components of the program, component 2 exclusively deals with capacity building and management aspects. Therefore, no environmental issues are anticipated from such activities. Component-1 however has several activities which can either directly or indirectly interact with different components of the environment leading to environmental issues. The type of environmental issues that might arise from such activities (of component-1) have been summarized in the impact identification matrix in **Table –1**. Key features of the impact identification exercise are summarized below.

4.2 HCW Management

Expansion of healthcare service delivery is expected to increase the generation of HCW. Improper handling and disposal of HCW has several issues associated with it. It poses significant risks to both people and environment as they contain infectious materials and other hazardous substances. The environmental issues range from increasing the risk of spreading infections to increasing exposure to toxic emissions from poor treatment and disposal practices. Therefore, HCW management is identified as an important environmental issue in the context of the program requiring further assessment.

4.3 Use of Hazardous Insecticides/Pesticides

Use of different types of insecticides for prevention of vector borne diseases is the common practice in many countries. While use of such insecticides do assist in protecting people from vector borne diseases, improper handling and use of such substances does pose health risk to both general public and persons handling such substances. The range of healthcare services to be strengthened and expanded also includes control of vector borne diseases requiring use of insecticides/pesticides. Health risks arising from improper use of such substances is therefore identified as an issue requiring further assessment.

4.4 Construction Related Environmental Issues

The program envisages expanding the health care service network, which is expected to involve construction of new facilities of different levels at different locations in the country. Construction activities, if not managed properly, often lead to environmental impacts such as air, water, noise and land pollution as well as ecological degradation. The extent of such impacts largely depend upon the location of such facilities as well as the construction practices followed. Therefore, environmental issues arising from construction activities is identified as an issue requiring further assessment.

Impact Identification Matrix

Program components	Activities involved	Environmental Attributes	Linkage with different Env. Components				
			Air Emissions	Liquid Effluent generation	Noise generation	Solid & hazardous waste generation	Ecological concerns
Component 1. Strengthening Service Delivery							
Enhanced Access to Essential Health Care Services							
Family Planning	<ul style="list-style-type: none"> ○ Increasing demand for services through Behavior Change Communication (BCC) ○ increasing accessibility to integrated family planning and reproductive health services that includes safe abortion care improving quality of care with counselling, infection prevention and management of side effects and complications; and ○ increasing access to condoms through multiple channels. 	<ul style="list-style-type: none"> ○ Increased healthcare waste from health care facilities associated with increased service delivery 				X	X
Safe motherhood & Perinatal care	<ul style="list-style-type: none"> ○ Establishment of basic and comprehensive emergency obstetric care services in all 75 districts, skilled attendance at all births and increased access to emergency fund and transport services. ○ Expansion of CEOCs from present 31 sites to 61 sites by 2009 to the level of primary health care centers. Minor construction activities are expected. 	<ul style="list-style-type: none"> ○ Environmental issues associated with construction of new facilities ○ Increased healthcare waste from health care facilities associated with increased service delivery 	X	X	X	X	X
Child Health	<ul style="list-style-type: none"> ○ Expanded Program on Immunization (EPI), Nutrition, Control of Diarrheal Diseases (CDD), Control of Acute Respiratory Infections (ARI). 	<ul style="list-style-type: none"> ○ Increased healthcare waste from health care facilities associated with increased service delivery 				X	X
Communicable disease control:	<p><u>Tuberculosis</u></p> <ul style="list-style-type: none"> ○ expanding DOTS to all patients registered in the NTP and to the community level; ○ expanding public and private diagnostic and treatment sites to improve access, coverage and maintain quality; ○ establishing a treatment in Health Posts (HP) and Sub-Health Posts (SHP); ○ collaborating with HIV/AIDS program on TB/HIV co-infection ○ conducting studies to deal with emerging drug resistance ○ intensifying services to the urban poor. 	<ul style="list-style-type: none"> ○ Environmental issues associated with construction activities of new facilities ○ Healthcare waste from new facilities ○ Increased public health risks 	X	X	X	X	X
	<u>Leprosy :</u>						

