

Kingdom of Nepal

The Republic of Finland

NEPAL

RURAL WATER SUPPLY AND SANITATION PROJECT IN THE WESTERN DEVELOPMENT REGION

PHASE I 1990 - 1993

LIBRARY
INTERNATIONAL REFERENCE CENTRE
FOR COMMUNITY WATER SUPPLY AND
SANITATION (IRC)



FINNIDA

June 1989

822-NPWE89-10920

PROJECT DOCUMENT

Contents

Executive Summary

1.	BACKGROUND AND JUSTIFICATION	1
1.1.	Location	1
1.2.	Geography & Climate	1
1.3.	Population & Regional Development	1
1.4.	Economy	3
1.5.	Administration	3
1.6.	Health	4
1.7.	Water Resources	4
1.8.	Water Supply & Sanitation Situation	5
	1.8.1. Water Supply	5
	1.8.2. Sanitation	6
1.9.	Project Justification	7
1.10.	Project Area	8
2.	OBJECTIVES, OUTPUTS AND THEIR INDICATORS	10
2.1.	Objectives	10
	2.1.1 Introduction	10
	2.1.2 National Sector Development Objectives	10
	2.1.3 Program Development Objective	10
	2.1.4 Project Development Objective	11
	2.1.5 Subproject Development Objectives	11
2.2.	Immediate Objectives and Activities	13
2.3.	Outputs and their Indicators	13
3.	PROJECT STRATEGY	20
4.	SUBPROJECTS & IMPLEMENTATION	22
4.1.	Subprojects	22
	4.1.1 District Water Supply Development Plans	23
	4.1.2 Physical Improvement	24
	4.1.3 Socio-economic Studies, Hygiene Education and Latrine Programmes	25
	4.1.4 Training and Human Resources Development	26
	4.1.5 Community Involvement	26
5.	INPUTS AND PROJECT BUDGET	27
5.1.	Inputs and Costs	27
5.2.	Project Budget	27
5.3.	Activities Program	27

LIBRARY, INTERNATIONAL RESEARCH
CENTRE FOR COMMUNITY WATER SUPPLY
AND SANITATION (IRC)
P.O. Box 34120, 2609 AD, The Hague
Tel. (070) 814811 ext. 141/142

REF: WH 10926
CO: 322 NP.WE89

NEPAL

RURAL WATER AND SANITATION PROJECT

CURRENCY EQUIVALENT

FIM 1.00	=	NR 6.30
NR 1.00	=	FIM 0.16
FIM 1.00	=	USD 0.23
USD 1.00	=	NR 27.06

MEASURES AND EQUIVALENT

mm	= millimeter (1 millimeter = 0.039 inches)
m	= meter (1 meter = 3.28 feet)
km	= kilometer (1 kilometer = 0.62 miles)
sq km	= square kilometer (1 km ² = 0.368 square miles)
ha	= hectare (1 hectare = 10.000 square meters = 2.47 acres)
l	= litre (0.22 Imperial gallons or 0.264 US gallons)
lcd	= litres per capita per day
l/sec	= litres per second
m ³	= cubic meters (220 Imperial gallons or 264.2 US gallons)
ml	= million litres or 1,000 cubic meters
mld	= million litres per day (0.220 million Imperial gallons per day or 0.264 million US gallons per day)
mgd	= million gallons per day (1 mgd = 4,454 m ³ /day)

EXECUTIVE SUMMARY

Background

Nepal is a landlocked Kingdom of about 147,000 square kilometres bordering on the People's Republic of China and India. The country is divided geographically into three east-west bands comprising Mountains, Hills and Terai (or plain) areas with widely varying climatic conditions. Rainfall averages 1500 mm occurring mostly during the monsoon period between June and September. The present population is approaching 18 million living mostly in small rural communities in the Hills and Terai areas.

Agriculture dominates the economy contributing more than 60% of export earnings and absorbing more than 80% of population growth.

Administratively the country is divided into five development regions which extend from the north to south boundaries and subdivided into 14 zones and 75 districts. Local administration is executed through 33 Nagar (town) and 4020 Village Panchayats. Specifically the Western Development Region comprises three zones and 16 districts with a population of about 3.5 million.

Health conditions in Nepal do not compare with those in other similar countries with an infant mortality rate of 152 per 1000 and a life expectancy of 45 years. Waterborne diseases and insufficient hygiene contribute largely to this situation with widespread incidence of dysentery, gastro-enteritis and related symptoms. This is reflected in the reported figures for water supply and sanitation coverage nationwide which indicate that, at present, about 29% of the rural population have access to safe drinking water but that sanitation facilities are negligible.

The Government of Nepal's declared sector objective is to provide safe water supply to an additional seven million rural people and facilities for excreta disposal for some two million by 1990. Despite ongoing efforts this objective is unlikely to be achieved even with substantial further intervention.

Project Area

The proposed project would be located in the six districts of the Lumbini Zone of the Western Development Region where rural water supply coverage (13%) for the 1.9 million population is well below the national average.

Objectives

The project phase I objective to improve water supply and sanitation facilities to about 100,000 people would be achieved by:

- Improved district development planning;
- Physical improvements of water supply;
- Socio-cultural, hygiene education and latrine programs;
- Human Resources Development; and
- Community participation

Strategy

The project would be managed as a Nepali project assisted by FINNIDA specialists to strengthen the line agencies. Implementation would be planned on a district by district basis for maximum impact. The water supply, health education, sanitation and human resources development components would be integrated to achieve the project objective. Community participation is essential for satisfactory execution of the project and the appropriate use, operation and maintenance of completed supplies. This is emphasised throughout. Sanitation would be introduced following hygiene education, community participation and human resources development.

Project Budget

Phase I of the project (1990-1993) is estimated around FIM 43,1 million with contributions from the respective governments of Finland and Nepal of FIM 37,5 and 5,6 million (85%:15%) excluding taxes and duties.

Institutional Framework

The sector agencies in Nepal have recently been reorganised with the Department of Water Supply and Sewerage (DWSS) designated as the agency responsible for water and sanitation sector development. The institutional framework for this project would be integrated into the DWSS regional and district organisations thereby strengthening this agency particularly with respect to health education, community participation methodologies and sanitation.

The project would be implemented by combining community self help activities with local labour contracts for some components. On completion, schemes would be adopted by the community for routine operation and maintenance.

1. BACKGROUND AND JUSTIFICATION

1.1. Location

Nepal is a landlocked Kingdom situated on the southern slopes of the Great Himalayan range between latitude 26-28 north and longitude 80-88 east. It is bordered by the Peoples Republic of China to the north and India to the south east and west with an area of about 147,000 square kilometers (sq km). See Figure 1.1.

1.2. Geography and Climate

The country is divided geographically into three east-west bands; the northerly Mountains, (above 2000 m), the middle hills, "Midlands" (600-2000 meters) and the southerly Terai plain. The Midlands and Terai areas account for about 77% of the country's area accommodating more than 90% of the 17 million total population (1986). Climatic conditions vary from east to west and between geographical bands. Nepal's annual rainfall is usually in the range 1000-3000 mm averaging 1500 mm over most of the country, of which about 80% falls in the monsoon season between June and September. However, in the Mountains annual rainfall may exceed 6000 mm. Temperatures vary widely from 40°C in the Terai in summer to below freezing in central valleys with much colder temperatures prevailing at higher elevations.

In general, rainfall occurs "out of phase" with the time of highest water demand in the hot dry months of April and May which occur some eight months after the previous monsoon.

1.3. Population and Regional Development

The 1986 population of nearly 17 million is estimated to have reached 18.0 million in 1988 and is projected to reach some 25 million by year 2001 at an annual growth rate of 2.7% (average 1971 - 1981). Urban population accounts for only some 6% living in 23 urban areas although predicted growth in these areas is very much higher than the national average figures (typically 6 - 8%) due to migration and employment opportunities. The remaining 94% live in many thousands of small scattered rural communities. Population densities vary widely averaging 336 persons per hectare of arable land with very high figures over 1000 persons reported in the Midlands areas. Despite the migration to the rapidly growing urban centres it is anticipated that, in the long term, the rural population will remain about 80% of the total. However the geographical distribution of population has also been changing from north to south reflecting migration from Mountains and Midlands to the Terai.

1.4. Economy

The economy of Nepal is heavily dependent on agriculture in which more than 91 % of the economically active population are engaged producing 60 % of GDP (1985/86). Agriculture contributes more than 60 % of the total export earnings and seems to be the only source which can substantially expand employment opportunities. In the decade between 1971 and 1981, the non-agricultural sector absorbed only 17 % of the population growth, leaving the balance of 83 % with no choice except to have recourse to the agricultural sector.

The average growth rate of GDP between 1980 and 1985 has been estimated at 4.4 %. However, due to increase in population, the achievements on a per capita basis, appear to be low, representing an increase of only 1.7 % in the per capita income. In 1985 the per capita GDP was NR's 2.928 (USD 130).

1.5. Administration

Nepal is divided into five administrative development regions for appropriate balanced economic growth and attention to regional planning. These regions extend from North to South boundaries of the country and are designated Far West, Mid West, West, Central and East Regions.

