

Nam Theun 2 Hydroelectric Project

Project Implementation Plan

Part B: Social Activities

Chapter 2: Health Programs

Part B: Social Activities

Chapter 2: Health Programs

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Acronyms and Abbreviations used in this Chapter

ACFL	Amite-Cooperation Franco-Laotienne
ARI	Acute Respiratory Infection
BCC	Behavioural Change Communication
BK	Koch Bacillus
BS	Blood Slide
DH	District Hospital
DHO	District Health Office
DOTS	Directly Observed Therapy Short-Term
DRF	Drug Revolving Fund
DTP	Diphtheria – Pertussis – Tetanus
EPI	Extended Programme for Immunization
HC	Health Centre
HCC	Head Construction Contractor
HIA	Health Impact Assessment
HIS	Health Information System
IBN	Impregnated Bed Nets
ICHC	Integrated Community Health Centre
IEC	Information, Education and Communication
IFMP	Institute de Francophonie Pour la Medecine Tropicale
Inter-DH	Inter-District Hospital
IPPHAP	Implementation Plan for PHAP
KAP	Knowledge, Attitude, Practice
LLIBN	Long Lasting Impregnated Bed Nets
MOE	Ministry of Education
MOH	Ministry of Health
MPA	Minimal Package of Activities
MTCPC	Ministry of Transport, Construction, Post and Communication
PH	Public Health
PHAP	Public Health Action Plan
PHO	Provincial Health Office
PIA	Potential Impact Area of Concern
PMU	Project Management Unit
RTA	Road Traffic Accident
S&M	Surveillance and Monitoring
STI	Sexually Transmitted Infection
SVK	Savannakat
SW	Service Workers
SWTI	Swiss Tropical Institute
TBC	Tuberculosis
VHV	Village Health Volunteer
WESR	Weekly Epidemiological Surveillance Report

1 Introduction

1.1 Issues

Current low utilisation of health services, mainly due to poor service quality, financial and geographical inaccessibility and traditional cultural beliefs, combined with the disruption of the resettlement process, has the potential for adverse health impacts among Resettlers and other Project Affected Persons.

The Project is also expected to involve more than 4000 workers and between 8,000 and 16,000 camp followers (families and service providers). Some 2000 workers will be Lao and others will come from neighbouring countries (e.g., China, Vietnam and Thailand) and other overseas countries.

The major and most immediate adverse health impacts are expected in areas where construction workers and camp followers are concentrated. Most likely they will consist of communicable diseases (food and water-borne, STI and HIV/AIDS) and accidents (RTA and construction related accidents).

1.2 Proposed Measures

The Company in collaboration with GOL MOH, provincial and district authorities relevant public health stakeholders (NGO and mass organisations) must ensure that PHAP (including the Regional Health Programme and Resettlers' Health Programme) is prepared such that anticipated potentially adverse effects of the Project are avoided or mitigated, potentially positive effects enhanced, and the probability of sustainable development is increased.

The Company will ensure that the PHAP:

- Emphasizes the improvement of the public health institutions through provisions of support for human capacity building, development of management systems, infrastructure, equipment, transport, medicine and medical supplies, operational cost and technical assistance;
- Sets out specific programmes and activities to prevent and mitigate the possible consequences of the following environmental and psycho-social health issues as identified in HIA:
 - Respiratory diseases
 - Vector-related and pest-borne diseases
 - STI and HIV/AIDS
 - Soil and water-borne diseases
 - Food and nutrition related issues
 - Road traffic accidents and injuries
 - Chemical exposures and poisoning
 - Psychosocial, and
 - Cultural health practices
- Contains a detailed plan for technical assistance to be provided to public health institutions based on training needs assessment.

The development of the Resettlement Health Programme and Regional Health Programme is the responsibility of the NTPC. The two programmes will be concerned with more or less the same diseases and health problems but different areas and populations.

Most vertical health programmes implemented (by GOL) in the project area are already receiving support from different international organisations.

Vertical Program Supported	Organization	Major Types of Support
Extended Programme of Immunization	UNICEF	Vaccines, operational costs
Malaria Control Programme	Global Fund	IBN, Operational costs, Trainings, Microscopes, Anti Malaria Drugs, etc.
Tuberculosis Control Program	Global Fund, Damian Foundation	Anti TBC Medicine, Microscopes, Operational Costs, Training
Reproductive Health	UNFPA	Family Planning, Medicines, Operational Costs, Trainings, IEC
STI & HIV/AIDS Control Programme	ADB, Global Fund, PSI	Condoms, Social Marketing, IEC, STD Clinics

Source: SDP Table 5.35

The Resettlement and Regional Health Programmes will give important support to all vertical programmes with the objectives of covering increased demand as well as to improve the quality of service delivery.

Items	Resettlement	Regional
Objectives:		
Prevent and mitigate effects of resettlement	√	
Prevent and mitigate effects of construction and operation		√
Prevent and mitigate effects of population influx	√	√
Improve the health situation of the local population	√	√
Target Groups		
Resettlement	√	
DS Channel and Nam Kathang Area		√
Xebangfai Riparian Area		√
Transportation corridor		√
Camp followers		√
Geographical Concentration		
Nakai	√	√
Gnommalat		√
Mahaxai		√
Khamkheut		√

Source: SDP Table 5-32

The initiatives will employ public health and epidemiological principles and will use following approaches (IPPHAP):

- Public health surveillance and response
- Public health infrastructure and capacity building
- Disease control
- Accidents, injury and poisoning prevention
- Management of emergencies and improved referral system
- Applied research for effective health policies
- Health education and awareness leading to behavioural change

1.3 Organisation

Figure 1: Provincial to Village Level Organizational Arrangements

Source: SDP (MoH revising)

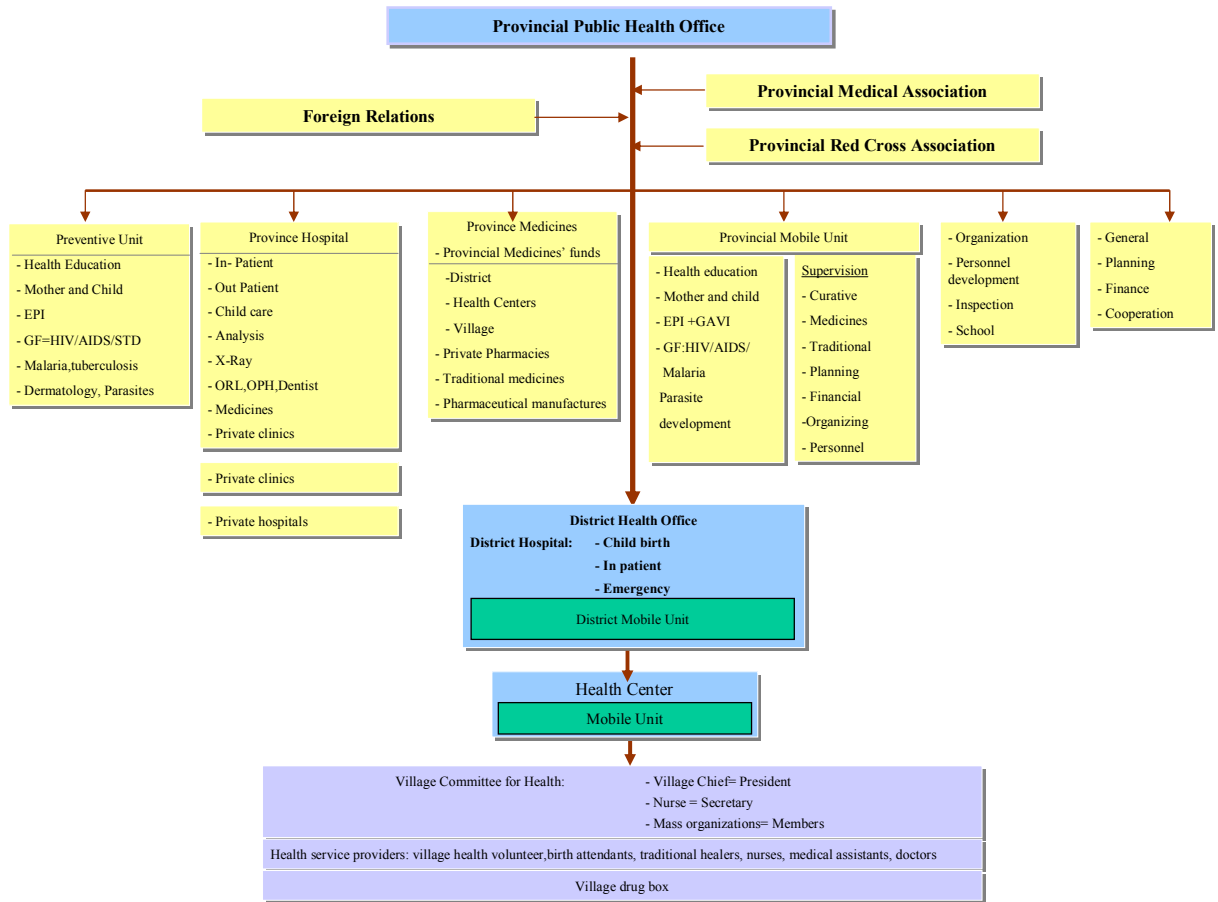


Figure 2: Organizational Chart of the Lao MOH (under revision by MoH)
 Source: SDP