	<ul style="list-style-type: none"> ○ service provision through the SHP and transferring patients from referral centers to primary health centers ○ multi-drug treatment (MDT) for all registered cases ○ disability prevention by early case detection and treatment ○ reducing social stigma by increasing awareness about the disease 	<ul style="list-style-type: none"> ○ HCW management issues ○ Public health risks 				X		X
	<p><u>HIV/AIDS/STD :</u></p> <ul style="list-style-type: none"> ○ prevention of STIs and HIV infection among vulnerable groups ○ ensuring a safe blood supply ○ prevention of infections among and at risk populations ○ ensuring care and support for persons infected and affected by HIV/AIDS ○ expanding monitoring and evaluation; ○ establishing an effective and efficient management system, and ○ prevention of mother to child transmission 	<ul style="list-style-type: none"> ○ HCW from healthcare facilities ○ Public health risks associated with improper handling of HCW 				X		X
Vector Borne Disease (VBDs) Control								
	<p><u>Malaria/VBD</u></p> <ul style="list-style-type: none"> ○ early case detection and prompt treatment (both public and private), ○ regular surveillance for outbreaks, selective indoor residual spraying in highly endemic areas ○ reducing drug resistance, containing outbreaks, BCC, and cross border collaboration for multi-disease surveillance. ○ Strengthening of the vector borne disease research and training center to enhance diagnostic and research capacity. 	<ul style="list-style-type: none"> ○ Use of hazardous insecticides ○ Public health risks ○ HCW from research and training centres 	X			X		X
	<p><u>Kala-Azar :</u></p> <ul style="list-style-type: none"> ○ Reducing Kala-azar morbidity and mortality through the primary health care approach including active community participation and social mobilization, BCC, establishing diagnostic capacity at health facilities, regular supply of drugs, dealing promptly with early warning signs, mapping of risk population and surveillance and risk factors mitigation. and focal household spraying. ○ use of new drugs for easier treatment and vector studies. 	<ul style="list-style-type: none"> ○ HCW from health care facilities 						X
	<p><u>Japanese Encephalitis</u></p> <ul style="list-style-type: none"> ○ conducting surveillance and case treatment, and Japanese Encephalitis vaccination in endemic districts ○ BCC, surveillance, epidemic preparedness and response; supply of essential medicines, mass vaccination, cold chain 	<ul style="list-style-type: none"> ○ HCW from health care facilities 				X		X

	<ul style="list-style-type: none"> ○ maintenance, training to paramedics or vaccine administration, monitoring of cases, and supply of other commodities. 								
Control of other infectious diseases and zoonoses:	<ul style="list-style-type: none"> ○ management of essential medicines and vaccines and capacity building for outbreaks of diseases such as Acute Diarrheal Disease, typhoid, hepatitis (A & E), measles, acute viral respiratory infection; lymphatic filariasis, rabies and cholera. Mobilization of local rapid response teams will be supported for outbreaks. 	<ul style="list-style-type: none"> ○ Use of hazardous insecticides ○ Public health risks 				X			X
Outpatient services	<ul style="list-style-type: none"> ○ improving quality of care by providing technical standards and protocols, necessary logistics supplies, continued & on the job training, supportive supervision and a built in two-way referral chain with a follow-up & monitoring system. ○ Promoting rational use of drugs and implement standard treatment schedules and essential drug lists through training, monitoring and supervision. 								
Decentralize and Local-level Management	<ul style="list-style-type: none"> ○ Transfer of specific responsibilities, resources and authority will to Local Bodies at the district, municipality and village levels. ○ developing adequate capacity at local levels to handle the new responsibilities and establish new systems of accountability. ○ Strengthening of District Health Offices to provide necessary technical support to the outreach facilities. ○ Supporting de-concentration of managerial responsibility with corresponding resources and decision-making authority to lower tiers of administration <i>within</i> the health sector. 								
Public-Private Partnership	<ul style="list-style-type: none"> ○ Promoting partnership with the private sector in the areas such as sustainable financing; providing an integrated approach to delivery EHCS; quality assurance by government; and pharmaceuticals, other consumables and new technology. ○ facilitate and promote private/NGO/informal service providers ○ ensure adequate regulation, monitoring, working guidelines, contracting models, regulatory framework and training on them. 								

5. IMPACT ANALYSIS & ASSESSMENT

5.1 The Approach

The impacts identified in the previous section are subjected to qualitative analysis and assessment. The impacts have been analysed against broad parameters such as scale, severity and duration. They are classified as either Low, Medium or High using qualitative criteria as mentioned below.