In addition the country is subdivided into 14 Zones and 75 Districts. Each Zone is an area of national administration headed by a Zonal Commissioner appointed by the King. The 75 Districts are designated as District Panchayats which are further divided into about 4020 Village Panchayats covering the rural areas. The Village Panchayat is the smallest governmental administrative unit. Each Village Panchayat contains nine Wards. In addition to the Village Panchayats there are 33 Nagar (Town) Panchayats with populations varying from 12000 to 300,000 (Kathmandu - Lalitpur). Each Panchayat has an elected assembly under the leadership of the Pradhan Pancha. Village Panchayats have authority to pass and enforce laws (subject to District Panchayat approval) regarding water supply, sanitation, public health and irrigation. They also have local taxing powers over land, property and public services. Members of the National Panchayat (legislative assembly) are elected by the electorate at large of each district. Panchayats receive grant funds from His Majesty's Government of Nepal (HMG) to cover administration and minor development project costs.

Specifically referring to the Western Development Region where this proposed project is targeted, this region has three Zones and 16 Districts with a total estimated population around 3.5 million. About 3.4 million (97%) people live in rural areas and the remaining 100,000 (3%) stay in the urban centres of Pokara, Tansen and Butwal.

1.6. Health

As measured by standard indices, health conditions in Nepal lag behind those of other countries at a similar stage of economic development. Infant mortality rate (aged 0-1) is 152 per 1000 births. Life expectancy is 45 years. Water related disease and insufficient hygiene are important causes of high infant and child mortality. Cholera, typhoid, dysentery, gastro enteritis, infectious hepatitis, hookworm and roundworm are widespread. While there has been some progress in health care, the difficulty in serving a large, scattered and nearly inaccessible rural population is reflected in the ratio of one physician to 21,000 people (1986-1987).

1.7. Water Resources

Nepal is crossed by three major river systems, the Kosi, Gandaki and Karnali. In addition, several medium river systems, Kankai, Kamala, Bagmati, Tinau, Rapti and Babi, drain to the south of Nepal. The Mechi and Mahakali rivers form the east and west border with India. In the Mountains rivers and springs are perennial. In the Midlands small streams, springs and groundwater near river beds provide good water sources. However these sources vary considerably in yield and many are seasonal, drying up completely in the pre-monsoon months. In the Terai, groundwater is generally available in adequate quantities. The depth of the water table is between ground level and 20m.

Regular water quality testing is not carried out. The quality of water from springs is generally considered acceptable. Streams are more subject to contamination. Bacteriological quality declines during pre-monsoon and the monsoon rains result in an increase in color, turbidity and suspended solids. In the Terai, water quality is generally a function of the depth of the source. Water obtained from older shallow open wells is likely to be contaminated. No actual water quality measures, other than protection through the proper construction of facilities, and the installation of handpumps, are taken in the rural areas.

In the Mountains and Midlands the location of villages on ridges and the location and seasonality of sources makes access and reliability of water a critical

problem. Water rights disputes between village panchayats are common. In the Terai the problem of access and reliability (quantity and quality) is serious for those unable to afford improvements in the absence of Government support.

1.8. Water Supply and Sanitation Situation

1.8.1. Water Supply

The terrain, climate, availability of power, willingness and ability of the beneficiaries to pay for services dictate the general character of water supply systems. Generally spring or stream sourced systems are found in the Mountains and Midlands areas with groundwater sourced systems in the Terai area. Pumped deep tubewells to piped supply systems are generally provided in urban and semi-urban communities. From the available data on water supply and sanitation sector coverage the following conclusions are presented to indicate the existing situation nationwide and specifically by region.

According to government sources by the end of the Sixth Plan period (1984/1985) about 22% of the total population were provided with a piped drinking water system. Of these 80% of the urban population and 18% of the rural population were reported to be provided with water service coverage.

Government policy is that all towns should have a piped water supply by the year 1990 with an average daily level of supply of 90 - 112 litres per capita serving some 93% of the 1990 urban population. In rural areas, the aim is to ensure at least one community water supply in each village Panchayat. The rural programs consist of providing piped gravity water supply systems in the Mountains and Midlands and shallow wells with handpumps (point source supplies) in the Terai areas. An overall coverage in rural areas of 65 - 70% is targetted for year 1990. The present estimated national average coverage and targetted figures for 1990 are given in Table 1.1.

Table 1.1

Population and Water Supply

	<u>1988</u>			<u>1990 x)</u>		
	Population Million	Estimated Coverage Million	%	Population Million	Targetted Coverage Million	%
Urban	1.3	1.1	84	1.5	1.4	93
Rural	16.7	3.2	19	18.0	12.1	67
Total	18.0	4.7	26	19.5	13.5	69

x) Projected from various available date

Coverage figures and targets vary between Mountains, Midlands and the Terai but the inference from Table 1.1 clearly indicates the magnitude of the task ahead to address water supply 1990 targetted coverage in the rural areas, implying the provision of water supply facilities to a further 7.2 million people during the Seventh Plan period. Furthermore, the Government has pledged to provide water services to all by year 2000 within its "Basic Needs Program". These are ambitious targets implying a massive increase in sector investment from the figures committed under the Seventh Plan.

In order to address these targets Government xx) has established the following principles

1. preference to simple, less costly schemes with local participation to benefit maximum number of people;
2. maximum use of local skills and raw materials;
3. priority to rural areas where water is not available;
4. beneficiaries responsible for operation and maintenance; and
5. better coordination between executing agencies

Referring specifically to the Western Region, which is the focus of this proposed project, the overall reported water supply coverage is about 23% which is below the figures quoted nationwide.

xx) Refer - Seventh Development Plan (1985-1990)

1.8.2. Sanitation

The available information on sanitation coverage and targets indicates the following situation:

1. Prior to 1975 only about 60,000 or 1% of the population at that time had access to satisfactory means of excreta disposal;
2. In 1980 it was estimated that about 8% of urban dwellers were served with a public sewerage system (Kathmandu-Lalitpur) and about 14% were provided with pit privies or septic tanks;
3. Rural sanitation coverage in 1980 was described as negligible;
4. Government policy is to provide access to sewerage for about 18% of urban population (in core areas) by 1990 with extended "on-site" latrine facilities in peri-urban areas not covered by piped sewerage systems;

5. In rural areas Government policy is to concentrate on excreta disposal with a focus on household latrine designs to suit local conditions and preferences with a target of about 13% coverage by 1990 within the "Basic Needs for All by 2000" program. Specific targets for Mountains, Midlands and Terai vary from 2 - 20%. In addition, Government plans to provide latrine facilities in about 18,000 schools nationwide through a school sanitation program. Further details are given in the following Table 1.2.

Table 1.2

Rural Population and Excreta Disposal Coverage Targets

Year	Rural Population Million	Targetted Coverage Million	%
1980	13.7	nil	nil
1990	18.0	2.3	12.8
2000	22.0	7.7	35.0

1.9. Project Justification

The Government's sector objectives during the Seventh Plan period (1985-1990) are to provide an addition 7 million rural population with safe water supplies and some 2 million with access to satisfactory facilities for excreta disposal. This policy would bring the overall rural water supply coverage to about 67% and sanitation coverage to some 13% of the rural population.

Despite ongoing and proposed governmental and externally assisted water supply and sanitation programs including support by UNDP, UNICEF, SATA, Asian Development Bank, World Bank and other non-Governmental Organizations (NGO's), the declared sectoral objectives are not likely to be achieved without a substantial increase in developmental effort (financial, human resources development, institutional, beneficiary participation and cost sharing).

This proposed project would be located in the Western Developmental Region where rural water supply coverage of 23% is below the national average coverage of about 26%. The proposed project would contribute towards the Government's, declared sectoral targets by promoting water supply, sanitation, health education and human resources development in selected districts focussing particularly on those districts which are:

1. poorly served at present; and
2. where other donors are not active in water sector

1.10 Project Area

The proposed project would cover the Lumbini Zone in the Western development Region of Nepal covering the six Districts of Gulmi, Palpa, Arghakhanchi, Kapilbastu, Rupandehi and Nawalparasi. The present population of this zone is around 1.9 million of which, more than 96% live in scattered rural communities. The area includes the Terai plain and part of the "Midlands" geographical areas of the region. Particularly, the proposed project would address the water supply, sanitation, health education and human resources development needs in the rural areas to provide improved levels of service for water supply and introduce sanitation facilities. See Figure 1.2.

Water Supply

The existing water supply coverage in these six Districts is reported to vary from less than 6% in Gulmi to around 28% in Arghakhanchi District with an average coverage of about 16%. However, these figures do include the District centres of Tansen and Butwal which account for some 62,000 of the reported 282,000 population already served. It is therefore, apparent that service coverage in the scattered rural communities in the Lumbini Zone is only around 13% excluding unprotected traditional sources of supply. This clearly indicates the urgency to improve service delivery in this area. Water quality of new sources should be carefully monitored and experience in community based approaches adopted to ensure most effective service delivery.

Sanitation

The position with regard to satisfactory means of excreta disposal is very bleak indeed. Coverage in rural areas of Nepal is acknowledged to be around 1%. In the western region the Department of Water Supply and Sewerage (DWSS) has initiated a pilot program and some 200 'on-site' latrines are reported to be installed in Pokhara town area. However, the need to address this situation is clearly apparent. DWSS is designated by HMG as the leading sector agency with responsibility for sanitation. In the past none of the agencies active in the sector including DWSS, the Community Water Supply and Sanitation Cell (CWSS) of the Ministry of Panchayats and Local Development, health authorities and donor agencies, appear to have succeeded in developing satisfactory means of providing sanitation facilities in the rural areas. This clearly indicates how difficult it is to create understanding between health education, water supply and sanitation; since in order to improve health, sanitation must be an essential component of any water service improvement program.