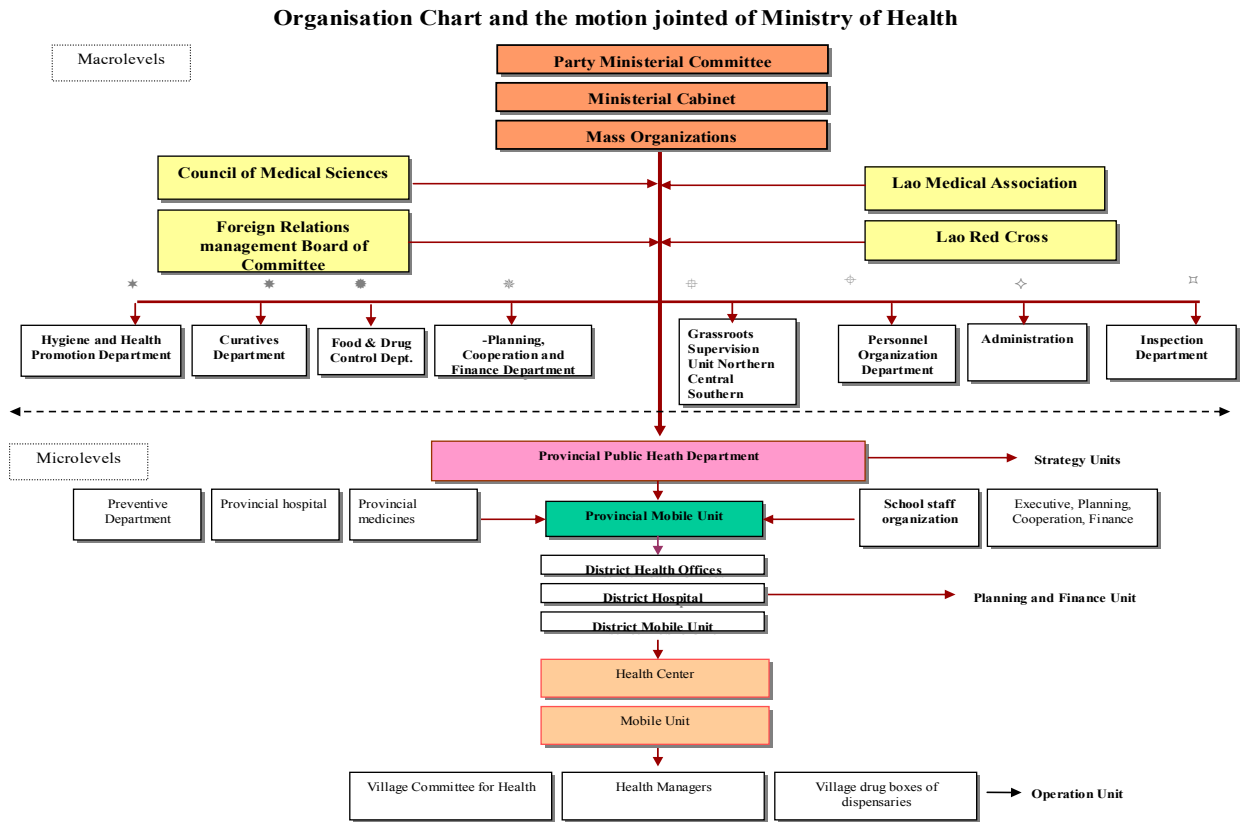
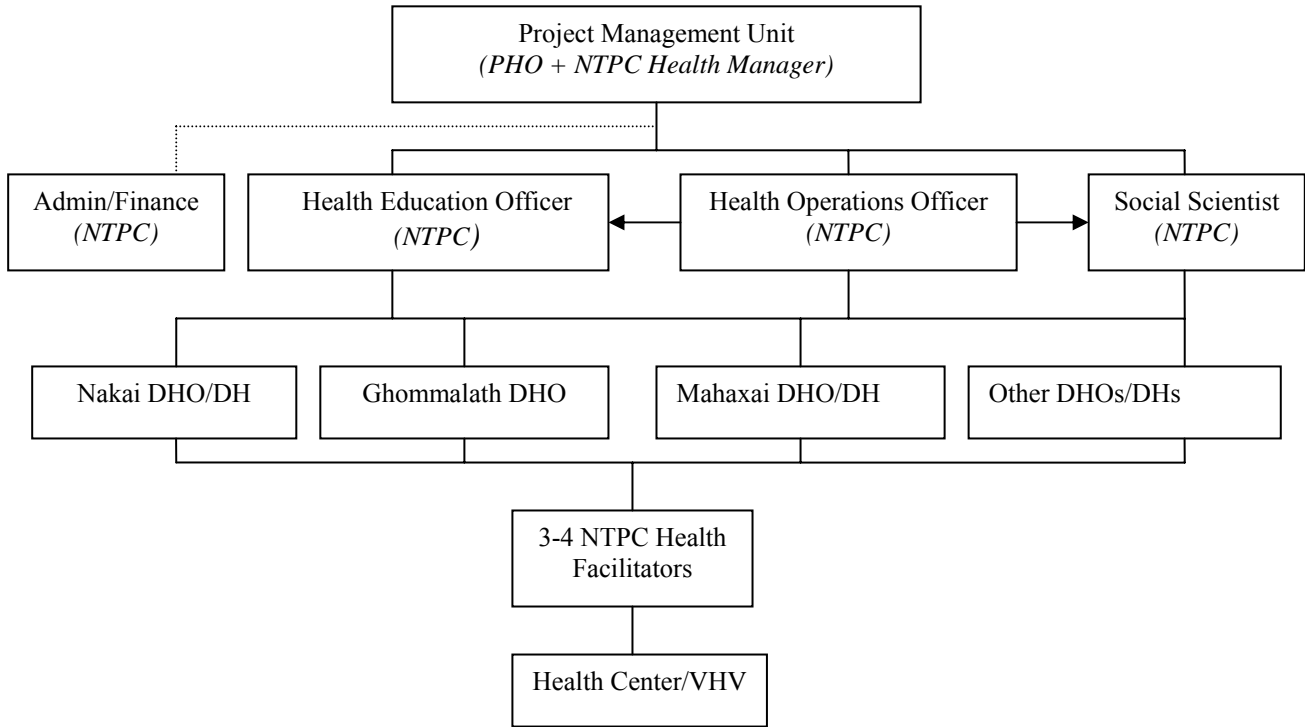


Figure 3: Organisational Chart of the Health Program Institutional Framework

Source: SDP



1.4 Obligations per CA

NTPC Obligations:

Reference:	Description:
Volume 2A, Schedule 4, Part 1, Section:	
3	General Obligations of Parties
4.1	Overview of Institutional Responsibility
4.3(a)(iv)	Assist RMU in carrying out public consultations.
4.4(b)	Company assistance to DRWGs
4.5	Assist RMU to ensure new community groups, structures and institutions are developed
4.6	Responsibilities of the RO under direction of RC
5.2(c) (d) (e)	Pre-relocation baseline survey of resettler households
5.3	Monitoring to be undertaken until Resettlement Objectives fulfilled
5.4	Internal Monitoring by the Company through the RO
5.5 (a) (d) (e)	Independent Monitoring
8.5 (6,7a,7b,8,10,11, 12,13,14, 16)	Design and Construct Infrastructure and Equipment
8.6 (1,2,3)	House Construction
9.1.4	Livelihood development: mitigate additional risks to ethnic minority groups – increased health initiatives.
10.4.1	Assist RMU providing supporting health, nutrition and vocational education
11.3	Assist RMU with Pre-relocation Activities
11.4	Assist RMU with Community development plan
12.1	Regional Health Program:
12.1.1	Assist RMU with health impact assessment and public health action plans
12.1.2	Developing regional health
12.1.3	Assist RMU with Disease Control Program Support.
12.1.4	Assist RMU with International Training and Study Tours
12.1.5	Assist RMU procure Technical Consultants and Logistics Support
12.2.1	Develop Resettlers' Health Program
12.2.2	Assist RMU with Health Education program
13.1 (i) (v)	Project Lands: mitigation measures for direct impacts
13.3(f)	Project Lands: provision and maintenance of adequate water, sanitation & waste disposal during construction.
15.1(b)	Health Entitlements – Resettlement and Regional Programs
15.2.6.5	Full restoration of affected clinics on Project Lands
16.4	Establishment of Social and Environmental Remediation Fund
16.5	Formula for Escalation of the Social and Environmental Remediation Fund Payment
16.6	Summary of Company Funding for Resettlement Activities

GOL Obligations:

Reference:	Description:
Volume 2A, Schedule 4, Part 1, Section:	
3	General Obligations of the Parties
4.1	Overview of institutional responsibilities
4.2	GOL Resettlement Committee
4.3	GOL Resettlement Management Unit
4.4	GOL District Resettlement Working Groups (DRWGs)
4.5	GOL Village Resettlement Committees (VRCs)

Reference:	Description:
5.2(e)	Data from population, asset and socio-economic survey to be put on electronic database
5.4	Internal monitoring by the GOL through RMU
5.5	Independent monitoring
7.7.1	RMU to consult Resettlers on Detailed Village Plans
9.1.4	Livelihood development: mitigate additional risks to ethnic minority groups – increased health initiatives
11.5	RMU to consult with villages on community development plan
12.1.1	Implementation of activities of public health action plan to be primarily through GOL public health institutions
12.2.2	RMU to implement a health education program, ensure monitoring of water and inspection of water supply systems.
14	Grievance Procedure
16	Funding Arrangements

1.5 Schedule

Period:	2005-2009 construction (Reservoir Filling)		2009-2013 Dam Operation	
	Start	End	Start	End
Resettlement	FC	COD	COD	2013
Regional	FC	COD	COD	2013

Source: SDP Table 5-32

1.6 Budget

<i>B/L</i>		<i>Budget (USD)</i>			<i>Limited by:</i>	
		<i>To COD</i>	<i>After COD</i>	<i>Total</i>	<i>Cost</i>	<i>Scope</i>
N	Regional Health Program	1,552,100	468,900	2,021,000	√	
U	Resettlers Health Program	757,500	210,300	967,800	√	
	Totals:	2,309,600	679,200	2,988,800		

1.7 Reporting and Monitoring

Reporting per Progress Reports:

The following will be reported by NTPC for all sections of this Chapter:

Component:	Monitor and Report:
Health Program:	Progress against schedule for infrastructure and supply of equipment
	Key Health Indicators
Budget:	Payments vs. Budget (curve)

Health Surveillance and Monitoring:

Objective of Surveillance and Monitoring (S&M): provide health information on the population affected by NT2 related to dam construction, filling and subsequent operation and to assess and quantify progress of implementation of the public health actions (and interventions) executed (SDP 5.14.2)

The following strategies will be implemented (SDP 5.14.3)

- Establish task force consisting of MOH, NTPC Health Office and other institutions for the various activities of the S&M;
- Strengthen and support existing public health information collection systems (HIS) and initiate and maintain a steady flow of information (from community to central level and backwards)
- Initiate and implement appropriate response interventions.

