



THE KINGDOM OF NEPAL

**Ministry of Housing
and Physical Planning**

**Department of Water
Supply and Sewerage**

THE REPUBLIC OF FINLAND

Ministry of Foreign Affairs

**Finnish International Development
Agency, FINNIDA**

**RURAL WATER SUPPLY AND SANITATION PROJECT
IN WESTERN DEVELOPMENT REGION, NEPAL**

MID TERM REVIEW REPORT

March 1992

822-NP WE92-10797

LIBRARY, INTERNATIONAL REFERENCE
 CENTRE FOR COMMUNITY WATER SUPPLY
 AND SANITATION (ICWSS)
 P.O. BOX 10797, THE HAGUE
 Tel. (070) 814911 ext. 141/142
 REF 15N 10797
 LO: 822 NP.WE92

CONTENTS

ACRONYMS

SUMMARY

1 LIST OF RECOMMENDATIONS

2 INTRODUCTION

- 2.1 Background
- 2.2 Purpose and Implementation of the Review
- 2.3 Structure of the Review Report

3 GENERAL FINDINGS

- 3.1 Institutional Framework
- 3.2 Strategy and Progress

4 DISTRICT WATER SUPPLY DEVELOPMENT PLANS

- 4.1 Objectives and Strategies
- 4.2 Implementation
- 4.3 Constraints
- 4.4 Recommendations

5 PHYSICAL IMPROVEMENTS TO INCREASE WATER SUPPLY

- 5.1 Objectives and Strategies
- 5.2 Implementation
- 5.3 Constraints
- 5.4 Recommendations

6 SOCIO-CULTURAL STUDIES, HYGIENE EDUCATION AND SANITATION PROGRAMMES

6.1 SOCIO-CULTURAL STUDIES

- 6.11 Objectives and Strategies
- 6.12 Implementation
- 6.13 Constraints
- 6.14 Recommendations

6.2 HEALTH EDUCATION

- 6.21 Objectives and Strategies
- 6.22 Implementation
- 6.23 Constraints
- 6.24 Recommendations

4
5
6
10
10
10
11
12
12
13
14
14
14
15
15
16
16
16
18
18
19
19
19
19
21
21
22
22
22
24
25

6.3	SANITATION PROGRAMME	26
6.31	Objectives and Strategies	26
6.32	Implementation	26
6.33	Constraints	26
6.34	Recommendations	27
7	TRAINING AND HUMAN RESOURCES DEVELOPMENT	28
7.1	Objectives and Strategies	28
7.2	Implementation	28
7.3	Constraints	29
7.4	Recommendations	29
8	COMMUNITY INVOLVEMENT	30
8.1	Objectives and Strategies	30
8.2	Implementation	30
8.3	Constraints	31
8.4	Recommendations	31
ANNEXES		
I	Terms of Reference	
II	Itinerary and Persons Met	
III.1-III.5	Evaluation Tables of Subprojects 1-5	
IV	Job Descriptions	

ACRONYMS

CHV	Community Health Volunteer
CWSS	Community Water Supply and Sanitation Cell (of Ministry of Panchayats and Local Development)
CWSSP	Community Water Supply and Sanitation Project (of UNICEF/Helvetas)
DWSDP	District Water Supply Development Plan
DWSO	District Water Supply Office
DWSS	Department of Water Supply and Sanitation (of MHPP)
DWSU	District Water and Sanitation Unit
EIA	Environmental Impact Assessment
FIM	Finnish Mark
FINNIDA	Finnish International Development Agency
HDPE	High Density Polyethylene
HESP	Health Education and Sanitation Programme
Helvetas	Swiss Association for Technical Assistance
HMG	His Majesty's Government of Nepal
MHPP	Ministry of Housing and Physical Planning
MOEC	Ministry of Education and Culture
MOH	Ministry of Health
NASC	Nepal Administrative Staff College
NR	Nepal Rupee
O&M	Operation and Maintenance
PIU	Project Implementation Unit
RAP	Rapid Assessment Procedure
RWSSP	Rural Water Supply and Sanitation Project (of FINNIDA)
UNDP	United Nations Development Program
UNICEF	United Nations Children's Fund
VHW	Village Health Worker
VLOM	Village Level O&M
WSSD	Water Supply and Sanitation Division (MHPP)

SUMMARY

The Rural Water Supply and Sanitation Project in the Lumbini Zone of the Western Development Region in Nepal was commenced in January 1990 based on the development cooperation of His Majesty's Government of Nepal and the Government of Finland. This review report concentrates on identifying and analysing strategic issues concerning progress of the Project Phase I (1990 - 1993) made against its targets in order to support its continuing development and give perspectives for period afterwards.