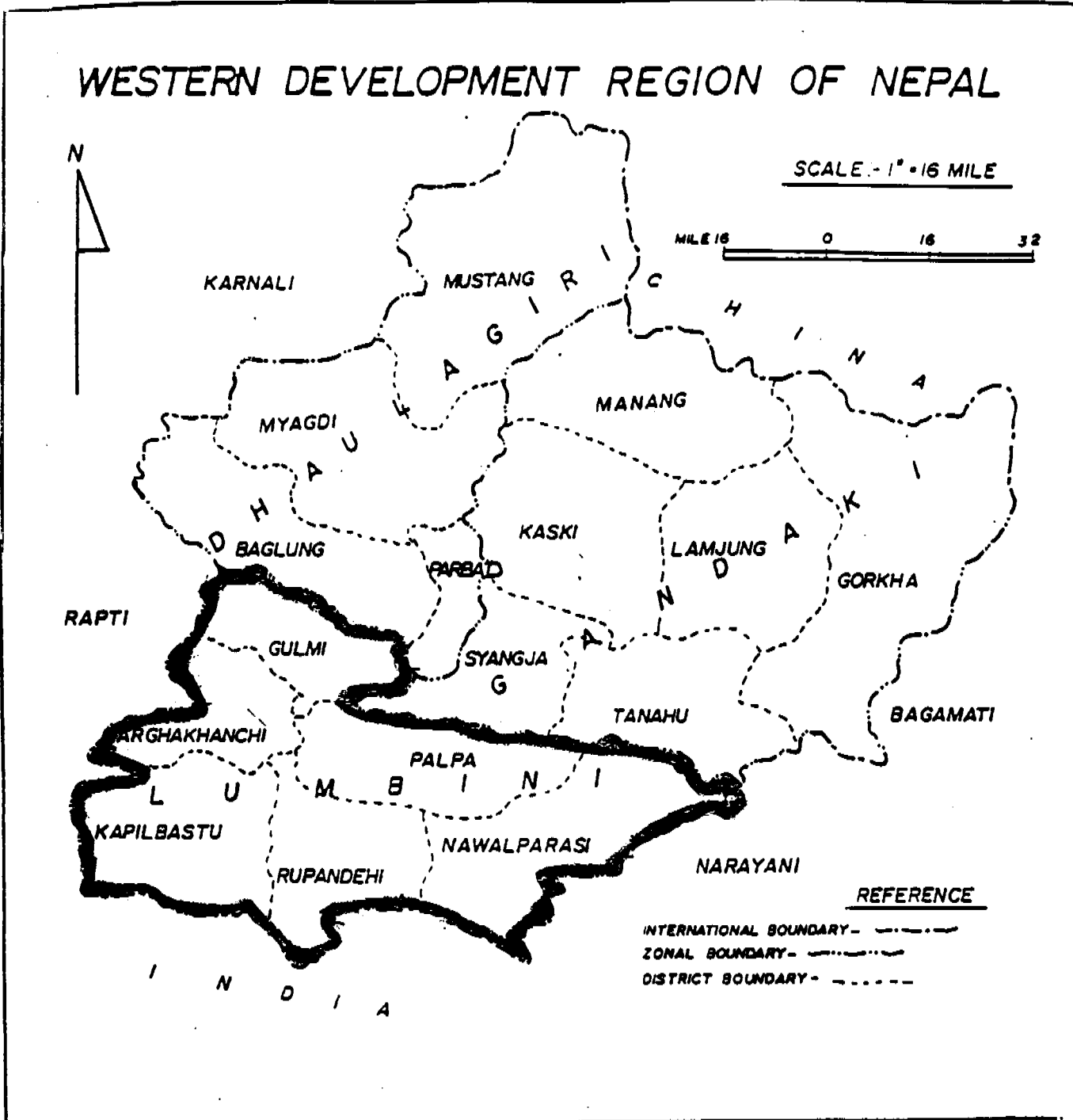


Figure 1.2

2. OBJECTIVES, OUTPUTS AND INDICATORS

2.1. Objectives

2.1.1 Introduction

In response to the International Drinking Water and Sanitation Decade Nepal has clearly defined its development objectives in this sector. Finnish assistance to HMG in this sector will therefore be through a sector program consisting of a number of projects each with its own subprojects which are designed to assist HMG in attaining its national development objectives with regard to water supply and sanitation. This hierarchy of national, program, project and subproject development objectives enables more precise focussing and control of the activities necessary to ensure successful achievement of the development objectives of each level and are defined below:

2.1.2 National Sector Development Objectives

Nepal has defined its objectives to increase water supply coverage to about 65 - 70 % of the total population and meet the sanitation needs of upto 14 % of the population by the year 1990. This position is confirmed in HMG "Basic Needs for all by year 2000" statement which identifies water and sanitation facilities amongst the seven basic needs.

The stated development objectives are:

- (i) Promotion of understanding of linkage of health education, safe water supply and sanitation;
- (ii) Safe, reliable and economical water supply and excreta disposal using technologies to provide levels of service which are affordable and sustainable by the community;
- (iii) Improved health by safe water supply, sanitation and health education; and
- (iv) Convenience and saving of time now expended on the collection of water together with improved rural economy

2.1.3 Program Development Objective

In order of Finnish assistance to HMG to be effective in this sector a program development objective has been defined for FINNIDA activities in this sector. This is designed to support HMG in its efforts to improve water supply and sanitation and can be stated as follows:

"Development of institutional capacity to provide safe, sustainable water supply and sanitation services in the Western Province of Nepal through water service rehabilitation and extensions, excreta disposal facilities, health education, community participation and human resources development within the framework of HM Government's national sector policies and objectives".

2.1.4 Project Development Objective

The first project to be carried out within the proposed FINNIDA Program in this sector in Nepal has been defined in terms of development objective as follows:

"The provision and promotion of use of safe, sustainable water supplies and improved sanitary facilities in accordance with National guidelines to 100,000 inhabitants in the Lumbini Zone of Western Development Region to meet the needs of local communities and the development of institutional and local capability to operate, manage, extend, upgrade and maintain the water supply and sanitation systems provided in order to improve health and economic activity in the project area."

(Chart 1)

2.1.5 Subproject Development Objectives

The project consists of a number of "subprojects" for convenience of project design, monitoring and evaluation. These subprojects are designed to provide the necessary outputs which will ensure that the overall project development objective is achieved. For convenience and as a means of providing a focus for activities each subproject has been defined in terms of its own development objectives as follows.

(1) District Water Supply Development Plans (DWSDP)

Six District Water Supply Development Plans (DWSDP) for the Lumbini Zone identifying potential water resources and deficiencies in the existing water supply systems, developing a program of necessary improvements for each district in the project area and recommending the number and types of water supplies to be implemented and the implementation methods to be used to provide safe sustainable water supplies to meet current and future needs in the project area within the institutional and resource constraints anticipated.

(Chart 2)

(2) Physical Improvements to increase water supply

Implementation of appropriate improvements to water supply facilities to enable 100,000 persons to be served by the rehabilitation of existing systems and the design and construction of new piped water systems and point source supplies in line with the needs of the local communities and National guidelines including rehabilitation of about 20 piped schemes and the design and construction of about 40 new piped schemes and about 1000 point source supplies.

(Chart 3)

(3) Socio-economic Studies, Hygiene Education and Sanitation Programmes

Identification of all key socio-cultural and economic characteristics influencing water supply systems, water usage and sanitation habits in Lumbini zone and the use of this information for the development of more effective public health education training material and community based programs, sanitation strategies and a program of latrine construction in schools health posts, panchayat officies and other selected locations in the areas where water supply schemes are implemented so that a system for local construction of latrine materials can be created.

(Chart 4)

(4) Training and Human Resources Development

Development of relevant knowledge, skills and expertise within staff of DWSS, artisans, community workers and other key groups in the planning, design, construction, operation and maintenance of rural piped water supply schemes, point source supplies and sanitation facilities through practical on the job training, refresher courses, seminars and training in Nepal and abroad and enhancement of the role of women in the community through health education and training to ensure proper water use and more effective operation, maintenance and management of water supply and sanitation systems.

(Chart 5)

(5) Community Involvement

The active involvement of local communities in all stages of planning, designing, constructing, operating, maintaining and extending/upgrading the water supply system serving their needs; training in preventive maintenance activities, necessary to ensure the continuity and extension of such supplies in the future and the encouragement/development of increased economic activities and public health education in order to stimulate economic and public health benefits in the local community.