Scale : The impact area in terms of its geographical coverage is considered one of the parameters in deciding the significance of a particular impact. The rationale is that impacts spread over a smaller area can have adverse effects on a smaller domain of population and environment compared to impacts covering a larger geographical area. The following qualitative criteria is used to assess the different impacts associated with the program.

- High : activities (hence the impacts) are very common and expected to be spread over the entire country
- Moderate : activities (hence the impacts) are expected to be confined to a few districts
- Low : activities (hence the impacts) are expected to be confined to a few villages

Severity : Severity of a particular environmental impact depends upon the magnitude of the impact. For example if a particular environmental parameter exceeds the stipulated standards, the impact could be considered as severe impact. The following approach has been used to evaluate the impacts against severity.

- High : if the activities are certainly expected to cause impacts that can affect people and environment
- Moderate : if the activities are likely to cause impacts that can affect people and environment
- Low : if the activities are not likely to cause impacts affecting people and environment

Duration : Significance of a particular impact in terms of its adverse effects also depends upon the duration of exposure. Short term impacts (related to short-term activities) are likely to cause less adverse effects than longer term impacts (related to long term activities). With this rationale the following qualitative criteria have been used.

- High : activities (hence the associated impacts) are continuous
- Moderate : activities causing the impacts are continuous but limited to specific periods of a year
- Low : activities causing the impacts are only one time activities

Using the above approach the impacts identified in the previous section have been analysed and assessed. The results are provided in the following subsections.

5.2 HCW Management

Most wastes generated in healthcare facilities can be treated as regular municipal solid wastes (MSW). But a varying portion of HCW requires special attention, including sharps (e.g. needles, razors, scalpels), pathological waste, other potentially infectious waste, pharmaceutical waste, biological waste, and hazardous chemical wastes. Collectively these wastes are normally called as “hazardous HCW” or “special HCW”. Impacts associated with improper HCM are assessed as follows.

HCWM is an issue associated with all kinds of healthcare facilities including healthcare related laboratories, academic and research institutions etc. Such facilities are spread all over the country. Thus impacts associated with improper HCW is expected to affect the entire country. Therefore the issue is rated High on scale.

The impacts associated with improper management of HCW can damage the environment and affect the health of people both directly or/and indirectly. The stakeholders that get impacted due to improper HCW management are many, which include, hospital staff including the workers who handle such wastes; the patients and attendants due to improper handling and storage of wastes within the healthcare facilities; the municipal workers due to improper containerization of HCW; the general public due to improper transport, treatment & disposal of HCW; and the environment, as its quality deteriorates due to improper treatment & disposal. Unless waste reduction measures are enforced and implemented, the generation of HCW is expected to continue as it is at present. Thus, likelihood of impacts being caused from HCW management is high. Therefore, it is rated “High” on severity.

Healthcare services being permanent activities, HCW management issues are considered to be recurring problems. Therefore the impacts are expected to be long-term and hence are rated “high” on duration.

From the above qualitative analysis of the impacts associated with HCWM, it can be concluded that HCW management is the most critical issue associated with the program. It is a nation-wide problem and has severe implications in term of damaging the environment and affecting the health of people. A detailed study is therefore recommended to study the impacts more closely and develop appropriate strategy and action plan to address the long term concern.

5.3 Use of hazardous Insecticides/Pesticides

Use of hazardous insecticides poses health risks to both the persons handling such substances as well as to general public. Higher concentrations of such substances in the air is likely to cause health problems to people in the affected area. Similarly, spraying/handling of such substances without following proper procedures can pose health risks to persons using/handling such substances. The issue is further assessed against the impact evaluation criteria as follows.

Use of insecticides/pesticides are expected to be limited to the epidemic prone areas only. Therefore the issue is rated “Moderate” on scale.

The stakeholders that are likely to get impacted due to improper handling and use of insecticides/pesticides are the staff who handle such substances; the general public in the affected areas due to higher exposure to such substances. However, a review of the typical

insecticides/pesticides being used by the Govt. reveals that none of the substances fall into the extremely hazardous category of substances as per WHO's classification. Thus impacts associated with handling/use of such substances are rated "Moderate" on severity.

Use of insecticides/pesticides is expected to be limited only during the epidemics or at the most during certain periods of the year, as a preventive measure, in the epidemic prone areas. Since it is not a continuous activity, impacts are not expected to be long term and hence are rated "moderate" on duration.