The Project proved to be most important and profitable, even if, some defects which could be more or less easy to remedy, were still found.

The Project has no formal link with the health and education administrations which may adversely effect the future transfer of activities to the relevant organisations, even if the present informal cooperation between these organisations and the PIU is good. The Steering Committee is narrowly formed and under-represented as it consists of HMG representatives only of the Ministry of Housing and Physical Planning and not of the Ministry of Health and the Ministry of Education and Culture. The division of responsibilities among the PIU was not clearly defined, but the PIU staff was found to be highly motivated to work together as an efficient team.

The implementation is delayed, and it is obvious, that all the tasks set by the Project Document can not be reached by the end of 1993. The community involvement had been well initiated and potential beneficiaries seemed to be willing to operate and maintain the schemes, even if the Project had omitted this component as an independent subproject. The Project has preferred profitably only locally available materials and devices which have an adequate quality standard and guaranteed spare part supply.

The progress in health education was alarming minute and the sanitation component had been neglected almost completely. Without chance in the health and sanitation behaviour of the beneficiaries, it is not possible to reach the basic goal of the Project, sufficient and safe water supply. The Project does not seem to consider ethnic diversity within the project area. It has similar training programs and teaching methods to various ethnic groups. Further, it was noticed that no particular measures needed to increase women's participation had been taken.

The Project Document gives a good base for the Project implementation. However, in order to expedite and intensify the realization of subproject 3, it would be advisable to devide and amend it into more precisely form by identifying the sanitation programme as an independent subproject.

1 LIST OF RECOMMENDATIONS

Subproject 1: District Water Supply and Development Plans

- 1.1 The staff resources available for DWSDP preparation should be increased, mainly by training more enumerators for data collection and by nominating more overseers and technicians for RWSSP tasks in DWSO's and by taking into account the possibilities of manpower revolving between the districts. The possibilities of PIU to assist DWSO's in review of scheme development plans and in other DWSDP preparation activities could also be improved, e.g. by employing short term Nepalese consultants.
- 1.2 Increasing of sanitation expertise resources is particularly important, even if the objectives for this subproject given in the Project Document do not include the sanitation component. Also the following components need more emphasis:
- * socio-economic factors, ✓
 - * hydrogeological and hydrological surveys, *Mr Bora, consultant*
 - * physical-chemical water quality monitoring, ✓
 - * EIA component, ✓
 - * protection measures against pollution of water sources, ✓
 - * development of a centralized data system.
- 1.3 A monitoring and reporting system concerning water supply should be planned and taken into regular use.
- 1.4 Water users' guidelines should be prepared.

Subproject 2: Physical Improvements to Increase Water Supply

- 2.1 The tasks within PIU should be reorganized so that the responsibility for the progress of this subproject would be given to a definite person.
- 2.2 In a consequence of DWSO's increased facilities the overall coordination of schemes would be gradually concentrated from PIU to DWSO's in order to improve the districts' possibilities to take care of the community based implementation of the schemes and optimum usage of manpower and other resources. Correspondingly, the supportive role of PIU should be strengthened.
- 2.3 The implementation of schemes and supervision could also be strengthened by improving the flexibility of manpower revolving between the DWSO's and by training and engaging more overseers and technicians to the offices. Every DWSO should have a sanitation expert responsible for the coordination of sanitation aspects.
- 2.4 The engineering capacity of PIU should be increased temporarily in order to improve the possibilities to assist DWSO to control and optimize the quality level, especially protection measures against contamination and structural strenght of the schemes.