Mainly five data collection sources will be used: HIS, WESR, data of vertical programs such as malaria, TBC, Mother and Child Health and STIs. Additional demographic information will be available through the national Statistics Centre which conducts national population surveys every 5 and 10 years. Where ever necessary, surveys on specific health outcomes and risk factors will be conducted.

Institutions and responsibilities in S&M

Institutions	Responsibilities
MOH Department of Hygiene and Health Promotion	Provide overall responsibility and coordination of S&M activities
PMU	Provide overall responsibility of implementation of S&M activities for NTPC and assistance to MOH/DPH for PHAP implementation
MOH Health Statistics Unit	Collect for HIS and report to PMU and MOH/DPH
Centre for Laboratory and Epidemiology	Collect of WESR and report to PMU and MOH/DPH
Centre for Malariology, Parasitology and Entomology	Implement malaria and dengue related information (disease and vectors) through a network of malaria stations and technical personnel reporting to MOH/DPH
Institute de la Francophonie Pour La Medicine Tropical/ Swiss Tropical Institute	Provide epidemiological and clinical expertise to S&M activities and scientific support to PMU and MOH/DPH

Source: SDP Figure 5-12

2 Regional Health Programme (Zone 2, 4-12)

2.1 Issues

The programme will be active in 8 districts and 3 provinces. However support will concentrate on the four districts of Nakai, Gnommalat, Khamkheut and Mahaxay. Here risks for important adverse health effects are highest. Most construction activities and camps of workers and camp followers will be located there. This area will also be affected by changes in water levels and quality. (SDP 5.12.1).

2.1.1 Construction Phase Issues:

Increase of the likelihood of accident and injury due to increased traffic and activity in regulating and downstream channel areas, work camps and transportation corridors.

Potential transmission and amplification of STI, including HIV/AIDS and secondary development triggered by camp followers living in close geographical proximity to work camps.

Possible rapid spread of viral upper respiratory illness in work camps which is currently under diagnosed.

Concern over introduction of resistant strains of malaria via in-migration of non-local workers, possible inadequate resistance of these workers to local malaria strains and unanticipated change in pattern, distribution and dominance of vector species due to altered ecosystem.

Potential for rodent control problems associated with both construction and camp development and “steady-state” operation.

Exposure to increased levels of air pollution as a function of higher vehicular traffic, unpaved roads, use of machines and earthworks in downstream channel areas, work camps and transportation corridor.

Introduction of camps and large numbers of workers with disposable income is potentially associated with community level changes in existing substance abuse rates and adverse interaction with local community members.

Increased burden on existing health infrastructure and management systems that would be overwhelmed by a dramatic upsurge of disease incidence.

Possible food price inflation can marginalize the least productive community members.

2.1.2 Construction and Operation Phase Issues:

Dengue in case current seasonal flooding is increased in villages along Xe Bang Fie

Chances of outbreaks of contagious or vector borne diseases including classical (e.g., dysentery, malaria, dengue) or emerging ones (SARS and bird flu).

2.2 Objectives / Measures

Prevent and mitigate effects of the population influx (workforce and camp followers) on the local population;

Prevent and mitigate significant adverse health effects resulting from changes of water levels and flows;

Improve the health situation of local population with particular attention to those in DS area;

Build the capacity of the public health institutions for addressing their target population needs.

2.3 Obligations per CA

Refer also to Section 1.4 above

NTPC Obligations:

<i>Reference:</i>	<i>Description:</i>
Schedule 4, Part 1 Section	
12.1.1	<p>Health impact assessment and public health action plans:</p> <p>The company, in collaboration with GOL, MOH, provincial and district authorities, relevant public health stakeholders (NGOs and mass organisations) to prepare plan to ensure that anticipated potentially adverse effects of the Project are avoided or mitigated, potentially positive effects are enhanced and that the probability of sustainable development is increased.</p> <p>The Company to be responsible for funding measures to improve the capacity of GOL institutions and to ensure that the services are financially accessible to local populations.</p> <p>The Company to ensure the action plan provides support for human capacity building, development of management systems, infrastructure, equipment, transport, medicine and medical supplies, operational costs and technical assistance</p> <p>The Company to ensure that the action plan sets out specific programs and activities to prevent and mitigate the possible consequences of the following environmental and psychosocial issues for the local population as identified by the HIA:</p> <ul style="list-style-type: none"> - Respiratory diseases; - Vector- related and pest borne diseases; - Sexually Transmitted Infections (STIs) and HIV/ AIDs;

Reference:	Description:
	<ul style="list-style-type: none"> - Soil and water borne disease; - Food and nutrition related issues; - Road Traffic Accidents and injuries; - Chemical exposures and poisoning; - Psychosocial; and - Cultural health practices <p>Company to ensure that the action plan contains a detailed plan for technical assistance to be provided to the public health institutions, based on a training needs assessment</p>
12.1.1	<p>Institutional arrangements: The parties to ensure that a project management unit (comprising representation from Khammoune Province and the Company) to assume planning, coordination, management and supervision of the public health action plan.</p> <p>The parties to ensure routine collaboration between the regional health program and the Resettlers' health program during planning, implementation and evaluation to ensure consistency, cost-efficiency and to avoid duplication</p> <p>The parties to ensure regular coordination with the management of Project Staff Health Plan for overlapping public health issues</p> <p>The Company must submit the public health action plan for GOL approval at least two months prior to implementation</p> <p>The parties agree to develop and implement a surveillance and monitoring program for the public health action plan</p> <p>The parties agree to meet on an annual basis to discuss the results of the monitoring program and to take into account in preparing the budget and implementation program for the next year.</p>
12.1.2	<p>Developing Regional Health: The Company, with assistance from the GOL, to develop a regional health program with the objectives of preventing and mitigating the effects of construction and of operation of the NT2 Project on the local population</p> <p>The Company to ensure that the program addresses the areas likely to be affected by the Project (including those villages in the vicinity of the Downstream Channel and the Nam Kathang River, the Xe Bang Fai River, the transportation corridors (eg roads, bridges, airstrips and associated villages and communities), camp followers and Construction Work camps and that it focuses on the areas where the risks of adverse health effects are highest (predicted as at the date of the Concession Agreement to be the districts of Nakai, Gnommalath Khamkeuth and Mahaxai).</p> <p>Activities under the regional health program to follow GOL national and provincial policies and targets, for example, potable water supply, the EPI programme and malaria control.</p> <p>The Regional Health Program to undergo a preparation phase prior to Financial Close to put in place required infrastructure and equipment and to develop the necessary health professional skills.</p>
12.1.3	<p>Disease Control Program Support: Support to disease control programmes through:</p> <ul style="list-style-type: none"> • provision of technical support; • availability of essential drugs and other supplies necessary to the programme as per MOH programme and procedures; • collaborative support in programme implementation; • development and production of health information materials; and

Reference:	Description:
	<ul style="list-style-type: none"> • assistance with evaluation and analysis of data. <p>Activities to be in collaboration and co-ordination with other influential and involved groups such as the Lao Women’s Union and non governmental organisations active in the area</p> <p>Traditional medicine practices to be respected, especially those based on herbal medicines that may be found on the Nakai Plateau. The project to assist in identifying commonly used medicinal plants and take measures to relocate them appropriately</p> <p>Culturally sensitive and acceptable methods to be used in developing supplementary feeding programs for pregnant women and pre school children</p> <p>Regional Health Program to be divided into two components:</p> <ul style="list-style-type: none"> • the Construction Phase, focussing on the adverse impacts of construction, construction-related activities, construction workers and camp followers; and • the first five (5) years of the Operating Phase (focussing on monitoring and mitigation of possible adverse health impacts resulting from changes in water levels and qualities and other assistance as required to meet the objectives of the regional health program).. <p>Program to be reviewed by the parties after the first four years to evaluate effectiveness and make any necessary adjustments to ensure the achievement of the programs’ objectives</p>
12.1.4	International Training and Study Tours, as required, to strengthen health workers’ skills
12.1.5	Assist GOL to procure technical consultants and logistics support to assist in developing program. To incorporate: <ul style="list-style-type: none"> • locally organised training; • the development of teaching and job aids; and • the strengthening of supervision of health services at all levels

GOL Obligations:

Reference:	Description:
Schedule 4, Part 1 Section	
12.1.1	<p>Health impact assessment and public health action plans:</p> <p>Implementation of activities of public health action plan to be primarily through GOL public health institutions</p>
12.1.1	<p>Institutional arrangements:</p> <p>A project management unit (comprising representation from Khammoune Province and the Company) to assume planning, coordination, management and supervision of the public health action plan</p>

2.4 Scope of Work

During the first four years, the programme will emphasize on possible effects resulting from construction, construction-related activities and concentration of people (workers and camp followers) (SDP 5.12.1).

The activities as per Implementation Plan for IPPHAP are ongoing between FC and ERP.