Impacts associated with improper handling/use of insecticides/pesticides is overall evaluated to be moderate since the substances being handled/used do not fall under the extremely, hazardous category(as per WHO's classification).

5.4 Construction Related Environmental Issues

Environmental issues associated with construction activities have been evaluated against the evaluation criteria as follows.

Construction activities would be restricted to areas that are not covered under healthcare services and for those areas where improvement to the existing facilities are required. The impacts will be localized and hence issues associated with construction activities are rated "moderate" on scale.

Unless good construction management practices are followed, construction activities can cause serious environmental pollution, ecological degradation and health and safety concerns to both workers and the public. The stakeholders that get impacted due to construction activities generally include the workers, the public and the environment. Since the program does not envisage any large scale construction activities, the impacts associated with such activities are rated to be "Low" on severity.

Construction activities are one time activities and not permanent ones. Since the program does not envisage any large scale construction activities, impacts associated with construction activities are rated "Low" on duration.

Overall, due to the type and nature of construction activities envisaged in the program, such activities are not anticipated to cause significant environmental impacts.

6. MITIGATION MEASURES & ENVIRONMENT MANAGEMENT PLAN

6.1 HCW Management

The present practice of HCW management in all most all the healthcare facilities in the country is very poor barring few piecemeal efforts to improve the situation. The problems range from lack of awareness to technical and financial constraints. Developing and implementing a strategy and action plan is therefore considered as the mitigation measure for this critical issue. The EA has therefore recommended a larger study as part of the EA, to develop a strategy and Action Plan to achieve gradual improvement in HCWM.

Salient features of the strategy & Action Plan, developed as part of the study recommended by EA are provided below for easy reference.

6.1.1 The HCWM Strategy

Based on the recommendations of the HCWM review study, a strategy and action plan has been developed in consultation with other MOH, DOHS and its various divisions, MOPE, NHRC , the private agencies, donor agencies, NGOs and general civil societies . Key elements of the strategy for improving HCWM are the as:

- Formulation of a vision & policy
- Creation of appropriate institutional framework
- Building awareness and capacity at various levels
- Creating appropriate legal/regulatory framework
- Targeting phased implementation of HCWM programs in healthcare facilities
- Encouraging private sector participation in HCWM
- Making budgetary provisions for HCWM

6.1.2 The HCWM Action Plan

The HCWM Action Plan requires significant efforts at various levels ranging from creating awareness at grass root level to formulating policy/regulation to improve HCWM. Accordingly a time bound action plan has been developed in line with the recommended strategy. The key activities included in the action plan are the following:

- Establishment of a HCWM co-ordinating agency at the centre
- Making specific budgetary allocation for HCWM in the overall health budget
- Enacting HCWM legislation
- Developing of HCWM Policy and guidelines
- Dissemination of HCWM Policy and guidelines to all stake holders
- Awareness and capacity building at various levels
- Detailed feasibility study of various technical options
- Establishment of a funding mechanism for HCWM activities
- Establishing a HCW Information Management System

- Implementing HCWM program
- Monitoring and evaluating the HCWM program.

Cost associated with implementation of the Action Plan has been estimated. The implementation of the Action Plan and actual improvement in HCW management and its progress will be monitored and analyzed. Detailed monitoring plan in this regard has been developed.

6.2 Handling & Use of Hazardous Insecticides/Pesticides

As already discussed in earlier sections, the types of insecticides being used at present by the health department for control of vector borne diseases do not fall under the extremely hazardous category of substances as per WHO's classification. The Epidemiology division of the Health Department has developed specific guidelines and procedures for handling & use of such substances. These guidelines and procedures have been developed mostly in line with WHO's (ref : discussion with Epidemiology Division) requirements, adapted to the country's situation. These guidelines have been prepared in local language for easy reference by the working staff. They have been disseminated at all levels and periodic training programs are conducted for the working staff in this regard. During actual use of such insecticides, the working staff are supervised by officers from the Epidemiology. The Division has developed supervision protocol/checklists to ensure that such activities are undertaken in a proper manner. Issues associated with handling and use of insecticides therefore are not considered to be significant.

The insecticides used for vector control are required to be changed periodically to tackle increase resistance of insects to a particular substance. The decision to select the new insecticide, when required, is normally taken by the epidemiology department. While selecting new insecticides, it needs to be ensured that the information about the new insecticides including its harmfulness are disseminated to the staff as well as the public. If needed guidelines and procedures including the training contents need to be updated to reflect such changes.