- 2.5 Particular importance should be given by PIU to train the DWSO's maintenance unit personnel to work with communities. Stress should be laid also on the final inspection of completed schemes and division of the maintenance responsibilities before assignment of the schemes to users.

*Print
surasalla
kumalla.*

?

Subproject 3.1: Socio-Cultural Studies

- 3.1.1 As far as the indicators of success in influencing behavioral changes are concerned, the system for project monitoring needs further development.
- 3.1.2 In order to utilize the data collected, theoretical work, analyses and computerized tabulations are necessary. As the number of schemes increases, the workload will soon exceed the limited staff resources. The project is suggested to initiate discussions with the Department of Sociology and Anthropology of the Tribhuvan University in Kathmandu. Also one Research Assistant should be recruited.

Subproject 3.2: Health Education

- 3.2.1 The competent authorities should seriously consider the official involvement of the Ministry of Health with the Project. It is recommended to have a representative of the Ministry of Health in the Steering Committee. The same person should coordinate the Project related activities in the Ministry of Health. Likewise, the representation of the Ministry of Education and Culture in the Steering Committee would be advisable.
- 3.2.2 In the discussions held with the Health Authorities at district and ministry levels a need for building up a formal linkage with the Project, was strongly pointed out. Necessary coordination with the health related sectors such as education, drinking water and local development are also documented in the National Health Policy of His Majesty's Government of Nepal, 1991.
- 3.2.3 It is recommended to strengthen the existing staff resources on Health Education by increasing the present number of Health Training Officers from two to six so that there would be one Health Training Officer per district. These officers should work closely with their District Health Office and the health post staff in the area. This would improve the linkage between the Project and the District Health Offices, promote the institutional development and increase the output of health education. Further on, short term expatriate Consultance Support might be advisable to strengthen the Health Education and Sanitation Programme.
- 3.2.4 Along with the trainers' training, necessary support should be provided to promote village level health education programmes and to enhance people's awareness on hygiene/sanitation. The following proposals may be considered:
- * Establishment of a mobile audio-visual unit with necessary material. The Mission was informed that this method has been successfully used in the Agriculture sector.
 - * The utilization of socio-cultural events, such as youth clubs and religious occasions to disseminate health messages to the community.

- * More emphasis on the development and purchasing of health educational material along with the use of the local talent, such as artists, singers, poem writers and painters should be encouraged.
- * Latrine construction to be commenced along with strong Health Education input.
- * The school health education programme should be given high priority.
- * Involvement of school children by cleaning compounds, sport activities and competition on poster drawing and essay writing, etc. to be a part of the programme.
- * The Project to provide the necessary raw material for these activities.

no writing things

- 3.2.5 The extension of The Health Education Programme as presented in the *Draft Proposal for Extension of the Health Education and Sanitation Programme within the Rural Water Supply and Sanitation Project* is premature at this stage. Instead of expanding The Programme, effective measures should be taken to intensify the ongoing in order to improve sanitation and environmental hygiene in The Project area. Some of the proposals, such as official involvement of The Ministry of Health and full engagement of one person from the District Health Office and District Education Office, are, however, strongly recommended.
- 3.2.6 In order to exchange the experiences on Health Education and Sanitation Programmes within the region, it would be worthwhile for The Project team to visit the FINNIDA supported Water Supply and Sanitation Project in Sri-Lanka.

Subproject 3.3: Sanitation Programme

- 3.3.1 Regarding the present situation and progress of the Sanitation Programme a thorough review of the Project's plan, objectives and strategies is needed and should be the first and most important task in the Project's operational plan for 1992. A position paper on the subject should be completed as soon as possible.
- ✓ The preparation of the position paper should be carried out by the Project Staff, making use of short term local advisors where required.
- 3.3.2 The poverty level and community affordability should be studied in preparing the paper. The Department of Anthropology and Sociology at the Tribhuvan University in Kathmandu may be able provide some support in studying the issue and in preparing the paper. The outcome of the workshop on sanitation held on the national level, and the experiences of other projects will be useful in preparing the paper.
- 3.3.3 Regarding the subsidy issue, it might be useful for the Project to study the villagers' criteria of viewing poverty. The availability of food is used by the farmers as a basis in judging the family's financial situation. The landless farmers (nearly 25 %) who sharecrop for survival are the poorest of the poor, while farmers who produce more that what they need and sell the surplus are categorized as rich. It is logical that for the extreme poor the question of survival has more priority than the latrine construction programme. The Mission is in favour of subsidizing the latrine construction for that group of individuals.