Environmental Health Areas	Tasks				
	Promotion & Prevention	Diagnosis & Detection	Treatment	Capacity building	Monitoring & Surveillance
Respiratory Disease: Support and Strengthen Existing MOH TBC Global Program	√	√	√	√	√
Vector and Pest-Borne Diseases: Support and Strengthen Existing MOH Malaria Global Program	√	√	√	√	√
Sexually Transmitted and Blood-borne Infection: Support and Strengthen Existing MOH STI Global Programme	√	√	√	√	√
Impacts in Soil and Water-borne Disease	√	Reporting & follow-up of food borne disease	√	√	√
Impacts on Food, Nutrition and Micronutrients Related Issues: Support and Strengthen Existing MOH National Maternal and Child Care Global Programme	√		√	√	√
Impacts in Accidents/ Injuries, Chemical Exposure & Poisoning	√		√	√	√
Psychosocial Disorders	√		√	√	√
Cultural Health Practices	√				√
<p>Strengthening of MOH for Project Impact :</p> <ul style="list-style-type: none"> • Provide Required and Adapted Technical Administrative Management and Monitoring Systems for DH and DHO (management, referral, training, annual plan, technical support and supervision). • Strengthen MOH Financing System (DRF, accounting system, training, annual plan and budget) • Ensure that HC and DH Have Required Number of Capable Staff (allocated by PHO/DHO, training) • Assure Continuity of Service (ensure 24 hours a day, 7days a week services at the HC and DH) • Assure Integrated PHC Outreach Activities to Villages • Assure Adequate Support and Supervision • Infrastructure (rehabilitation/construction of DHs/DHOs and HCs) • Provide Required Medical and Non-medical Equipment (HC, DH/DHO, PH/PHO) • Provide Vehicles (lady and off road motorbikes, double cabs and ambulance) • Assure Financing and Steady Supply of Consumables and Operational Cost (Supplementary to Regular GOL Support) (i.e. DRF, annual operational cost and outreach activities) 					

ID	Task Name	Start	Finish	Half 1, 2005		Half 2, 2005					Half 1, 2006					Half 2, 2006					Half 1, 2007					Half 2, 2007					Half 1								
				D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N
1	Resettlement Health Programme	1 Jan '05	31 Dec '13	[Gantt bar from Jan '05 to Dec '13]																																			
2	Upgrading Public Health Infrastructure	1 Jan '05	31 Dec '13	[Gantt bar from Jan '05 to Dec '13]																																			
3	Public Health Infrastructure	1 Mar '05	31 Dec '13	[Gantt bar from Mar '05 to Dec '13]																																			
4	Construction of Health Center (building, water supply, sanitat., fer	1 Jan '06	31 Dec '07	[Gantt bar from Jan '06 to Dec '07]																																			
5	Rehabilitation of DH/DHO	1 Mar '05	30 Jun '06	[Gantt bar from Mar '05 to Jun '06]																																			
6	Staff house Health Center (3 staff house per HC)	1 Jan '06	31 Dec '07	[Gantt bar from Jan '06 to Dec '07]																																			
7	Infrastructure maintenance per HC	1 Jan '06	31 Dec '13	[Gantt bar from Jan '06 to Dec '13]																																			
8	Infrastructure maintenance per DH	1 Jan '06	31 Dec '13	[Gantt bar from Jan '06 to Dec '13]																																			
9	Construct sanitation facilities for camp followers - part of Project I	1 May '05	31 Oct '07	[Gantt bar from May '05 to Oct '07]																																			
10	Rain water collection (1,190 houses)	1 May '05	31 Oct '07	[Gantt bar from May '05 to Oct '07]																																			
11	Latrine construction for community	1 May '05	31 Oct '07	[Gantt bar from May '05 to Oct '07]																																			
12	Construct Water Supply System (WSS) for camp followers - integ	1 May '05	31 Oct '07	[Gantt bar from May '05 to Oct '07]																																			
13	Regular collection of waste and collection of fees for camp followe	1 May '05	31 Oct '07	[Gantt bar from May '05 to Oct '07]																																			
14	Hand pumps from bore wells in 14 villages (3 per village)	1 May '05	31 Oct '07	[Gantt bar from May '05 to Oct '07]																																			
15	Medical and Other Equipment	1 Jan '05	31 Dec '13	[Gantt bar from Jan '05 to Dec '13]																																			
16	MSF Contracted	3 Jul '05	3 Jul '05	[Milestone diamond at Jul '05]																																			
17	Medical & Laboratory Equipment	1 Mar '05	31 Dec '13	[Gantt bar from Mar '05 to Dec '13]																																			
18	Package of Medical Equipment and furniture for HC	1 Mar '05	31 Dec '13	[Gantt bar from Mar '05 to Dec '13]																																			
19	Package of Medical Equipment and furniture for DH	1 Mar '05	31 Dec '13	[Gantt bar from Mar '05 to Dec '13]																																			
20	Medical/Laboratory Equipment for Emergency Department, T	1 Mar '05	31 Dec '13	[Gantt bar from Mar '05 to Dec '13]																																			
21	STIs and ARV treatment	1 Jun '05	31 Dec '13	[Gantt bar from Jun '05 to Dec '13]																																			
22	Non-Medical Equipment	1 Jan '05	31 Dec '13	[Gantt bar from Jan '05 to Dec '13]																																			
23	Package of Non-Medical Equipment for the HC (office equipn	1 Jan '06	31 Dec '13	[Gantt bar from Jan '06 to Dec '13]																																			
24	Package of Non-Medical Equipment for the DH and DHO (offi	1 Mar '05	31 Dec '13	[Gantt bar from Mar '05 to Dec '13]																																			
25	Vector control measures/equipment	1 Mar '05	31 Dec '13	[Gantt bar from Mar '05 to Dec '13]																																			
26	Long-lasting Impregnated Bed Nets (6,000 persons, 2.5 pers	1 Mar '05	31 Dec '13	[Gantt bar from Mar '05 to Dec '13]																																			
27	Computer, Printer, UPS, Memory Stick for the District Hospi	1 Mar '05	31 Dec '05	[Gantt bar from Mar '05 to Dec '05]																																			
28	LCD projector for PMU	1 Mar '05	31 Dec '05	[Gantt bar from Mar '05 to Dec '05]																																			
29	Photocopy machine for DHO	1 Mar '05	31 Dec '05	[Gantt bar from Mar '05 to Dec '05]																																			
30	Photocopy machine for PMU	1 Mar '05	31 Dec '05	[Gantt bar from Mar '05 to Dec '05]																																			
31	Overhead projector	1 Jan '05	31 Dec '05	[Gantt bar from Jan '05 to Dec '05]																																			
32	Furniture for the HC (medical, non-medical, fridge, safe, etc.)	1 May '05	31 Dec '05	[Gantt bar from May '05 to Dec '05]																																			
33	Furniture for the DH (medical, non-medical, fridge, safe, etc.)	1 May '05	31 Dec '05	[Gantt bar from May '05 to Dec '05]																																			
34	BCC equipment per HC (cassette recorder, megaphone)	1 Mar '05	31 Dec '05	[Gantt bar from Mar '05 to Dec '05]																																			
35	BCC equipment per DHO (television, generator, video player,	1 Mar '05	31 Dec '05	[Gantt bar from Mar '05 to Dec '05]																																			
36	Road safety communication	1 May '05	31 Dec '05	[Gantt bar from May '05 to Dec '05]																																			
37	Vehicles (Ambulance, utility car and motorbikes)	1 Mar '05	31 Dec '13	[Gantt bar from Mar '05 to Dec '13]																																			
38	Vehicles	1 Mar '05	31 Dec '13	[Gantt bar from Mar '05 to Dec '13]																																			