6.3 Construction Related Environmental Issues

Environmental issues associated with construction activities are not expected to be significant due to the scale of construction envisaged in the program.

6.4 Conclusion

HCWM turns out to be the single most critical environmental issue in the health sector. The HCWM Strategy and Action Plan is considered a proxy to the Environmental Management Plan. While implementing individual HCWM projects involving treatment and disposal, such projects would need to comply with applicable regulatory provisions.

ANNEX-I

DETAILED PROGRAM ACTIVITIES

Component 1. Strengthening Service Delivery

Enhanced Access to Essential Health Care Services

Essential Health Care Services: Current performance and future needs

SERVICE	Burden of Disease	Program Coverage	Success of model	Main Program Needs
Family Planning	Indirect	50%	***	Expansion
Safe motherhood	3%	13%	*	Trials & Expansion
Perinatal care	14%	13%	*	Trials
CB-IMCI	19%	43%	***	Expansion & Trials
EPI	7%	60%	***	Expansion
Polio	<1%	90%	****	Maintenance & Eradication
TT Campaigns	1%	>85%	****	Expansion
Vitamin A	5%	81%	****	Maintenance
Iodine	<1%	91%	***	Maintenance
Other nutrition	5%	38%	*	Trials
Tuberculosis	7%	84%	****	Expansion & Maintenance
Leprosy	<1%	75% ?	***	Expansion & Elimination
HIV/AIDS/STD	3%	?	**	Expansion & Trails
Malaria/VBD	<1%	>50%	***	Expansion & Trials
Outpatient services	7%	70%	**	Strengthen and Expansion
TOTAL	70%			

**** Excellent model in Nepal with demonstrated success

*** Mostly successful but unclear how to obtain optimal coverage

** Some program aspects have successful models, but not most.

* No large-scale successful model in Nepal.

Note: Coverage figures are from the 2001 DHS (FP, SM/Perinatal, EPI, Polio, and Vitamin A) from the 2000/01 Annual Report (Iodine, Other nutrition, Tuberculosis, Leprosy) or program reports (CB-IMCI, TT campaigns, Malaria).

Family Planning: Key program strategies are (i) increasing demand for services through Behavior Change Communication (BCC); (ii) increasing accessibility to integrated family planning and reproductive health services that includes safe abortion care ; (iii) improving quality of care with counseling, infection prevention and management of side effects and complications; and (iv) increasing access to condoms through multiple channels. This Program is implemented by the Family Health Division of the Department of Health Services down to the community level.

Safer Motherhood and perinatal care : The Family Health Division's National Safe Motherhood Plan (2002-2017) takes a multi-sector approach to promoting service access and use. It plans, over 15 years, the establishment of basic and comprehensive emergency obstetric care services in all 75 districts, skilled attendance at all births and increased access to emergency fund and transport services. NHSP-IP will expand CEOC services from present 31 sites to 61 sites by 2009

to the level of primary health care centers and will increase the presently met need of 0.8% for caesarian section by 5 %. It will place midwives at village level facilities, and improve basic obstetric care with competency based training for outreach female service providers.

Child Health: The Child Health Division of the DOHS implements the programs, which include Expanded Program on Immunization (EPI), Nutrition, Control of Diarrheal Diseases (CDD), Control of Acute Respiratory Infections (ARI).

CDD/ARI: The ARI Control Program covers 75 districts, ten of which have the community-based IMCI. Training of health workers in case management are key activities. CB-IMCI has a 43% coverage today. Main strategies include (i) expansion of the CB-IMCI model to achieve national coverage; (ii) maintenance in currently covered districts; (iii) refinement and institutionalization of the model; and (iv) studies of potential gaps in coverage.

Immunization : Main Strategies are (i) improving the quality of routine EPI activities through planning of outreach sessions, monitoring, reduction in vaccine wastage and improved injection safety measures.; (ii) maintaining the cold chain and expanding vaccine storage to the HP; (iii) continued advocacy and BCC for immunization programs; (iv) maintaining the National Immunization Days, containment actions and surveillance to achieve polio eradication certification by 2005 (v) expanding Maternal Neonatal Tetanus (MNT) program country-wide to achieve MNT elimination by 2005; (vi) DPT-Hepatitis B immunization introduced in 75 districts with nationwide coverage by 2005 and introducing auto destruct syringes country-wide; and (vii) implementing the second opportunity measles vaccination for all children up to 14 years of age with 90 % coverage by 2007.