11/93
incl. private
1 person (DWE)
1 person

- 3.3.4 The responsibility of the Sanitation Programme should be clearly entrusted to one person. The Mission recommends that the Health Advisor of The Project should be entrusted with the responsibility.
- 3.3.5 In general, sanitation seems to be a very sensitive issue; therefore, education on the subject at all levels is not stressed.

Subproject 4: Training and Human Resources Development

- 4.1 Staff resources for human resources development should be strengthened.
- 4.2 A comprehensive training programme is urgently needed for the Project. It should identify the immediate needs as well as the future directions. The possibilities of the training institutes in Nepal to provide the Project with adequate training have to be taken into account. As the number of schemes increases, the workload of training officers will be unbearable soon.
- 4.3 Additional resources are necessary in order to make a manpower development plan for DWSS.

Subproject 5: Community Involvement

- 5.1 The tasks and duties within PIU should be reorganized so that the responsibility of mobilizing communities and monitoring the progress of the Users' Committees would be given to a staff member or a definite group of persons.
- 5.2 Promotion of women's involvement, in particular, needs more attention.
- 5.3 The question of registration/non-registration of the Users' Committees should be carefully studied.

not a separate
unit 11/93

2 INTRODUCTION

2.1 Background

The Rural Water Supply and Sanitation Project in the Lumbini Zone of the Western Development Region in Nepal was commenced in January 1990 based on the development cooperation of His Majesty's Government of Nepal and the Government of Finland. The Lumbini Zone consists of six districts, having about 2 million rural population. According to the Project Document (June 1989), the Project consists of the following five subprojects:

1. District Water Supply and Development Plans (DWSDP's).
2. Physical Improvements to Increase Water Supply.
3. Socio-Cultural Studies, Hygiene Education and Sanitation.
4. Training and Human Resources Development.
5. Community Involvement.

2.2 Purpose and Implementation of the Review

The purpose of the midterm review was to assess the progress of project phase I (1990 - 1993) made against the targets set in the Project Document and to guide the remaining period of the project phase. The Midterm Review Mission was also expected to recommend the possibly of needed amendments to the Project Document. The Terms of Reference for the Mission is presented in Annex I.

The review task was given by FINNIDA to the following mission group of the Finnish National Board of Waters and Environment: Mr. Markku Mäkelä, Rural Water Supply Specialist specialized in management issues, Team leader (National Board of Waters and Environment), prof. Mikko A. Salo, Social Scientist specialized in cultural issues (University of Joensuu) and Ms. Tuulikki Hassinen-Ali-Azzani, Hygiene Education Specialist (University of Kuopio). His Majesty's Government of Nepal nominated to the Mission Mr. Rattan Kumar Siddhi, Special Officer and Mr. A. K. Ranjitkar, Senior Engineer, (Ministry of Housing and Physical Planning, MHPP, Water Supply and Sanitation division, DWSS). FINNIDA was nominated to the mission as Resource Persons Mr. Heikki Wihuri, FINNIDA Adviser on water supply and sanitation and Dr. Kailash N. Pyakuryal, Consultant, Social Scientist (Tribhuvan University, Kathmandu).

The Mission visited Nepal 9 - 24 November 1991 and stayed in the Lumbini Zone 11 - 17 November. The Mission met with Secretary of MHPP, Director General and Deputy Director General of DWSS, Chief of the Public Health Division of Ministry of Health, Regional Director and Deputy Regional Director of DWSS's Western Region and with many other relevant government officials, field staff, potential beneficiaries, representatives of UNICEF/Helvetas and World Bank, and officials of the Project Implementation Unit, PIU. Field visits were made to some of the water schemes. The itinerary of the Mission and persons met are presented in Annex II.