(Chart 6)

2.2 Immediate Objectives and Activities

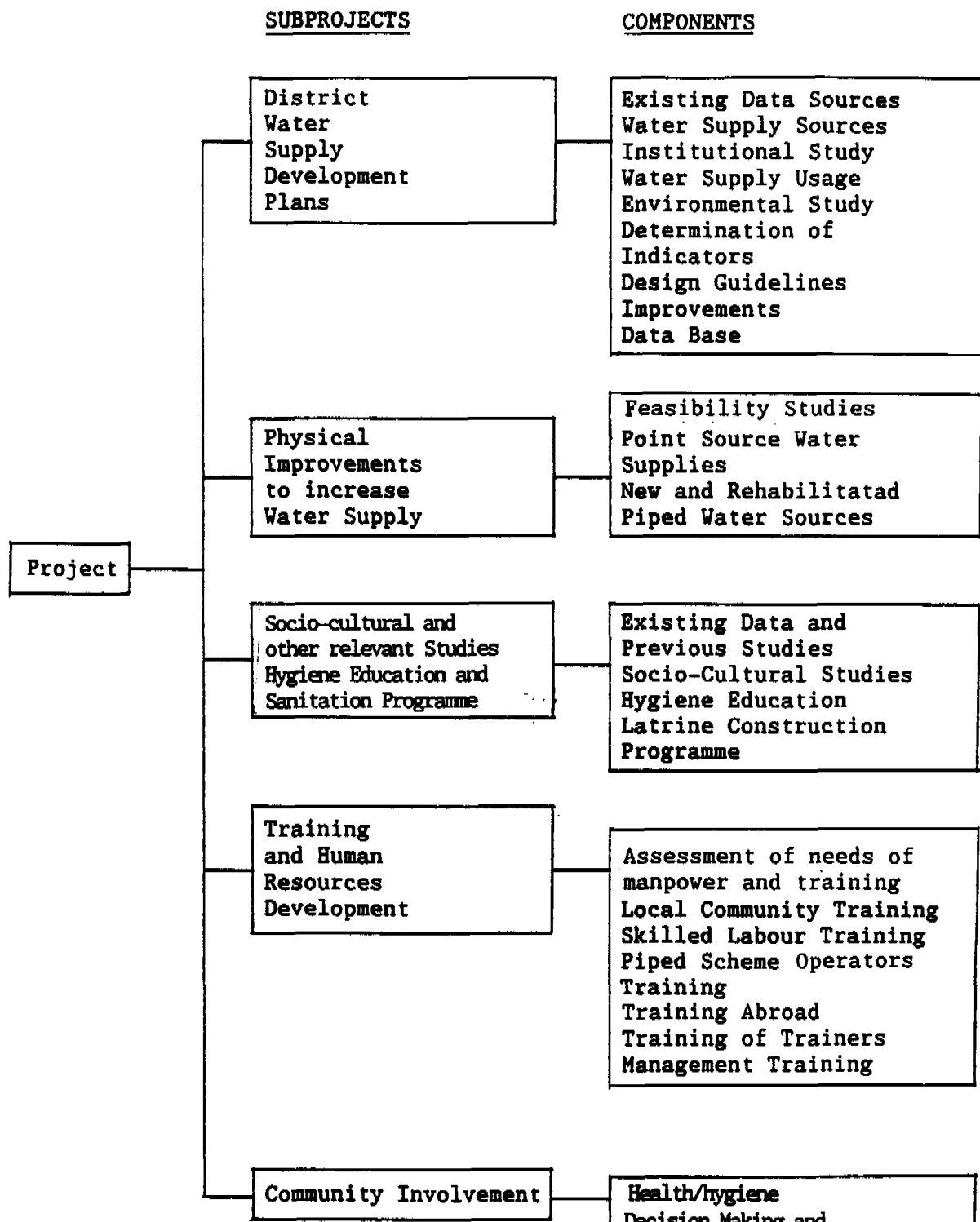
The immediate objectives are related to the activities chosen by the implementing consultant to produce the required outputs in each subproject. These choices are to a great extent determined by the requirement for optimising use of the resources available to consultant at various stages of the work. Therefore the immediate objectives and activities are left to the consultant to define when preparing his work plan and general suggestions only have been given in this document on the sorts of activities which are likely to be necessary for the consultant to carry out the work. Provided that the consultant produces the required outputs given in section 2.3 as defined by the indicators of achievement shown in the figures he will be considered to have successfully completed the project. The project outputs have to be assessed in relation to objectives and not as isolated fulfillments of tasks.

2.3 Outputs and their Indicators

Outputs and their indicators are set out in this section. These relate directly to the development objectives which are presented above in section 2.1. The specific outputs required and the indicators of achievement which will be used to establish whether they have been satisfactorily produced are shown in the following 6 charts.

1. Summary
2. District Water Supply Development Plans (DWSDP)
3. Physical Improvements to increase Water Supply
4. Socio-cultural Study, Hygiene Education and Sanitation Programme
5. Training and Human Resources Development
6. Community Involvement

All indicators of success presented in this document are preliminary and they shall be focused and adjusted in connection of preparation of the DWSDP.



PROJECT DEVELOPMENT OBJECTIVE

The provision of safe, sustainable water supplies and improved sanitary facilities in accordance with National guidelines to 100,000 inhabitants in the Lumbini Zone of Western Development Region to meet the needs of local communities and the development of institutional and local capability to operate, manage, extend, upgrade and maintain the water supply and sanitation systems provided in order to improve health and economic activity in the project area.

Health/hygiene
Decision Making and Planning
Design
Construction
Operation and Maintenance
Competence
Management Facility

3. PROJECT STRATEGY

The project shall be managed from the beginning as a Nepali project which is assisted by FINNIDA. The overall responsibility for successful completion of the project will be with the Regional DWSS Director and the operational responsibility will be with the Finnish Project Coordinator who will work jointly with a Nepali Project Manager.

The project personnel shall generally be Nepali trained persons, either seconded by relevant Nepali water sector agencies or recruited directly. Finnish experts shall be recruited to strengthen the line organization.

The project has geographically limited approach and is focussed on districts in Lumbini Zone of the Western Development Region of Nepal. The implementation shall progress district by district to achieve good coverage before launching new activities in the next district. This way the district focused organization of the reorganised Department of Water Supply and Sewerage (DWSS) will be strengthened.

The choice of technology for the water supply component shall apply appropriate least cost technology with a strong emphasis on operation and maintenance of the rehabilitated or newly constructed water schemes. It is important to involve the beneficiaries from the beginning in the planning and implementation of each scheme. Community participation either by monetary contribution or as labour or their combination is also essential. It is important to provide water for the communities rapidly after their contribution to maintain the interest of the beneficiaries. The highest priority for implementation shall be given to the schemes where beneficiaries' readiness to contribute is highest.

The community participation approach will have its implications for the desirable type and size of a water supply system and for quality control of construction. The communities are expected to take responsibility for operation and maintenance. This will be more likely when the systems are simple, small and well constructed. Contracting out of construction work should be avoided as much as possible.

Direct hiring of labour under the combined responsibility of project staff and users committees may be an acceptable solution in many cases. Where contracting out is a must suitable procedures should be developed to safeguard quality of construction. Active community participation will also be necessary in this respect.

As many project issues address the tasks and role of women their special requirements shall be paid due attention. Gender-specific questions shall not have a separate status but be integrated in the general project planning and implementation.

The introduction of sanitation must be through a strong hygiene education and community involvement approach. To create awareness and a demand for proper human excreta disposal calls for a thorough, repeated effort to educate various groups of the population including the informal education of adults.

As latrine types now available in Nepal may not be entirely suitable for all situations, a development programme of latrine types suitable for public buildings and different private household situations with emphasis on least cost acceptable standards, should be introduced. The implementation of latrine construction could start from schools and public buildings or other locations selected by the communities themselves. It is essential to emphasise self reliance in purchasing latrines and to avoid subsidies to the maximum extent.

The health education component of the project shall be instrumental to create a demand for clean water and hygienic human excreta disposal and influence human behaviour, based on the output from the socio-cultural and economic study. The sanitation component shall be integrated into the existing programs when appropriate. It is essential to support existing education programs by providing health education material for all community workers independent of institutions and organizations they are working for.

The human resources development component of the project shall include strengthening of the capability of all relevant organizations active in the water supply and sanitation sector. Theoretical and practical courses at various levels shall be given for both administrative and technical personnel including an emphasis on community-based approaches. On the job training and refresher courses to develop the professional level of the sector staff and selected community workers shall be arranged as well as appropriate training for community representatives. Seminars for all sectors and organizations involved shall be arranged to strengthen the community

participation work and the health education component. It is also possible to give selected training and education abroad. All education and courses shall be coordinated to suit the Nepali educational system as far as practicable.

The practical implementation of the project shall be divided into stages and subsectors to allow simultaneous studies, planning, design and implementation of the schemes in various degrees of development at the beginning of the project. The staging of the project shall also be regarded as a tool for setting subtargets to evaluate the progress of the project. The determination of criteria for giving priorities to the schemes to be implemented is urged. The determined criteria shall be agreed by all relevant parties to guarantee their validity and to allow the project to proceed in a planned and generally accepted way.

Strong emphasis shall be placed on the viability of all schemes, point sources and other structures implemented by the project. After implementation, the completed facilities shall be handed over to the local communities for routine operation and maintenance (O&M) with community financing. O & M issues which cannot be met by communities themselves shall be taken care of by the relevant district water supply and sanitation agency. The cost of such backstopping shall be covered, at least in the beginning, by budgeted funds. The above requires that the capability of the district level agencies need to be strengthened.

In order to provide a viable method for assessing the success and impact of the project relevant studies will be carried out regularly.