ID	Task Name	Start	Finish	Half 1, 2005		Half 2, 2005				Half 1, 2006				Half 2, 2006				Half 1, 2007				Half 2, 2007				Half 1, 2008															
				J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F
37	Vehicles (Ambulance, utility car and motorbikes)	1 Mar '05	31 Dec '13	[Gantt bar from Mar '05 to Dec '13]																																					
38	Vehicles	1 Mar '05	31 Dec '13	[Gantt bar from Mar '05 to Dec '13]																																					
39	Motorbike (Honda Dream 110cc) for HC	1 Mar '06	31 Dec '10	[Gantt bar from Mar '06 to Dec '10]																																					
40	Motorbike (YAMAHA TG 125cc) for DHO	1 Mar '05	31 Dec '09	[Gantt bar from Mar '05 to Dec '09]																																					
41	4 wheel drive vehicle (ambulance, supervision and support)	1 Mar '05	31 Aug '05	[Gantt bar from Mar '05 to Aug '05]																																					
42	4 wheel drive vehicle ambulance (equiped)	1 Mar '05	31 Aug '05	[Gantt bar from Mar '05 to Aug '05]																																					
43	Replacement of aging vehicle	1 Jan '09	31 Dec '13	[Gantt bar from Jan '09 to Dec '13]																																					
44	Public Health Program - including awareness programmes	1 Feb '05	31 Dec '13	[Gantt bar from Feb '05 to Dec '13]																																					
45	Supplies - Drugs, kits, forms and manuals	1 Mar '05	31 Dec '13	[Gantt bar from Mar '05 to Dec '13]																																					
46	Drugs and Medical/Laboratory Supplies for DRF per HC for 2 ICHC	1 Jan '06	31 Dec '13	[Gantt bar from Jan '06 to Dec '13]																																					
47	Drugs and Medical/Laboratory Supplies for DRF per DH	1 Mar '05	31 Dec '13	[Gantt bar from Mar '05 to Dec '13]																																					
48	Drug and Medical/Laboratory supplies for Emergency Depart,me	1 Mar '05	31 Dec '13	[Gantt bar from Mar '05 to Dec '13]																																					
49	Village Drugkits per village for 17 villages	1 Jan '06	30 Jun '07	[Gantt bar from Jan '06 to Jun '07]																																					
50	TBA kits	1 Jan '06	30 Jun '07	[Gantt bar from Jan '06 to Jun '07]																																					
51	Other non-medical operating costs (stationary, cleaning material)	1 Jan '06	31 Dec '13	[Gantt bar from Jan '06 to Dec '13]																																					
52	Other non-medical operating costs (stationary, cleaning mat.) per	1 Mar '05	31 Dec '13	[Gantt bar from Mar '05 to Dec '13]																																					
53	Other non-medical operating costs (stationary, cleaning mat.) for	1 Mar '05	31 Dec '13	[Gantt bar from Mar '05 to Dec '13]																																					
54	Vehicle Operating Costs per HC (2 motorbikes)	1 Jan '07	31 Dec '13	[Gantt bar from Jan '07 to Dec '13]																																					
55	Vehicle Operating Costs for PMU PHO TKK	1 May '05	31 Dec '13	[Gantt bar from May '05 to Dec '13]																																					
56	Vehicle Operating Costs per DHO (1 motorbike, 1 ambulance, 1 u	1 May '05	31 Dec '13	[Gantt bar from May '05 to Dec '13]																																					
57	Printed forms and registers per HC	1 Jan '06	31 Dec '13	[Gantt bar from Jan '06 to Dec '13]																																					
58	Printed forms and registers per DH	1 May '05	31 Dec '13	[Gantt bar from May '05 to Dec '13]																																					
59	Production of BCC material	1 May '05	31 Dec '10	[Gantt bar from May '05 to Dec '10]																																					
60	Manuals and guidelines per HC	1 May '05	31 Dec '06	[Gantt bar from May '05 to Dec '06]																																					
61	Manual, guidelines and books per DH	1 May '05	31 Dec '06	[Gantt bar from May '05 to Dec '06]																																					
62	Family Survey and Introduction of Family Health Files (for 2 HC ar	1 Jan '06	31 Dec '07	[Gantt bar from Jan '06 to Dec '07]																																					
63	Deworming medicine for children 2-5 years and school campaigns	1 May '05	31 Dec '13	[Gantt bar from May '05 to Dec '13]																																					
64	Vaccines for EPI programme	1 May '05	31 Dec '13	[Gantt bar from May '05 to Dec '13]																																					
65	Anti-TBC Drugs	1 May '05	31 Dec '13	[Gantt bar from May '05 to Dec '13]																																					
66	Family Planning consumables (IUD, condoms, pills, injectables)	1 May '05	31 Dec '13	[Gantt bar from May '05 to Dec '13]																																					
67	Vitamine A for integrated outreach activities	1 May '05	31 Dec '13	[Gantt bar from May '05 to Dec '13]																																					
68	Folic Acid and Ferro sulphate for antenatal programme	1 May '05	31 Dec '13	[Gantt bar from May '05 to Dec '13]																																					
69	Awareness Programmes	1 Feb '05	31 Dec '13	[Gantt bar from Feb '05 to Dec '13]																																					
70	Operational costs TBC control program (laboratory, reporting, sup	1 May '05	31 Dec '13	[Gantt bar from May '05 to Dec '13]																																					
71	Operating costs for School Health Education (HIV, Deworming, Di	1 May '05	31 Dec '13	[Gantt bar from May '05 to Dec '13]																																					
72	Operational costs for EPI programme	1 May '05	31 Dec '13	[Gantt bar from May '05 to Dec '13]																																					
73	Administrative cost for PCCA/DCCA (school and community base	1 May '05	31 Dec '13	[Gantt bar from May '05 to Dec '13]																																					
74	Relocation/medicinal plants	1 May '05	31 Dec '05	[Gantt bar from May '05 to Dec '05]																																					

ID	Task Name	Start	Finish	Half 1, 2005					Half 2, 2005					Half 1, 2006					Half 2, 2006					Half 1, 2007					Half 2, 2007					Half 1, 2008																			
				J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F
76	Implementation of road safety recommendations	1 Feb '05	31 Dec '05	[Gantt bar]																																																	
77	Strengthening Human Resources in Public Health	1 Feb '05	31 Dec '13	[Gantt bar]																																																	
78	Supervision and Monitoring (Per diems and allowances)	1 May '05	31 Dec '13	[Gantt bar]																																																	
79	MOH staff salaries	1 May '05	31 Dec '13	[Gantt bar]																																																	
80	Incentive allowances for health care providers (HC and DH/DHO)	1 May '05	31 Dec '13	[Gantt bar]																																																	
81	Per diems for VHV's for community activities	1 May '05	31 Dec '13	[Gantt bar]																																																	
82	Per diem integrated outreach activity (4 times per year per village)	1 May '05	31 Dec '13	[Gantt bar]																																																	
83	Per diems HC (3 days outreach per month for 2 persons per HC)	1 May '05	31 Dec '13	[Gantt bar]																																																	
84	Per diems DHO (1 supervision day per month per ICHC with 2 per	1 May '05	31 Dec '13	[Gantt bar]																																																	
85	Per diems PHO (2 supervision days per month per DHO with 2 pe	1 May '05	31 Dec '13	[Gantt bar]																																																	
86	Supervisory visit by senior officers in Vientiane	1 May '05	31 Dec '13	[Gantt bar]																																																	
87	Human Resource Development (Training)	1 Feb '05	31 Dec '13	[Gantt bar]																																																	
88	Community Level	1 May '05	31 Dec '13	[Gantt bar]																																																	
89	Setting up and training of VHCs and VHV's members on their	1 May '05	31 Dec '13	[Gantt bar]																																																	
90	Package of training to VHV on different PHC programs and te	1 May '05	31 Dec '13	[Gantt bar]																																																	
91	Train private health care providers/pharmacies on prevention :	1 May '05	31 Dec '13	[Gantt bar]																																																	
92	Train TBAs on safe delivery and maternal care.	1 May '05	31 Dec '13	[Gantt bar]																																																	
93	Health Center Level	1 May '05	31 Dec '13	[Gantt bar]																																																	
94	Package of training for health center staff on Maternal and Cl	1 May '05	31 Dec '13	[Gantt bar]																																																	
95	Train HC staff on prevention strategies, and appropriate diagn	1 May '05	31 Dec '13	[Gantt bar]																																																	
96	Package of training to HC staff on different PHC programs an	1 May '05	31 Dec '13	[Gantt bar]																																																	
97	Train HC staff on management of HC and DRF management.	1 May '05	31 Dec '13	[Gantt bar]																																																	
98	Practical training in the existing ICHC (1 month/course, 1 sta	1 Jan '06	31 Dec '07	[Gantt bar]																																																	
99	Workshop on how to identify psychosocial/drug abuse proble	1 May '05	31 Dec '10	[Gantt bar]																																																	
100	District Level	1 Feb '05	31 Dec '13	[Gantt bar]																																																	
101	Package of training for DH/DHO staff on Maternal and Child H	1 May '05	31 Dec '13	[Gantt bar]																																																	
102	Train DH/DHO staff on prevention strategies, and appropriate	1 May '05	31 Dec '13	[Gantt bar]																																																	
103	Package of training to DH/DHO staff on different PHC prograr	1 May '05	31 Dec '13	[Gantt bar]																																																	
104	Longterm training of DH staff on specific areas i.e. emergenc	1 Feb '05	31 Dec '07	[Gantt bar]																																																	
105	Train DH/DHO staff on general management and DRF manag	1 May '05	31 Dec '07	[Gantt bar]																																																	
106	Workshop on how to identify psychosocial/drug abuse proble	1 May '05	31 Dec '10	[Gantt bar]																																																	
107	Conduct study tour for committee members to existing ICHC	1 Jan '06	31 Dec '06	[Gantt bar]																																																	
108	Study tour to Theun-Hinboun Power Company	1 Jun '05	31 Dec '06	[Gantt bar]																																																	
109	Study visit to Phonesy HC, Bolikhamxai Province	1 Jun '05	31 Dec '06	[Gantt bar]																																																	
110	Meetings	1 Mar '05	31 Dec '13	[Gantt bar]																																																	
111	Zonal Health Committee Meeting (4 x per year for each ICHC; and	1 Jan '06	31 Dec '13	[Gantt bar]																																																	
112	6-Monthly meeting with project steering committee	1 Mar '05	31 Dec '13	[Gantt bar]																																																	
113	Annual review and planning workshop at province	1 Jul '05	31 Jul '12	[Gantt bar]																																																	

2.5 Arrangements for Procurement and Implementation

The actual responsibility for implementation and outcome of the Resettlement and Regional Health Program is shared between the NTPC and MOH which includes the PHO in Thakek and DHO in Khamkeut, Nakai, Gnommalaht. Mahaxay, XeBangFie, Nongbok and Xaibouly (SDP 5.9.1).

The PHO and NTPC Health Manager will head the Project Management Unit (PMU). The PMU reports to the Provincial Health Director in Thakhek and to the Social and Resettlement Office in Vientiane (SDP 5.9.1) . Most of the planned activities will be directly implemented by the public health institutions of the target areas at district and provincial level.