Before leaving Nepal, the Mission prepared a short summary of the preliminary findings and presented it to the Nepali authorities in the meetings at DWSS and MHPP.

The Mission thanks the Nepali Authorities and Nepali and Expatriate staff of the Project for their warm hospitality and good cooperation.

2.3 Structure of the Review Report

This mid term review concentrates on identifying and analysing strategic issues of the current work in order to support its continuing development and give perspectives for period afterwards.

All recommendations are listed in chapter 2. Chapter 4 includes the main findings and observations of the Mission. The five subprojects are considered in chapters 5 - 9 referring to the enclosed tables III.1 - III.5, where the indicators of success defined in the Project Document are evaluated.

3 GENERAL FINDINGS

The Mission found the Project extremely important in its attempt to improve the health of the rural population by providing safe drinking water facilities, promoting sanitation and conducting health education.

The Project Document has been found successful and no major changes are needed. Probably the biggest weakness is connected to the scattered structure of large subproject 3. Concerning the successful implementation, it would have been advisable to identify the Sanitation Programme as an independent subproject with a clear responsibility to a specific person.

3.1 Institutional Framework

According to the Project Document, the "... institutional framework for this project would be integrated into the DWSS regional and district organizations thereby strengthening this agency particularly with respect to health education, community participation methodologies and sanitation." Even if the projects activities involve the cooperation and assistance of other line organizations other than that of the DWSS, namely the Public Health Division of the MOH and the Department of Education of the MOEC, it was noticed that the Project had no formal link with these organisations. This may adversely effect the future transfer of those activities to the relevant line organisation. The Mission noted, however, that the present informal cooperation of these organisations with the PIU is good.

It was also noted that the Steering Committee is narrowly formed and under-represented as it consists of HMG representatives only of the Ministry of Housing and Physical Planning and not of the Ministry of Health and the Ministry of Education and Culture.

The "Project Cell" or "Project Implementation Unit" (PIU), as it is called, "would be headed up during this project by the Nepali Project Manager together with the Finnida Project Coordinator" as it is mentioned in the Project Document. However, in consequence of interferences associated with the changes in political system and administration in Nepal during the Projects earlier stages, the consultant had to take the main responsibility for the lead of Projects activities. Now the resources of the HMG are improved and no considerable administrative constraints exist within PIU, even if the status of the highly motivated and active Project Manager is still indefinite.

The PIU staff was found to be highly motivated to work together as a team, but it was found that also the division of other responsibilities among the PIU was not clearly defined. For example, leading of subproject 2 (Physical Improvement to Increase Water Supply) had not been assigned to a particular person, even if the transition of the responsibilities were under process. Job descriptions of PIU and DWSSO staff are presented in annex IV.

3.2 Strategy and Progress

The project had not fully organised its work according to the plan presented in the Project Document of June 1989. It had omitted subproject 5 (Community Involvement) and treated community involvement rather as a strategy than an independent subproject. It seems that this choice has resulted in a wider use of community involvement than originally planned but it has also delayed formalization of water users' committees. It is also possible that community involvement will not get the emphasis it could get as an independent subproject. So far, however, community involvement had been well initiated and potential beneficiaries seemed to be willing to operate and maintain the schemes.

The Mission noticed that the Project has preferred profitably only locally available materials and devices which have an adequate quality standard and guaranteed spare part supply.

The Project does not seem to consider ethnic diversity within the project area. It has similar training programs and teaching methods to various ethnic groups. However, ethnic groups may differ in their value systems and cultural practices which may influence in water consumption and sanitary practices.

It was also noticed that measures which would have been needed to increase women's participation beyond the minimum requirements set by the Decentralisation Act (i.e. two women per committee) had not been taken.

The implementation of the Project is delayed for several reasons, as development of new working methods mainly connected with community participation, over-crowding of PIU, resuffling and deficiencies in DWSOs' staff. The Mission believes, however, that the Project will very soon attain the take-off stage where the benefits of the schemes will be experienced and valued by the beneficiaries.