4. SUBPROJECTS AND IMPLEMENTATION

4.1 Subprojects

The project will comprise the following main components:

1. District Water Supply Development Plans
2. Physical Improvements to increase Water Supply
3. Socio-economic Studies, Health Education and Latrine Programmes
4. Training and Human Resources Development
5. Community Involvement

An estimate of the relative importance of each subproject in achieving the development objectives has been made by giving percentage weight values to the subprojects.

4.1.1 District Water Supply Development Plans

It is necessary to make a DWSDP for each District of the project area in order to gain better insight into the overall development and optimum use of the water resources of the project area on the basis of the increased knowledge and information obtained during the studies proposed and to avoid ad hoc implementation of water supplies on the basis of received requests alone and using incorrect or outdated information in design and construction.

The main tasks required to produce the outputs will be:

- collection of relevant background data from all national, regional, district and local development plans which can have an impact on the planning of water supplies and derivation of population estimates in the project area from official statistics and through field surveys
- analysing the existing and collection and analysis of new data (if necessary) on the hydrological and hydrogeological conditions and water quality in the project area and preparation of a detailed assessment of potential water sources
- carrying out a village survey of water supply situation with focus on the technical as well as on the socio-economic aspects of water supply and water usage
- establishing of appropriate guidelines for field investigations, design and construction of water supplies
- establishing of a data system for rationalized collection, storage, retrieval and analysing of data on water resources and water supply systems and training of Nepali staff to operate the system
- preparation of a costed implementation programme for the project and an estimate of improvements necessary in eventual future phases

Some outputs of this sector, design guidelines and a programme of water supplies for immediate implementation in the first place are needed in the very beginning in order to avoid undue delays in the activities of other sectors. It is desirable to commence the activities required for these outputs as soon as the Consultant has been appointed. Preliminary approvals from the DWSS and FINNIDA need to be obtained for the guidelines and the programme.

4.1.2 Physical Improvement

The primary tasks in this subproject are related to increasing the number of people actively using a safe water supply. This increase will be accomplished by repairing previously implemented but failed supplies, by constructing new supplies and by ensuring their later active use by taking full account of consumers' opinions in the planning of supplies and by the development of management and O&M capabilities.

The main activities necessary for the production of the required outputs will be:

- Source and community oriented feasibility studies which will take into account alternative water sources and the wishes of the users and their ability to afford, operate and maintain supplies will be carried out allowing for example comparison of the per capita costs and other relative merits of dispersed point sources for small groups with those of a centralized source and distribution by pumping and pipe network to a larger group of users
- Before starting physical improvement works of the to be rehabilitated schemes, reasons for failures and appropriate reparation methods will be studied
- Rehabilitations and augmentations of piped schemes implemented by others will be undertaken within the financial limits of the budget allocations
- Appropriate water supply facilities will be constructed to improve supplies to existing users and to enable an additional 175.000 people to be served by the rehabilitation of existing systems and the design and construction of new piped water systems and point source supplies in line with the needs of the local communities and DWSS guidelines including 1) rehabilitation of about 20 piped schemes; and 2) design and construction of about 40 piped schemes and about 1000 point source supplies;
- Studies and experiments will be undertaken for finding alternative sources for water supplies
- Communities will be involved in all stages of the physical improvements and O&M systems developed for all supplies to guarantee their sustainability
- All rehabilitation and new construction works will be planned and implemented so that they reduce or stop the effects of environmental deterioration
- All constructed and rehabilitated/augmented supplies will be maintained for one year and guarantees for mechanical equipment and structures provided for periods commonly used in similar cases

The activities described above and other activities found necessary by the consultant to achieve the objectives of this sector will continue throughout the four year period of the Project.

4.1.3 Socio-economic Studies, Hygiene Education and Sanitation Programmes

The main tasks in this subproject are related to increasing the awareness of the people of connection between water, hygiene, sanitation and health. To achieve this there will be a strong emphasis throughout the project in hygiene education and the development of community based approaches to implement the project. To achieve this objective a socio-economic and cultural study will be carried out at the beginning of the project in order to identify cultural behaviour profiles and provide indicators regarding willingness to pay for services, expenditure patterns, economic and social attitudes.

Health education is the responsibility of the Ministry of Health (MOH) and two Health Educators are attached to the Public Health units of the Western Regional Health Directorate. In addition, there is a Health Education Technician attached to each District Health Office. This coverage is grossly inadequate by any standards but more importantly this effort does not appear to include coverage of health aspects of the water and sanitation sector. Consequently, donor aided project organisations (eg. HELVETAS/UNICEF) have tended to develop 'project' health education capability to respond to the apparent deficiency in the national system.

The Department of Water Supply and Sewerage (DWSS) does not seem to have received hygiene education support in the past and does not have strong experience in community based approaches. This deficiency will be addressed in this subproject, further strengthening the existing capability of the Community Water Supply and Sanitation Cell (CWSS) of the Ministry of Panchayats and Local Development (MPLD) which is being amalgamated within the reorganised DWSS.

The main tasks are:

- Socio-economic study which covers all aspects concerning water and sanitation related behavioural factors will be prepared
- Health educators will be assisted and trained
- Improved sanitation facilities to schools and other public institutes will be provided
- Improved sanitation programme for the communities will be developed and launched

4.1.4 Training and Human Resources Development

Tasks of this subproject are mainly related to institution building of DWSS regional and district levels.

The main tasks are:

- Regular O&M procedures will be developed and guideline manuals prepared
- Regular training courses, seminars etc will be arranged
- Involvement of women will be promoted
- In the local community different target groups will be identified and their training needs assessed. The training will be arranged according to the specified needs of each group

4.1.5 Community Involvement

The primary tasks in this sector are related to increasing awareness of benefits and knowledge on water supplies and appropriate use of water within local communities. Main activities required to produce the desired outputs listed in are:

- Informing leaders and members of communities on water issues and on the activities of the Project
- Assisting communities in the establishment and registration of spring/well/scheme committees and in the aquisition of land easements
- Cooperating with the responsible Nepali authorities in establishing local committees to include also same members in both water and health committees to ensure the recognition of interdependence between sanitation, water supply and health education. Special attention shall be given to the role of women.
- Involving communities in decisions concerning the siting and type of supply and in all stages of planning, design and construction of point source supplies
- Extending the community involvement practices to piped gravity and hand pumped schemes whenever possible
- Preparing signed agreements with the committees reflecting the decisions made on the site, design, construction method and other relevant aspects of the supply and stating the willingness of the community to take over the responsibility for the continuous management, operation and maintenance and development of the completed works

5. INPUTS AND PROJECT BUDGET

5.1. Inputs and Costs

Inputs to the project would be provided by the Governments of Finland and Nepal in the ratio of 85% to 15% respectively. Inputs for Technical Assistance are not included in the above ratio but all the costs for this component will be carried by the Government of Finland. However, any customs and import duties and other taxes applied to the project are excluded from the 85:15 apportionment and any such costs would be carried additionally by HMG.

5.2 Input of the Government of Finland

The Government of Finland shall

- provide finances for the provision of personnel services, materials and equipment as outlined in the Project Budget included in Project Document.
- employ the Consultant, which shall provide technical assistance and services for the procurement of materials and equipment and for the general supervision of the Project.

5.3 Input of HMG of Nepal

HMG/N shall

- render and secure such assistance, and take such action as may be necessary for the efficient implementation of the Services, and facilitate their scheduled completion. Such assistance and action shall include, but shall not be limited to the following:
 - (1) securing approvals of any and all appropriate governmental, local and municipal authorities or organizations of HMG/N if any such approvals will be required for carrying out the Services,
 - (2) furnishing, in a timely manner, all information for the Project and giving such other assistance as may reasonably be required by the Consultant for carrying out the Services,
 - (3) advising the Consultant with respect to any existing laws, regulations or standards in force in Nepal which may, directly or indirectly, apply to the Services, and providing the Consultant with administrative support needed in the practical execution of the Services,
 - (4) subject to any security provisions in force, arranging for and providing the Consultant access to the offices, the sites and other facilities relevant to, and to the extent necessary for, the performance of the Services,

(5) appointing, from the beginning of the Project, a Project Manager with full and binding powers to act on HMG/N's behalf in matters related to the execution of the Project,

(6) providing the qualified personnel for effective field implementation of the Project

- HMG/N shall retain, recruit and nominate HMG/N's manpower as specified in the Project Document with the Project assistance according to HMG/N's normal procedures.

(7) nominating and recruiting, in timely fashion the staff for training who will be signed to the Project and contribute to their upkeep as practiced by HMG/N,

(8) providing sufficient materials and financial resources for the timely completion of the Project

(9) taking necessary steps to gain access to the land on which the physical improvements of this Project shall be constructed

(11) being responsible for other obligations as further defined in the Agreement on Development Co-operation.

5.3 Additional responsibilities and procedures in the Project

The Finnish Grant shall be used by making payments directly to the Consultant to cover the costs of the Consultant accrued from the implementation of the Project.

The Consultant shall be responsible for the purchase of the materials, supplies and equipment, including vehicles, for the Project in accordance with the specifications drawn up by the Finnish Project Coordinator and Nepalese Project Manager and in accordance with the rules and regulations governing the government procurement in Finland. Due consideration will be given also to the Nepalese products. The Consultant shall use the services of the Government Purchasing Centre in Finland whenever practical.