Description	Activity	Implementers	Village Consultation/ Participation
Planning	Prepare the project staff health programme (SDP 5.13)	HCC	Not indicated
	Plan the resettlement and regional health programmes (SDP 5.9.1)	PMU – NTPC work closely with MOH/PHO/ DHO	Yes
Scheduling	Maintain and update the social and resettlement program schedule (SDP 6.3.2)	NTPC RO	Not indicated
Procurement	Contract NGO to provide technical assistance on specific activities of the Resettlement and Regional Health Programmes (SDP 5.9.1 and IPPHAP)	NTPC – contracted out to IFMT	Not indicated
	Engage national and international experts (SDP 6.5)	NTPC RO – Involve MOH for consultancy services, particularly for bidding process for medical/non-medical equipment, vehicles and civil work.	Not indicated
Implementation	Ensure health and safety of workforce (SDP 5.12.1)	HCC	Not indicated
	Provide preventive health care, health promotion and treatment of common and widespread illnesses...refer patients to higher levels in health care (IPPHAP)	VHV – provide village drug kit and TBA kit in close cooperation with the HC staff and Health Facilitators	Yes
	Provide support to VHV and with their assistance complete all vertical health programmes (IPPHAP)	HC – capacity building and adequate support and supervision for outreach activities	Yes
	Provide most promotional, preventive and curative service delivery (SDP 5.9.1)	VHV, HC, DH, District Mobile Teams, LWU – medical/non-medical equipment and steady financing and consumable supply	Yes
	Guide the HC staff; Organizes, coordinates and supervises the health services and provides logistical support (IPPHAP)	DHO - adequate support and supervision	Not indicated
	Provide out patients and basic in-patient care with mother and child services (SDP 5.9.3)	DH - capacity building and medical equipment	Not indicated

	Receive referrals from districts (SDP 5.9.1)	Thakhek Provincial Hospital – provide vehicle and improve the emergency unit of TKK PH	Not Indicated
	Conduct specific activities such as and antiretroviral treatment (SDP 5.9.1)	NGO - contracted out to MSF	Yes
	Provide technical assistance to public health institutions for overall coordination and implementation of specific activities (SDP 5.9.1)	NTPC – Public Health Team Leader and Health Operations Manager	Yes
Supervision	Control and steer the various NT2 health programmes (SDP 5.9.1)	RC	Yes
	Coordinate, manage and supervise the resettlement and regional health programmes (SDP 5.9.1)	PMU - overall responsibility of implementation of S&M activities	Yes
	Conduct support, supervision and inspection activities (SDP 5.9.1)	PHO and DHO – with Health Operations Manager, Social Scientist, Health Education Officer and Field Health Facilitator	Not indicated
	Coordinate and reports on PHAP activities implemented at various levels (SDP 5.9.1)	DHO and NTPC Field Health Facilitator	Not indicated
	Supervise and inspect specific aspects including technical assistance (SDP 5.9.1)	MOH central level departments - overall responsibility and coordination of S&M activities	Not indicated
Training	Conduct of training activities (SDP 5.9.1)	Thakhek Provincial Public Health School, PHO, MOH central level departments and divisions, PH, Central hospitals and IFMT	Yes
Financing	Providing for any cost associated with mitigating the social effects of the project on any PAP (SDP 6.5)	NTPC RO - Strengthen MOH Financing System and ensure steady supply	Not indicated

2.6 Budget

CA Ref	B/L		Budget (USD)			Limited by:	
			To COD	After COD	Total	Cost	Scope
8.8	N1.1	Civil Works	228,400	30,000	258,400	√	
8.8	N1.2	Goods	406,910	60,608	467,518	√	
8.8	N2	Operating Costs	394,610	202,706	597,316	√	
8.8	N3	Human Resources	315,291	223,563	538,854	√	
8.8	N5	Monitoring, Surveys & Consultancies	48,750	14,250	63,000	√	
8.8	N6	Contingencies	69,698	26,556	96,254	√	

2.7 Monitoring

The indicators are based on the recommendations of the HIA and PHAP (SDP 5.14.5)

The indicators as per IPPHAP are:

Demographic

- Total birth per year
- Total death per year
- Total population
- Male population
- Female population
- Percent of children <1 year old
- Percent of children <5 year old
- Percent of people between 5-14 years old
- Percent of people 15-44 years old
- Percent of people <45 years old
- Number of villages
- Number of households

Children Under Five

- Crude birth rate per 1000 population
- Still birth rate per 1000 births
- Neonatal mortality per 1000 live births
- Infant mortality per 1000 live births
- Under 5 mortality per 1000 live births
- Number of death due to malaria
- Number of death due to dengue
- Number of death due to severe diarrhoea
- Percent BCG immunized
- Percent Polio immunized
- Percent DPT immunized
- Percent Measles immunized
- Percent Hepatitis B immunized
- Percent low birth weight < 2500 grams
- Percent severe malnutrition-weight for height and age
- Percent moderate malnutrition
- Percent children <5 treated for worms
- Percent of children 5-10yrs treated for worms

Women 15-44 (Reproductive Age)

- Percent localities with total women 15-44 population
- Percent localities calculate expected births
- Percent pregnant women attending ANC 1+
- Percent pregnant women attending ANC 4
- Percent TT immunized pregnant women
- Percent pregnant women received worm treatment (2nd trimester)
- Percent pregnant women received Fe+Fol as supplement

- Percent pregnant women screened for anaemia
- Percent Hb below 8gm/ percent during pregnancy
- Percent receiving supervised delivery
- Percent required assisted birth
- Percent of assistance at delivery by trained health workers
- Percent of assistance at delivery by untrained health workers
- Percent referred to hospital for complications
- Percent of caesarean section deliveries
- Number of maternal death and cause register
- Percent of women practicing family planning
- Percent of men practicing family planning
- Percent of contraceptive users on Depo
- Percent of contraceptive users on Pill
- Percent of contraceptive users on IUD
- Percent of PNC within first week of birth

Disease Notification

- Number of measles cases reported
- Number of whooping cough cases reported
- Number of neonatal tetanus
- Number of other tetanus cases reported
- Number of malaria cases reported
- Number of death due to malaria
- Number of dengue cases reported
- Number of death due to dengue
- Number of <5 presenting with diarrhoea
- Number of <5 presenting with dehydration
- Number of <5 death due to diarrhoea
- Number of <5 presenting with ARI
- Number of <5 death due to ARI
- Number of reported typhoid cases
- Number of reported pertussis cases
- Number of reported TBC cases
- Number of reported meningitis cases
- Number of reported encephalitis cases
- Number of reported dysentery cases
- Number of reported hepatitis cases

STI and HIV

- Total number of STI treated
- Number of cases of gonorrhoea treated

- Number of cases of syphilis treated
- Number of cases of non-specific urethritis treated
- Number of HIV tested
- Number of HIV+
- Number of HIV+ on treatment
- Number of STI education sessions held
- Number of condoms distributed or sold

Accidents, Injury and Poisoning

- Number of reported RTA cases
- Number of reported motorcycle accidents
- Number of reported small tractor accidents
- Number of reported heavy vehicle accidents
- Number of reported traffic related pedestrian injuries

- Number of reported poisoning cases
- Number of reported domestic accidents
- Number of reported alcohol related accidents
- Number of reported drowning cases

Psychosocial Problem

- Number of reported domestic violence
- Number of reported alcohol related violence
- Number of known suicide attempts
- Number of known suicides
- Number of reported substance abuse cases
- Number of reported clinical depression

3 Resettlers Health Program (Zone 1 and 3)

3.1 Issues

Interaction and mixing with construction workers and camp followers could adversely affect STI and HIV/AIDS transmission rates.

Psychosocial effect of relocation could be significant and more difficult to manage than currently perceived... If there are substantial and unmanaged disruption to community cohesion then significant psychosocial impacts including increases in substance abuse, violence and other psychiatric disorders are possible.

Required changes in agricultural cultivation practices and livelihoods ...may have serious impacts on food production and subsequent nutritional and micro-nutritional effects.

Increased use of fertilizer and pesticides can add nitrogen loading in drinking water associated with significant outbreaks of methemoglobinemia in infants and young children.

Construction phase will have potentially significant changes (particularly in the dry season) on air pollution levels from vehicle emissions and road dust with potential respiratory disease impacts.

Road traffic will increase with subsequent increased risk of accident and injuries.

A change of vector mix (e.g., *Anopheles nivipes* versus *An. minimus*, *dirus* and *maculatus*) cannot be discounted since villages will be extremely close to the reservoir.

3.2 Objectives / Measures

Prevent and mitigate the effects of the resettlement process on the resettlers;

Assist the resettlers to make the best use of their new environment (use of sanitary conditions and other modern facilities will be joint program between RMU and the PHAP);

Make the best use of local health services enabling improvement in the health situation of the resettlers; and

Build the capacity of the public health institutions for addressing the resettlers health needs.

The program will be geographically limited to the Resettlement Area.