Nutrition : Main strategies include (i) maintaining the national Vitamin A semi-annual supplementation program to 6-59 months children, use of Vitamin A in sick child management through CB-IMCI protocols, acute case management of Vitamin A deficiency cases, provide low dose Vitamin A capsule supplementation to pregnant mothers during second trimester of pregnancy with a single dose de-worming tablet, increase coverage of postpartum supplementation of Vitamin A and implementing a pilot of treating night-blind pregnant women; (ii) MOH presently monitors iodized salt at entry points to control iodine deficiency disorders. It will increase the availability and use of iodized salt through BCC and market measures; (iii) MOH has revised the anemia strategy and will implement fortification of wheat flour with iron, plans to evaluate the semi-annual mass de-worming of children for its country-wide expansion and expand the use of iron-folate in pregnant women; and (iv) promoting growth monitoring and counseling, breastfeeding practices, young child feeding, and consumption of fortified foods.

Communicable disease control:

Tuberculosis: Program strategies include (i) expanding DOTS to all patients registered in the NTP and to the community level; (ii) expanding public and private diagnostic and treatment sites to improve access, coverage and maintain quality; (iii) establishing a treatment in Health Posts (HP) and Sub-Health Posts (SHP); (iv) collaborating with HIV/AIDS program on TB/HIV co-infection; (v) conducting studies to deal with emerging drug resistance; and (vi) intensifying services to the urban poor.

Leprosy: Main Strategies include: (i) service provision through the SHP and transferring patients from referral centers to primary health centers; (ii) multi-drug treatment (MDT) for all registered cases; (iii) disability prevention by early case detection and treatment; and (iv) reducing social stigma by increasing awareness about the disease.

Prevention and Control of HIV/AIDS/STI: Major program strategies include: (i) prevention of STIs and HIV infection among vulnerable groups; (ii) ensuring a safe blood supply; (iii) prevention of infections among and at risk populations; (iv) ensuring care and support for persons infected and affected by HIV/AIDS; (v) expanding monitoring and evaluation; (v) establishing an effective and efficient management system, and (vi) prevention of mother to child transmission.

Component 2: Sector Management and Capacity Building

The design of this component has been defined following the institutional capacity assessment, which recognizes that the MOH has capacity if each of the following conditions are met:

- The division of labor among all agencies in the sector, or among all organizational units within the MOH is optimal
- The MOH has effective leadership (referring to vision and strategies)
- The MOH is able to mobilize sufficient financial resources to match its mandate, or to adjust its mandate so as to match its financial resources
- The MOH has an ‘adequate’ number of staff, with the right mix and level of skills to match its mandate, as well as sufficient incentives, and adequate conditions, for the staff to work at a full rate of utilization and efficiency
- The MOH has an ‘adequate’ provision of physical resources to match its mandate, and is able to manage and maintain these resources well
- The MOH collects, analyzes and utilizes information well both for the conduct of daily operations and for policy analysis, monitoring and evaluation; and finally,
- The people working in the sector, follow productive work and management practices

Improving the division of and improving leadership in the sector and its agencies

The program will improve the management of the health sector and each of the agencies concerned by clarifying the roles and functions of each agency, resolving role conflicts and removing functional gaps. Three functional analyses are being carried out: a horizontal analysis focusing on the sector as a whole, a vertical analysis focusing on the MOH, the Regional Health Directorates and the District Health Offices, and an intra-agency analysis focusing on the organization structure of the MOH. The vertical functional analysis will relate not only to the current situation, but also to the anticipated decentralization. In each case, roles and responsibilities will be redefined, re-designed and re-written (in TORs and job descriptions) as necessary. In each, the implications for capacity will be analyzed and an action plan will be developed to build up the required capacity. The analyses will be carried out by management consultants. In all three cases, the existing division of labor and the proposed changes to it will be presented to all agencies involved and other stakeholders for consideration and debate. The analyses may result in recommendations for the consolidation of functions in existing agencies, or organizational units, as well as the creation of new units. This may, in turn, result in a need to write new unit TORs, and job descriptions, to provide training for the job-holders, to develop systems and procedures and to provide office equipment and furniture.