The payments of the procurements shall be made directly to the suppliers of the commodities, the Government Purchasing Centre in Finland or the Consultant.

All local procurements HMG/N shall be made in accordance with the rules and regulations governing the government procurement in Nepal.

The materials, supplies and equipment including vehicles procured under the Project shall during the implementation of the Project be at the disposal of the person(s) designated by the Ministry for Foreign Affairs of Finland / FINNIDA under the control of the Finnish Project Coordinator in consultation with the Nepalese Project Manager.

The Finnish Project Coordinator shall be responsible for the selection of the local consultants in collaboration with the Nepalese Project Manager.

The Consultant and DWSS shall mutually agree on the internal decision mechanism of the Project.

5.4. Project Budget

The project budget is summarized in the following Table 5.1. Further details are presented in Appendices 1 and 2.

Table 5.1
Summary of Project Budget (FIM x 1000)

	1990	1991	1992	1993	TOTAL
1 Investment Cost	4720	7335	6575	6270	24.900
2 Recurrent Cost	437	438	379	364	1.618
3 Technical Assistance	1.710	1.710	1.710	1.710	6.840
4 Training	160	230	280	230	900
5 Supervision and Administration	57	173	115	230	575
Total 1 - 5	7 084	9.887	9.058	8.804	34.833
Physical and Price 1) Contingency	1.449	1.613	2.382	2.669	8.113
TOTAL PROJECT COST 2)	8.533	11.500	11.440	11.473	42.946
Input by Government of Finland	7.500	10.000	10.000	10.000	37.500
Input by HM Government of Nepal (NR million)	1.033 (6.508)	1.500 (9.450)	1.440 (9.072)	1.473 (9.280)	5.446 (34.31)

- 1) Includes 15% physical contingency and 5% per annum price contingency
2) Excludes any customs duties or related taxes

5.5. Activities Program

The activities Program is given in Figure 5.1.

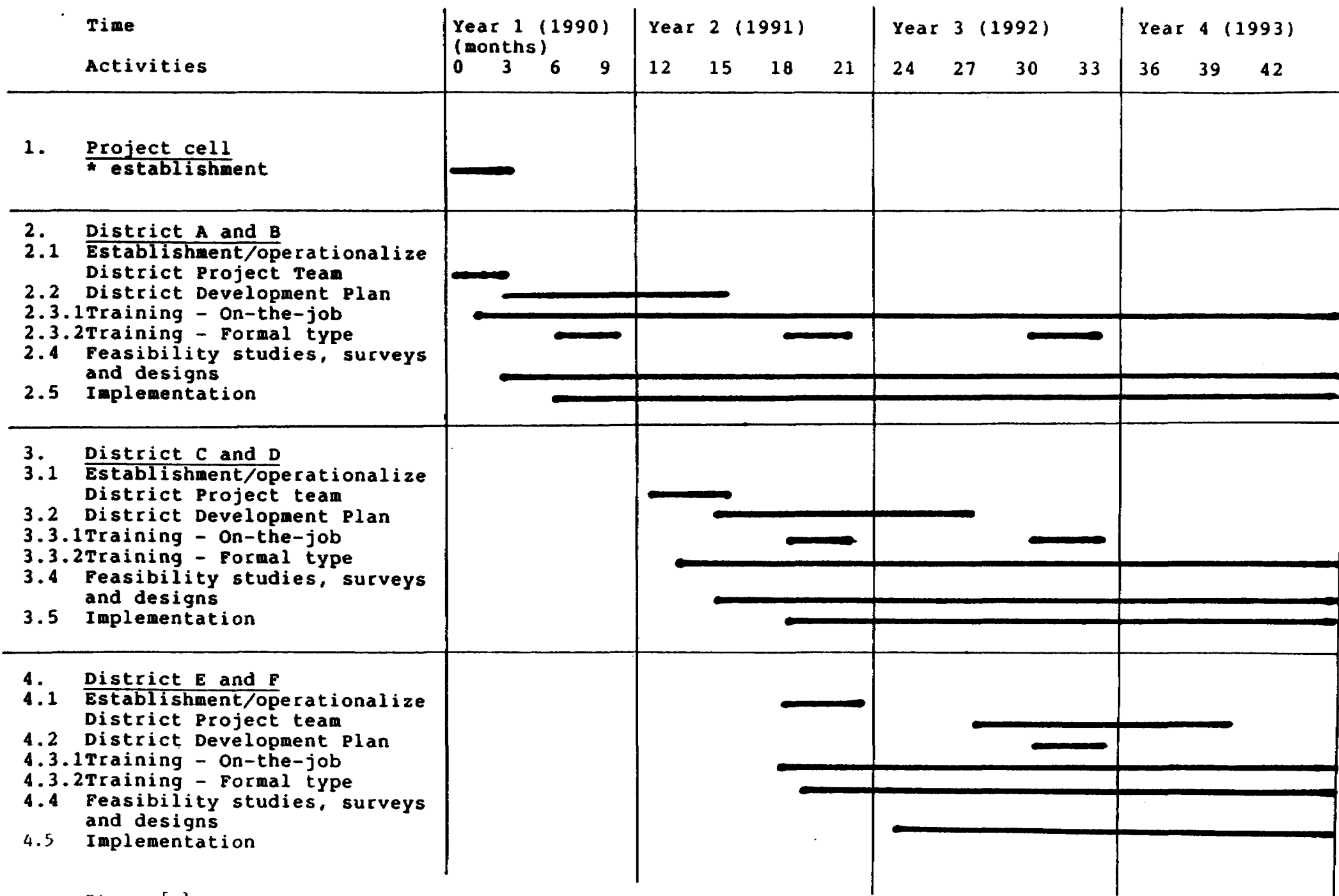


Figure 5.1

6. INSTITUTIONAL FRAMEWORK AND PROJECT MANAGEMENT

6.1. Background

Until early 1988 there were three main sector agencies responsible for the provision of drinking water and sanitation facilities: the Department of Water Supply and Sewerage (DWSS), the Water Supply and Sewerage Corporation (WSSC), both within the Ministry of Water Resources (MWR); and the Community Water Supply and Sanitation Cell (CWSS) of the Ministry of Panchayat and Local Development (MPLD). All three agencies receive external financial support. In addition to the governmental programs of DWSS, WSSC and CWSS, Nepal has received contributions from various multilateral and bilateral donors and Non Governmental Organization (NGO's) including UNDP, UNICEF, Swiss Association for Technical Assistance (SATA) British Overseas Development Administration (ODA), Asian Development Bank (ADB) and the World Bank (IDA).

The local Panchayats have also contributed to sector development. The sector responsibilities were broadly as follows:

Kathmandu - Lalitpur and 12 other major urban centres
- WSSC

Remaining urban centres and rural development for
communities above 1500 population - DWSS

Rural communities with population below 1500 - CWSS

In 1986 DWSS was formally designated as the "leading sector agency" with responsibility for water supply and sanitation sector planning, coordination and national water supply standards. At that time a National Water Supply and Sanitation Coordination Committee was set up but this does not appear to have met on a regular basis. Recent efforts are aimed to re-activate this committee.

In practice the various agency responsibilities have tended to overlap somewhat by mutual agreement of the concerned agencies. Shallow tubewell projects in the Eastern and Western Regions have been undertaken by CWSS. DWSS has executed more than 300 rural water supply projects throughout Nepal by engaging local labour contractors and presently is responsible for operation and maintenance of most of the schemes since local communities do not generally have the expertise or funds to assume control. In some cases schemes have been handed back by the local community to DWSS in less than satisfactory condition. The approach adopted by CWSS (supported by UNICEF and SATA) has relied to a much greater degree on community participation

throughout all stages of the project cycle, including voluntary contributions (in labour and/or kind) to assist in implementing schemes. These varied approaches both have advantages and disadvantages which have been documented at length in earlier sector work. Both approaches appear to result in protracted implementation periods.

In an effort to address the fragmented and varied sector development approaches and to streamline sector activities, in early 1988 the sector responsibilities were reorganised by HMG with the establishment of the Ministry of Housing and Physical Planning (MHPP). DWSS, WSSC, and the CWSS cell from MPLD, which has now been incorporated into the DWSS organisation, will now function within this new ministry under the direction of the Additional Secretary (Water). This reorganisation is still in the formative stage and began functioning effectively from the beginning of this Nepali fiscal year (from July 16, 1988).

6.2. Sector Organisation

In accordance with HMG decentralisation policy District Water Supply Units (DWSU's) have been established in each district under the administrative control of the District Panchayat. The DWSU's are responsible for all water and sanitation sector activities in the district with technical and financial direction from DWSS Regional Director (who reports to the DWSS). Staffing levels of the DWSU's reflect the sector activities and workload in the respective district. The CWSS personnel have been absorbed with the DWSS regional and district organisations. Typical organization charts are attached at Figures 6.1 and 6.2 for the DWSS central and district organisations.

6.3. Framework for FINNIDA Assisted Project

The framework of the institutional arrangement for this proposed project would be integrated into the Regional and District organizations described above and which is expected to be in place prior to the commencement of this project (earliest commencement anticipated January, 1990).