3.3 Obligations per CA

Refer also to Section 1.4 above

NTPC Obligations:

Reference:	Description:
Schedule 4, Part 1 Section	
12.2	Resettlers Health Program
12.2.1	<p>The Company to develop a Resettlers' Health Program</p> <p>Implementation of the health program to continuously monitor the health status of the population using indicators that will help in the evaluation of overall health of the population</p> <p>Health services provided to the Resettlers will be in line with other government health facilities</p> <p>Provision of medical services (including health checks) will be provided free of charge for the period of three years after relocation. For the period from three to six years after relocation, the Company will subsidize 50% of the medical services, after which medical services will be charged at the rate applicable in the rest of the country (except for poor families identified by Village Resettlement Committees, who shall continue to be eligible for free medical services).</p> <p>An equity fund to be set up to enable poor families to continue to access free medical services after the initial three (3) year period (using contingency funds to be provided by the Company), with eligibility and terms of access to be agreed upon by the parties at least 6 months prior to the expiry of that three (3) year period</p> <p>Any person or group of people claiming to suffer from an illness as a direct consequence of the Project may be eligible for treatment at the expense of the Company. Eligibility for treatment at the Company's expense will be considered by an independent professional (and recorded in writing). Resettlers will have the right to pursue the matter in accordance with the Grievance Procedure if they do not agree with the independent professional's decision.</p> <p>The health program to follow GOL national and provincial policies and targets and, in the long term, combine health care activities with the GOL provincial and country-wide programs</p>
12.2.1	<p>In the short term, province, district and village levels to coordinate to:</p> <ul style="list-style-type: none"> • facilitate and strengthen all national health programs that are in place for curative care, malaria, dengue, tuberculosis, sexual transmitted infections, HIV/AIDS, soil transmitted helminths and other parasites, expanded program of immunisation, maternal and child health including nutrition and micronutrients, sanitation, clean water supplies, utilisation of iodised salt where appropriate, and vitamin A supplementation; • inform communities on endemic diseases, control programmes and health care measures which can be individually carried out; • ensure availability of essential drugs; • train and transfer appropriate technology among health workers and practitioners; • provide support to disease control programmes including their supervision; • ensure the timely monitoring of health status and health services implementation; and • ensure the strengthening skills of health and volunteer personnel • further strengthen health workers' skills through Project-assisted programmes which, where appropriate, provide opportunities for individuals and

Reference:	Description:
	collective training through national and international training programs; and strengthen supervision at all levels.
12.2.1	Support to national disease control programmes in collaboration with GOL to be provided in the Resettlement Area through: <ul style="list-style-type: none"> • provision of technical support; • availability of essential drugs and other supplies necessary to the programme; • support in programme implementation; • strengthening of health information systems; • assistance with evaluation and analysis of data; and • in the area of HIV/AIDS, free testing and pre and post testing counselling for HIV will be provided through Provincial Health. Treatment and advice for HIV+ people will be arranged by the Company.
12.2.1	The Resettlers Health Program to undergo a preparation phase prior to Financial Close to put in place required infrastructure and equipment and to develop the necessary health professional skills: <ul style="list-style-type: none"> • Prevention and information re sexually transmitted diseases and road safety • Setting up an appropriate epidemiological surveillance system • Collecting complementary basic health data for base line information (Database of studies already conducted) • Surveying traditional medical practices on the Plateau – Plans to study the medicinal plants used by local people • Training of health staff in emergency medicine skills • Road safety program – review and advice from RTA consultant as emergency response
12.2.2	The health team to assist RMU to implement a health education program to encourage and train the Resettlers to correctly maintain water supply and sanitation facilities

GOL Obligations:

Reference:	Description:
Schedule 4, Part 1 Section	
12.2.2	The RMU shall ensure that the water is monitored and regular inspection is made of the water supply systems to check for contamination. Where contamination is found, the RMU shall inform the RO and the RO shall implement corrective measures as required to address the contamination

3.4 Scope of Work

The activities as per Implementation Plan for Resettlers Health Programme are ongoing between FC and ERP. Specific timing for time limited activities is shown in the schedule. These will be updated following AIP workshop and validation with counterpart institutions in late June 2005.

Health Environmental Areas	Tasks				
	Promotion & Prevention	Diagnosis & Detection	Treatment	Capacity building	Monitoring & Surveillance
Respiratory Disease: Support and Strengthen Existing MOH TBC Global Program	√	√	√	√	√
Impacts in Vector-Related Diseases: Support and Strengthen Existing Global Program	√	√	√	√	√
Impact Sexually Transmitted and Blood-borne Infection: Support and Strengthen Existing Global Program	√		√	√	√
Impacts in Soil and Water-borne Disease as Well as Food Nutrition and Micronutrients-related Issues: Support and Strengthen Existing Global Program	√	√	√	√	√
Impacts in Accidents/Injuries, Chemical Exposure and Poisoning: Support and Strengthen Existing Global Program	√		√	√	√
Psychosocial Disorders: Support and Strengthen Existing Global Program	√		√	√	√
Cultural Health Practices	√				√
Strengthening of MOH for Project Impact : <ul style="list-style-type: none"> • Comprehensive Activities (develop 2 ICHCs) • Develop Active Community Participation Through Zonal Health Committees for 2 new ICHCs • Provide Required and Adapted Technical, Administrative Management and Monitoring Systems for two new ICHCs, DH, and DHO • Develop and Introduce a Financing System for two new ICHCs (DRF, equity fund, training, develop a yearly budget and assure technical support and supervision • Ensure that the Two New HC and DH Have Required Number of Capable Staff Able to Speak the Local Language (capacity building and motivation schemes) (assigned by the PHO/DHO) • Assure Continuity of Service (ensure 24 hours a day, 7days a week services at the HC and DH. • Assure Integrated PHC Outreach Activities to Villages • Assure Adequate Support and Supervision • Infrastructure (Building including sanitation, water and electricity) : construct of 2 ICHCs and 6 staff houses, rehabilitate of DH and DHO. • Provide Medical and Non-Medical Equipment to two new ICHCs and DH • Provide Vehicles for two new ICHCs, DH and DHO (motorbikes, 4WD double cab and 4WD ambulance) • Assure Financing and Steady Supply of Consumables and Operational Cost for two new ICHCs and DH (i.e. initial stock for DRF, annually a fund for operational and maintenance cost, fund for supervision work) 					

ID	Task Name	Start	2005												2006												2007													
			J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F
1	Regional Health Program	1 Feb '05	[Gantt bar from Feb '05 to Dec '07]																																					
2	Upgrading Public Health Infrastructure	1 Mar '05	[Gantt bar from Mar '05 to Dec '07]																																					
3	Public Health Infrastructure	1 Mar '05	[Gantt bar from Mar '05 to Dec '07]																																					
4	Construction of new Ghommalat DH	1 Mar '05	[Gantt bar from Mar '05 to Dec '05]																																					
5	Construction of Phone Khene HC (GMLT)	1 Mar '05	[Gantt bar from Mar '05 to Dec '05]																																					
6	Construction of Boungbao HC (GMLT, near Nam Kathang)	1 Mar '05	[Gantt bar from Mar '05 to Dec '05]																																					
7	Rehabilitation of HC (Khamkheut, near Nam Theun Dam)	1 Mar '07	[Gantt bar from Mar '07 to Dec '07]																																					
8	Rehabilitation of Nadou HC (Mahaxay)	1 Mar '05	[Gantt bar from Mar '05 to Dec '05]																																					
9	Rehabilitation of Mahaxay District Hospital	1 Mar '06	[Gantt bar from Mar '06 to Dec '06]																																					
10	Rehabilitation of Khamkeuth District Hospital	1 Mar '05	[Gantt bar from Mar '05 to Dec '05]																																					
11	Rehabilitation of District Health Office (MHX)	1 Mar '06	[Gantt bar from Mar '06 to Dec '06]																																					
12	Rehabilitate Emergency Department of TTK PH	1 Mar '05	[Gantt bar from Mar '05 to Dec '05]																																					
13	Infrastructure maintenance per HC	1 Jun '06	[Gantt bar from Jun '06 to Dec '07]																																					
14	Infrastructure maintenance for Ghommalat District Hospital	1 Jun '06	[Gantt bar from Jun '06 to Dec '07]																																					
15	Infrastructure maintenance for Mahaxay DH	1 Jun '06	[Gantt bar from Jun '06 to Dec '07]																																					
16	Infrastructure maintenance for Khamkeuth DH	1 Jun '06	[Gantt bar from Jun '06 to Dec '07]																																					
17	Domestic water sources for selected Xebangfai villages	1 Mar '05	[Gantt bar from Mar '05 to Mar '05]																																					
18	Domestic water sources for selected villages along Downstre	1 Mar '05	[Gantt bar from Mar '05 to Mar '05]																																					
19	Construct Water Supply System (WSS) for campfollowers G	1 Mar '05	[Gantt bar from Mar '05 to Mar '05]																																					
20	Construct sanitation facilities in Ghommalath (campfollowers	1 Mar '05	[Gantt bar from Mar '05 to Mar '05]																																					
21	Regular collection of waste and collection of fees for camp fo	1 Mar '05	[Gantt bar from Mar '05 to Mar '05]																																					
22	Infrastructure Maintenance for TTK PH	1 Mar '05	[Gantt bar from Mar '05 to Mar '05]																																					
23	Medical and Other Equipment	1 Mar '05	[Gantt bar from Mar '05 to Dec '07]																																					
24	MSF Contracted	4 Jul '05	◆ 4/07																																					
25	Medical & Laboratory Equipment	1 Mar '05	[Gantt bar from Mar '05 to Dec '07]																																					
26	Package of Medical Equipment and furniture for HC	1 Mar '05	[Gantt bar from Mar '05 to Dec '05]																																					
27	Package of Medical Equipment for Ghommalat DH and	1 Mar '05	[Gantt bar from Mar '05 to Dec '05]																																					
28	Emergency and minor surgery equipment (Oxygen, Mor	1 Mar '05	[Gantt bar from Mar '05 to Dec '05]																																					
29	Mobile X-ray Unit and Ultrasound, GMLT	1 Mar '05	[Gantt bar from Mar '05 to Dec '05]																																					
30	Blood transfusion (fridge for storge of blood from Provinc	1 Mar '05	[Gantt bar from Mar '05 to Dec '05]																																					
31	Equipment and furniture for new 6 bed ward	1 Mar '05	[Gantt bar from Mar '05 to Dec '05]																																					
32	Package of Medical Equipment for Mahaxay DH	1 Mar '05	[Gantt bar from Mar '05 to Dec '05]																																					
33	Package of Medical Equipment for Khamkeuth DH	1 Mar '05	[Gantt bar from Mar '05 to Dec '05]																																					
34	STIs and ARV treatment	1 Jan '06	[Gantt bar from Jan '06 to Dec '07]																																					
35	Non-Medical Equipment	1 Mar '05	[Gantt bar from Mar '05 to Dec '07]																																					
36	Package of Non-Medical Equipment for the HC (office er	1 Mar '05	[Gantt bar from Mar '05 to Dec '05]																																					
37	Package of Non-Medical Equipment for Ghommalat DH	1 Mar '05	[Gantt bar from Mar '05 to Dec '05]																																					
38	Package of Non-Medical Equipment for Mahaxay DH an	1 Mar '05	[Gantt bar from Mar '05 to Dec '05]																																					

3.5 Arrangements for Procurement and Implementation

Most of the planned activities will be directly implemented by the public health institutions of the target areas at district and provincial level (SDP 5.11).