The program will also enhance the capacity of top and mid-level managers in the sector to lead the agencies, units and facilities that they manage, by training and facilitating the development of visions, strategies and plan by them. One particular focus area will be the Local Bodies that will be re-established throughout the country. These Local Bodies will have re-defined roles and functions, new areas of responsibility and an increasing level of authority as a result of the move towards decentralization. They will also have new leaders/managers. They will be required to develop five-year plans based on national guidelines. Their ability to define strategies and plans will be critical to their success. The training consultants will be required to study the situation in the districts first, and to tailor training to the specific needs of these Local Bodies. A management

mentoring service will be provided to the heads of the health services in the Local Bodies. Each will be visited by a mentor once a month for a period of one year.

Development of sustainable health financing and resource allocation

The program focuses on both increasing and improving public expenditure, and improving the efficiency of public expenditure through prioritizing the most cost-effective services (the EHCS), decentralization and contracting. Annual PERs and the joint review of the MTEF – combined with monitoring of performance indicators - are intended to continually inform efforts to improve the allocation of resources, and assess whether HMGN's stated commitments – to reaching the poorest and underserved, to prioritizing EHCS and to increasing the share of non-salary costs -- are reflected in allocations and expenditures. Contracting to NGOs/private sector aims at improving the efficiency of service delivery, as well as access.

The MOH also intends to initiate alternative financing schemes including community and social health insurance schemes as a means to supplement government financing. MOH will assess the feasibility of a Social Health Insurance scheme. There are a small number of community health insurance schemes (including the Community Drug Program) within Nepal. MOH is considering working closely with different CHI schemes and using them to provide information for developing an approach for wider replication elsewhere in Nepal. Options for hospital financing include (i) developing a system of charges for hospital services together with assessment and subsidy for those unable to pay; (ii) refining the concept of Social Health Insurance and how it will be applied to hospitals; (iii) encouraging hospitals to make use of income from charges to improve the quality of services.

Improving the utilization, efficiency and management of physical resources:

The Program will support the Ministry's effort at developing asset management in the public health sector. It will relate not only to physical resources that are currently in use, but also to health care and other waste material and health care waste management. Standards and norms for the provision of medical and administrative facilities and equipment will be reviewed. Where lacking, they will be formulated and where in existence they may be re-formulated. Not to duplicate but in coordination with the ongoing actions carried out by Physical asset management project supported by GTZ, if noted necessary two physical resources surveys will be carried out once the standards are set – one for medical resources and the other for administrative and technical resources. In addition, a study on the movement of specific items through the system, from the time their specifications are detailed, through procurement, distribution, utilization and maintenance until they are retired, will be conducted. Based on these reviews, asset management systems and procedures will be finalized, and introduced. In the context of the Sector Capacity and Management component, the Program will support the acquisition of basic physical resources related to the management and administration of the system. The Program will review the institutional management of DOHS and clarify its functions in regard to asset management. To address health care waste at the various level of health facilities, the Program will support a contracting agreement with the private sector in the urban areas to regularly collect and dispose of health care waste per environmental requirements.

Improving the deployment, utilization, efficiency and management of human resources

The Program will help address the apparent imbalance between the size of the health work force and the magnitude of the job to be accomplished by it. Work load and staffing analyses will be carried out at key agencies in the sector after the functional analyses are completed, to help determine both the optimal and the minimal number of staff required by them to accomplish their existing, or newly defined, roles and functions. Skills needs analyses will be carried out and

multi-year training programs will be developed based on results. Three rounds of staff opinion surveys will be conducted to assess morale and motivation and to help diagnose administrative, technical and managerial work practices that impede staff utilization and efficiency. A special study will be conducted with respect to the management of human resources and a program of action will be developed and implemented to upgrade the personnel function into a human resources development and management function. Finally, particular attention will continue to be paid to the Local Bodies, who will be the future employers of all health staff at their level.

Improving the collection, analysis and use of information in the management of the sector:

This sub-component will support an analysis of the needs for further development of multiple data bases that exist in the MOH, as well as the ways to link them into one integrated, or interactive system. The program will support further development the programs, and their integration into one system. This effort will be accompanied by an attempt to improve the use of the information collected at all management levels, by introducing a management reporting system. A 'reporting needs analysis' will be carried out, aimed at identifying what management decisions can be enhanced by the availability of regular information, and what regular reports can be generated automatically by the various data banks and sent to the managers for use in daily operations.