It is proposed that a "Project Cell" would be established within the DWSS regional headquarters but stationed in Butwal with overall responsibility for project direction, planning, studies, design, procurement, execution and monitoring. This cell will report directly to the DWSS Regional Director and would be headed up during this project by the Nepali Project Manager together with the Finnida Project Coordinator. The cell will include supporting HMG personnel and expatriate professional specialists. Specific assignments such as socio-economic and hydrogeological surveys; and feasibility studies for selected schemes may be undertaken by local and/or expatriate consultancy services for cost effective and timely execution within the overall project framework.

DEPARTMENT OF WATER SUPPLY & SEWERAGE
ORGANIZATION CHART

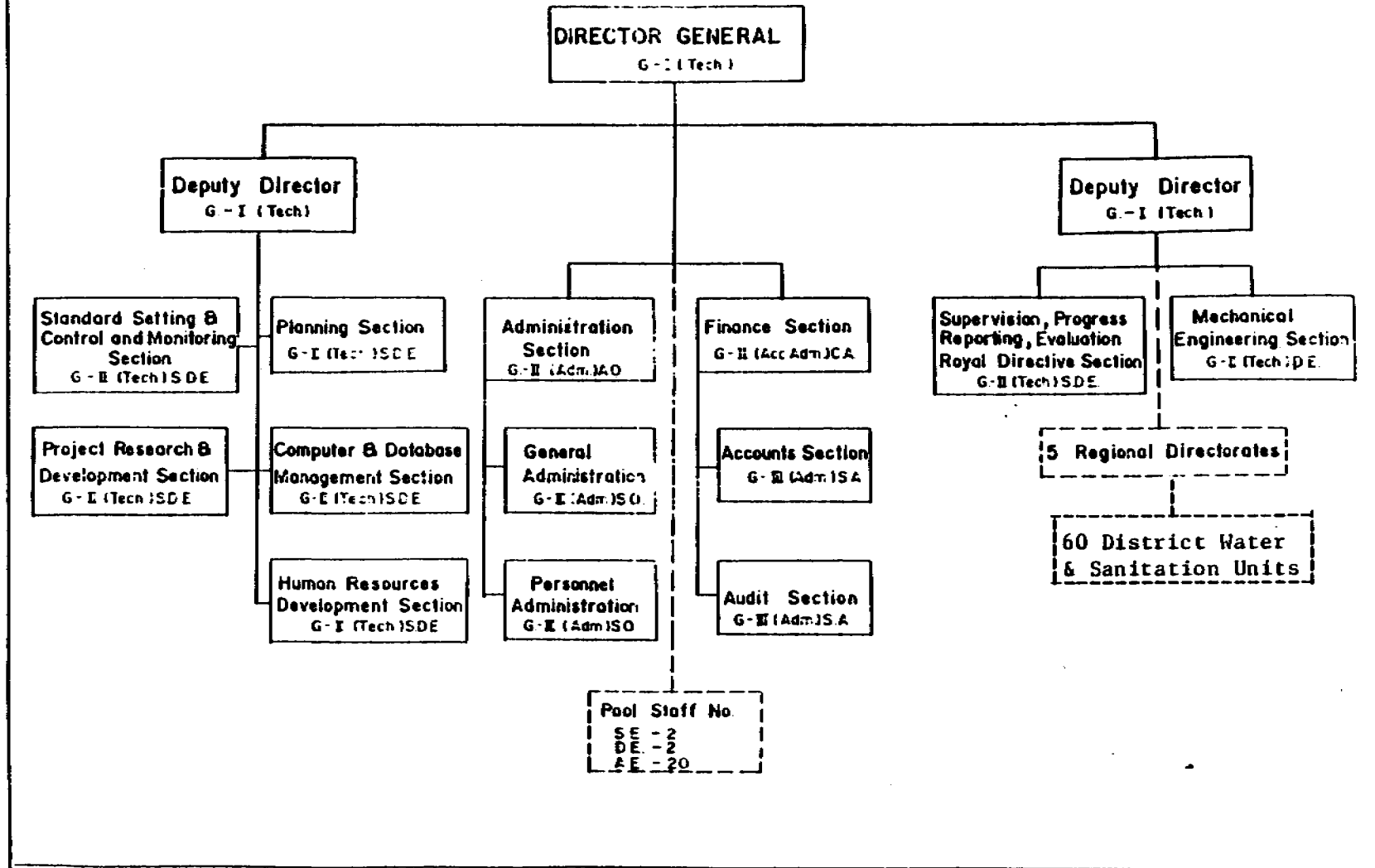
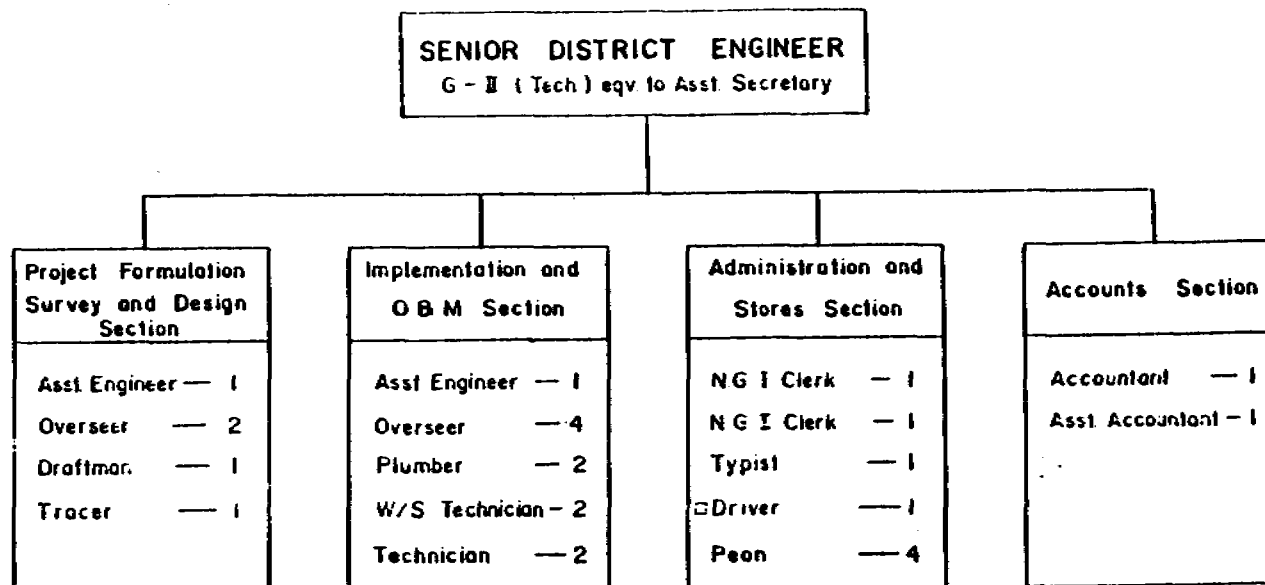


Figure 6.1

DEPARTMENT OF WATER SUPPLY & SEWERAGE
TYPICAL DISTRICT
ORGANIZATION CHART



□ Drivers not required for 16 Districts inaccessible by road
 Post Per District: Technical — 17
 Administration — 10
 Total — 27

Figure 6.2

The project will be implemented by using community participation method to the maximum extent throughout the project cycle. The execution of individual schemes will be managed on a district by district basis by the DWSU's. It is envisaged that the works will be executed by combining community self help activities within the village localities with labour contracts for constructing intake works, transmission mains and balancing reservoirs. This arrangement must be properly coordinated at the local level to ensure community involvement and execution of the village activities at the appropriate time. Skilled tasks such as (i) jointing of pipes; and (ii) fixing valves and special appurtinences will be carried out by DWSU personnel. A proposed project organization chart is attached at Figure 6.3.

6.4. Operation and Maintenance

On completion, the schemes would be handed over to the village "User Committees" for routine operation and maintenance which will be financed from local contributions. Trained community workers will be provided with basic tools and maintenance guidelines documentation under the project with regular compensation paid by the community. Major repairs would be undertaken by the DWSU organizations.

6.5. Steering Committee

Matters of project policy will be decided by the steering committee which will meet at least bi-annually and as required. The composition of the steering committee shall include representatives from HmG/N, Finnida and the project team.