<i>Description</i>	<i>Activity</i>	<i>Implementers</i>	<i>Village Consultation/ Participation</i>
Planning	Prepare the project staff health programme (SDP 5.13)	HCC	Not indicated
	Plan the resettlement and regional health programmes (SDP 5.9.1)	PMU– NTPC work closely with MOH/PHO/ DHO	Yes
Scheduling	Maintain and update the social and resettlement program schedule (SDP 6.5.3)	NTPC RO	Not indicated
Procurement	Contract NGO to provide technical assistance on specific activities of Resettlement and Regional Health Programs (SDP 5.9. and IPPHAP)	NTPC – contracted out to IFMT	Not indicated
	Engage national and international experts (SDP 6.5)	NTPC RO – Involve MOH for consultancy services, particularly for bidding process for medical/non-medical equipment, vehicles and civil work.	Not indicated
Implementation	Ensure health and safety of workforce (SDP 5.12.1)	HCC	Not indicated
	Provide preventive health care, health promotion and treatment of common and widespread illnesses...refer patients to higher levels in health care (IPPHAP)	VHV – provide village drug kit and TBA kit in close cooperation with the HC staff and Health Facilitators	Yes
	Provide support to VHV and with their assistance complete all vertical health programmes (IPPHAP)	HC – capacity building and adequate support and supervision for outreach activities	Yes
	Provide most promotional, preventive and curative service delivery (SDP 5.9.1)	VHV, HC, DH, District Mobile Teams, LWU – medical/non-medical equipment and steady financing and consumable supply	Yes
	Guide the HC staff; Organizes, coordinates and supervises the health services and provides limited logistical support (IPPHAP)	DHO - adequate support and supervision	Not indicated
	Provide out patients and basic in-patient care with mother and child services (SDP 5.9.3)	DH - capacity building and medical equipment	Not indicated
	Provide MPA in an integrated, comprehensive, continuous and accessible way (SDP 5.11)	ICHC – support infrastructure, equipment, vehicle, capacity building, steady supply.	Not Indicated
	Receive referrals from Nakai District (SDP 5.11)	Thakhek Provincial Hospital – provide vehicle and improve the emergency unit of TKK PH	
	Conduct specific activities such as antiretroviral treatment (SDP 5.9.1)	NGO – contracted out to MSF	Yes
	Provide technical assistance for overall coordination and implementation of specific activities (SDP 5.9.1)	NTPC – Public Health Team Leader and Health Operations Manager	Yes
Supervision	Control and steer the various NT2 health programmes (SDP 5.9.1)	RC	Yes

<i>Description</i>	<i>Activity</i>	<i>Implementers</i>	<i>Village Consultation/ Participation</i>
	Coordinate, manage and supervise the resettlement and regional health programmes (SDP 5.9.1)	PMU - overall responsibility of implementation of S&M activities	Yes
	Conduct support, supervision and inspection activities (SDP 5.9.1)	PHO and DHO – with Health Operations Manager, Social Scientist, Health Education Officer and Field Health Facilitator	Not indicated
	Coordinate and reports on PHAP activities implemented at various levels	DHO and NTPC Field Health Facilitator	Not indicated
	Supervise and inspect specific aspects including technical assistance (SDP 5.9.1)	MOH central level departments - overall responsibility and coordination of S&M activities	Not indicated
Training	Conduct of training activities (SDP 5.9.1)	Thakhek Provincial Public Health School, PHO, MOH central level departments and divisions, PH, Central hospitals and IFMT	Yes
	Train 4-6 PHC workers (SDP 5.11)	PMU	Not Indicated
Financing	Provide for any cost associated with mitigating the social effects of the project on any PAP (SDP 6.5)	NTPC RO - Strengthen MOH Financing System and ensure steady supply	Not indicated
	Reimburse direct health cost for the patients identified as poor (SDP 5.10.5)	Third Party-managed Equity Fund – ensure access to health services of the poor	Not Indicated

3.6 Budget

<i>CA Ref</i>	<i>B/L</i>		<i>Budget (USD)</i>			<i>Limited by:</i>	
			<i>To COD</i>	<i>After COD</i>	<i>Total</i>	<i>Cost</i>	<i>Scope</i>
12.2	U1	Civil Works	53,000	10,500	63,500	√	
12.2	U1	Goods	223,180	87,965	311,145	√	
12.2	U2	Operating Costs	160,234	62,720	222,954	√	
12.2	U3	Human Resources	115,830	49,530	165,360	√	
12.2	U5	Monitoring and Surveillance	122,785	35,600	158,385	√	
12.2	U6	Contingencies	33,751	12,316	46,067	√	

3.7 Monitoring

The indicators as per IPPHAP are the same as in Regional Health Programme

The actual responsibility of implementation and reporting of the Resettlement and Regional Health Programs is shared between the NTPC and the GOL public health institutions at all levels (from grass root to provincial levels) in order to strengthen the reporting and monitoring system on a sustainability basis. The vertical National Programs will be continually provided through health care services at all levels and NTPC has overall responsibility for implementing activities, to provide support and resources for effective health care. The implementers reports all related activities against detailed expenditure to the Program Management Unit (PMU).

The PHO and NTPC Public Health Team Leader will head the PMU who reports (including progress reports) to the Khammouane Provincial Health Director and to the NTPC's Social and Environment Division in Vientiane, which include detailed information on progress against schedule for infrastructure and supply of equipment, key health indicators and payment versus budget.

Institutions and responsibilities in S&M :

- MOH Department of Hygiene and Health Promotion (overall responsibility and coordination of S&M activities)
- PMU (overall responsibility of implementation of S&M activities for NTPC)
- MOH Health Statistics Unit
- National Centre for Laboratory and Epidemiology (NCLE)
- National Centre for Malariology, Parasitology and Entomology (NCMPE) and
- Institute de la Francophonie Pour La Medicine Tropical (IFMT)/ Swiss Tropical Institute (SwTI)

Indicators

Demographic Indicators

- Total birth per year
- Total death per year
- Total population
- Male population
- Female population
- Percent of children <1 year old
- Percent of children <5 year old
- Percent of people between 5-14 years old
- Percent of people 15-44 years old
- Percent of people <45 years old
- Number of villages
- Number of households

Children Under Five

- Crude birth rate per 1000 population
- Still birth rate per 1000 births
- Neonatal mortality per 1000 live births
- Infant mortality per 1000 live births
- Under 5 mortality per 1000 live births
- Number of death due to malaria

- Number of death due to dengue
- Number of death due to severe diarrhoea
- Percent BCG immunized
- Percent Polio immunized
- Percent DPT immunized
- Percent Measles immunized
- Percent Hepatitis B immunized
- Percent low birth weight < 2500 grams
- Percent severe malnutrition-weight for height and age
- Percent moderate malnutrition
- Percent children <5 treated for worms
- Percent of children 5-10 yrs treated for worms

Women 15-44 (Reproductive Age)

- Percent localities with total women 15-44 population
- Percent localities calculate expected births
- Percent pregnant women attending ANC 1+

- Percent pregnant women attending ANC 4
- Percent TT immunized pregnant women
- Percent pregnant women received worm treatment (2nd trimester)
- Percent pregnant women received Fe+Fol as supplement
- Percent pregnant women screened for anaemia
- Percent Hb below 8gm/ percent during pregnancy
- Percent receiving supervised delivery
- Percent required assisted birth
- Percent of assistance at delivery by trained health workers
- Percent of assistance at delivery by untrained health workers
- Percent referred to hospital for complications
- Percent of caesarean section deliveries
- Number of maternal death and cause register
- Percent of women practicing family planning
- Percent of men practicing family planning
- Percent of contraceptive users on Depo
- Percent of contraceptive users on Pill
- Percent of contraceptive users on IUD
- Percent of PNC within first week of birth

Disease Notification

- Number of measles cases reported
- Number of whooping cough cases reported
- Number of neonatal tetanus
- Number of other tetanus cases reported
- Number of malaria cases reported
- Number of death due to malaria
- Number of dengue cases reported
- Number of death due to dengue
- Number of <5 presenting with diarrhoea
- Number of <5 presenting with dehydration
- Number of <5 death due to diarrhoea
- Number of <5 presenting with ARI
- Number of <5 death due to ARI
- Number of reported typhoid cases

- Number of reported pertussis cases
- Number of reported TBC cases
- Number of reported meningitis cases
- Number of reported encephalitis cases
- Number of reported dysentery cases
- Number of reported hepatitis cases

STI and HIV

- Total number of STI treated
- Number of cases of gonorrhoea treated
- Number of cases of syphilis treated
- Number of cases of non-specific urithieritis treated
- Number of HIV tested
- Number of HIV+
- Number of HIV+ on treatment
- Number of STI education sessions held
- Number of condoms distributed or sold

Accidents, Injury and Poisoning

- Number of reported RTA cases
- Number of reported motorcycle accidents
- Number of reported small tractor accidents
- Number of reported heavy vehicle accidents
- Number of reported traffic related pedestrian injuries
- Number of reported poisoning cases
- Number of reported domestic accidents
- Number of reported alcohol related accidents
- Number of reported drowning cases

Psychosocial Problem

- Number of reported domestic violence
- Number of reported alcohol related violence
- Number of known suicide attempts
- Number of known suicides
- Number of reported substance abuse cases
- Number of reported clinical depression