ORGANIZATION CHART as per 1.1.1990

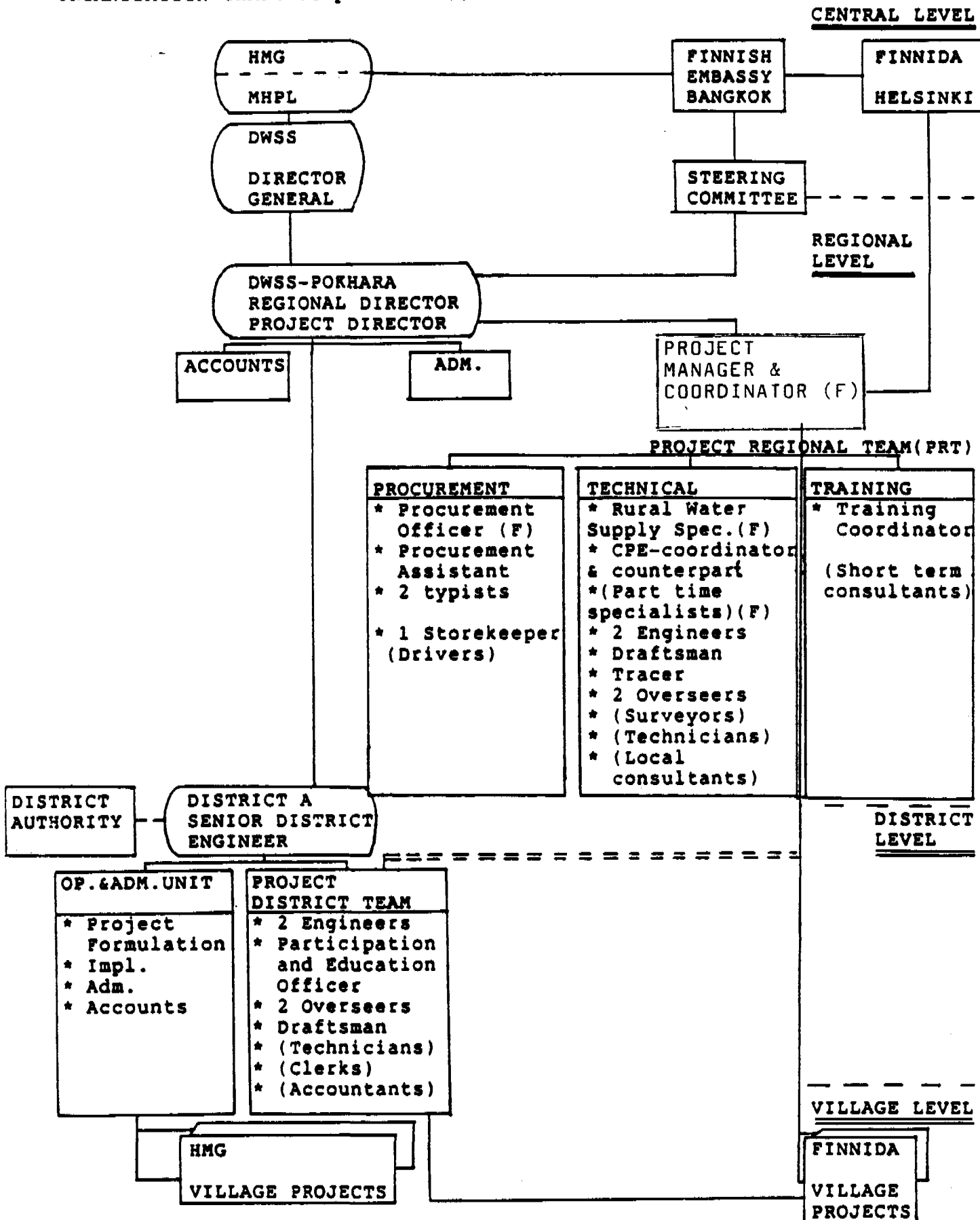


Figure 6.3

7. ASSUMPTIONS/EXTERNAL FACTORS

It is assumed that the HMG of Nepal through the Ministry of Housing and Physical Planning (MHPP) and other relevant ministries and local authorities shall provide the funds, manpower, local material and supplies necessary for the planned implementation, except the specified support to be provided by the Government of Finland.

Further it is assumed that the reorganisation of the Department of Water Supply and Sewerage is completed and effective before the project is launched.

It is also assumed that no customs duties or any other costs are issued on the materials and equipment imported to Nepal within the framework of this project. If such costs occur they shall be carried by HMG of Nepal outside the budget for the local component of the project.

The success of the Project depends very much on the information flow and cooperation between various organisations and institutions. The central role in this respect lies in the Ministry of Housing and Physical Planning.

8. REPORTING, TECHNICAL MONITORING AND EVALUATION

8.1. Reporting

- (i) The consultant will submit a brief monthly report indicating any matters of major concern affecting progress which requires FINNIDA action to be taken. Within 3 weeks from the end of each 3 month period, the consultant will submit a quarterly report which will show in graphic and bar chart form for each district:
- the percentage achievement of development objectives (as evidenced by the indicators) in each subproject in comparison with the target percentages
 - expenditures in comparison with the programmed budget
 - the consultative manpower consumption in comparison with that estimated at project commencement
 - proposed programme and expenditure plan for the next 3 months
 - revised forecast of expenditure during remainder of fiscal year
 - any other factor considered relevant for assessment of progress and project monitoring

This graphic presentation will be accompanied by a concise written assessment of progress of works giving explanations for non achievement of targets (if occurring) and description of remedial measures undertaken to rectify the situation.

At the end of each year the Consultant will prepare an annual report giving details of the quantity and quality of performed work, description of methods applied, analysis of costs and financing and any other information deemed relevant for the assessment of progress in the achievement of development objectives. The annual report shall be submitted to the DWSS and FINNIDA within one month of the end of the reporting period.

(ii) Project Phase I Termination Report will be prepared by March, 1994 and will contain:

- a summary and assesment of the achievements of the Project in relation to its objectives
- financial statement
- detailed inventory of all buildings, vehicles, equipment and materials of the Project including their location and current condition at the time of termination

8.2. Technical Monitoring

Regular annual technical monitoring of the Project will be carried out by HMG of Nepal and FINNIDA. A mid term review of the Project will be undertaken in late 1991.

8.3. Evaluation

A Project evaluation will be carried out around May, 1993. During this evaluation, proposals for possible consideration for a "follow-on" phase of the Project (if appropriate) will also be appraised.

NEPALRURAL WATER AND SANITATION PROJECTPROJECT BUDGET - FIM x 1000

A. GOVERNMENT OF FINLAND CONTRIBUTION

Code Description	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>TOTAL</u>
<u>1. INVESTMENT COSTS</u>					
1211 Machinery and Equipment Geological and geophysical equipment, survey and camping, handpumps, motor driven pumps, engines, mobile workshop, drilling rig, generators etc.	297	2848	808	722	4675
1229 Vehicles for Project					
5 Pick up					
2 Pick up double cab.					
2 Truck					
6 Motor Cycles					
1 Stationwagon					
2 Personnel Vehicles (for training)					
20 Bisycles					
	536	272	323		1131
1239 Other Commodities					
Construction materials, spare parts,, office equipment, pipes, fittings, steel and miscellaneous materials	2302	2177	3120	3238	10837
1299 Freight	110	213	297	289	909
1902 Local contracting	767	726	1 40	1080	3613
INVESTMENT TOTAL	4.012	6.236	5.588	5.329	21.165

Code Description	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>TOTAL</u>
2. RECURRENT COSTS					
2112 Local Wages	43	42	43	42	170
2122 Other personnel costs, office support	42	43	42	43	170
223 Machinery and Equipment Spare parts etc. (Cost included elsewhere)					
2299 Freight for spares etc.	42	43	42	26	153
2909 International Travel(100% FINNIDA)	250	250	200	200	900
RECURRENT TOTAL	377	378	327	311	1393

3. TECHNICAL ASSISTANCE

Budget estimates FIM x 1000

Finnish staff

1. Project Coordinator	500	500	500	500	2000
2. Community Participation and Education Specialist	400	400	400	400	1600
3. Procurement Officer	400	400	400	400	1600
SUB TOTAL	1300	1300	1300	1300	5200

Code Description	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>TOTAL</u>
Local staff incl Rural Water Supply and Sanitation Specialist	100	100	100	100	350
International and National Consultants total including fields of: - hydro-geology - water supply and sanitation - data-analyst - training - participation and hygiene education	310	310	310	310	1290
TECHNICAL ASSISTANCE TOTAL	1710	1710	1710	1710	6840

4. TRAINING

4122

Other personnel costs,
short courses in
region, Nepal and
abroad, on-the-job
training, refresher
courses and upgrading
of skills etc.

65	128	170	127	510
----	-----	-----	-----	-----

4239

Health education
training materials,
tools, training
materials for
artisans etc.

51	68	68	68	255
----	----	----	----	-----

TRAINING TOTAL

136	196	238	195	765
-----	-----	-----	-----	-----

5. SUPERVISION AND ADMINISTRATION

Administration by
FINNIDA

50	150	100	200	500
----	-----	-----	-----	-----

TOTAL 1-5

6.285	8.670	7.963	7.745	30.663
-------	-------	-------	-------	--------

Price and Physical
Contingency 1)

1.215	1.330	2.037	2.255	6.837
-------	-------	-------	-------	-------

GRAND TOTAL

7.500	10.000	10.000	10.000	37.500
-------	--------	--------	--------	--------

1) Includes 15% physical contingency and
5% per annum price contingency

NEPALRURAL WATER AND SANITATION PROJECTPROJECT BUDGET - FIM x 1000B. H M GOVERNMENT OF NEPAL CONTRIBUTION

	<u>1989/90</u>	<u>1990/91</u>	<u>1991/92</u>	<u>1992/93</u>	<u>TOTAL</u>
1. INVESTMENT COSTS					
2. RECURRENT COSTS					
3. TECHNICAL ASSISTANCE					
4. TRAINING					
5. SUPERVISION AND ADMINISTRATION					
6. CONTINGENCIES	234	283	345	414	1276
TOTAL NEPAL CONTRIBUTION	1033	1500	1440	1473	5446
Equivalent Cost in NR million	6.508	9.450	9.072	9.280	34.310

Targeting of the HMG of Nepal contribution to be decided in connection of annual work plans.