The sanitation component has been neglected almost completely, and obviously the over-crowded PIU can not perform this task. Only one school latrine has been constructed until now. It appeared that the PIU has not yet decided on what its policy should be in future. Opinions concerning the subsidies are also divided. Government officials seem to favor for partial funding to a family-latrine construction program, whereas, the Technical Assistance consultants do not agree.

The Mission consider alarming the minor progress in health education. Without change in the health and sanitation behaviour of the beneficiaries, it is not possible to reach the basic goal of the Project, sufficient and safe water supply.

4 DISTRICT WATER SUPPLY DEVELOPMENT PLANS

4.1 Objectives and Strategies

District water supply development plan (DWSDP) is a tool for long term planning and programming of improved and sustainable water supply in the district. According to the development objectives given in the Project Document, the task of this subproject is to prepare:

"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."

The implementation strategy of this subproject was not defined in the Project Document except that the work was planned to be carried out in two districts simultaneously.

4.2 Implementation

The implementation is delayed considerably. For the present, no DWSDP is available. The progress of the subproject has been the following:

- * Identification and analysis of ground water resources in the three Terai districts, Nawalparasi, Rupandehi, and Kapilbastu, has been completed in April 1991 by Cemat Consultants (Pvt.) Ltd as a sub-consultant.
- * Collection of data on population, socio-economic conditions and present water use in the clusters, existing schemes, schemes under construction and potential water sources was commenced in Arghakhanchi in November 1991.
- * Design guidelines developed by modifying CWSS guidelines for subproject 2 has been used in design of the schemes.
- * Construction technologies for gravity schemes and hand pump wells are under continuous development.
- * The outline of DWSDP has been prepared.

Collection of data on ground water resources was carried out by a sub-consultant simultaneously in the three Terai districts, partly in connection with the Ground Water Irrigation Project. The complete data collection was started only in one Hill district, Arghakhanchi in order to develop first the final data forms and to train the consultant's enumerators. The collection is carried out by the consultant within PIU under the supervision of district engineers. For the present, 15 enumerators have been trained. The figure includes three overseers collecting data on existing water supply schemes. The same enumerators will collect data in all districts. Data collection covers all clusters. The data forms were still unfinished.

The review of the existing situation based on the data collected and preparing of DWSDP are performed by PIU under supervision of DWSS. It is estimated that the preparation of the first DWSDP (in Arghakhanchi) could be finished at the earliest in April 1992.

In addition to the activities stated in the Project Document the recommendations for the criteria categorizing the present water supply coverage is included in the objectives of the DWSDP.

4.3 Constraints

The basic reason for the delay is the slow commencement of data collection. In order to get reliable and sufficient data, enumerators had to be trained and data forms developed. The progress depends also on the implementation order of Subproject 2, because the same data is primarily needed for the feasibility studies of the proposed water supply schemes.

The present activities of PIU and DWSO's focused to this subproject are insufficient to complete this subproject by the end of 1992. High level technical people and more enumerators, overseers and technicians are needed.

No sanitation experts have been available, which is one reason for the modest role of Project's sanitation component.

Manpower shortage in the District Offices should be possible to solve by allotting more people for RWSSP tasks, e.g. by increasing the flexibility of manpower movement between the districts. DWSS has given high priority to supplying necessary manpower into the DWSO's and activities could be increased within the limits of the Project's present budget.

4.4 Recommendations

The staff resources available for DWSDP preparation should be increased, mainly by training more enumerators for data collection and by nominating more overseers and technicians for RWSSP tasks in DWSO's and by taking into account the possibilities of manpower revolving between the districts. The possibilities of PIU to assist DWSO's in review of scheme development plans and in other DWSDP preparation activities could also be improved, e.g. by employing short term Nepalese consultants.

Increasing of sanitation expertise resources is particularly important, even if the objectives for this subproject given in the Project Document do not include the sanitation component. Also the following components need more emphasis:

- * socio-economic factors,
- * hydrogeological and hydrological surveys,
- * physical-chemical water quality monitoring,
- * EIA component,
- * protection measures against pollution of water sources,
- * development of a centralized data system.

A monitoring and reporting system concerning water supply should be planned and taken into regular use.

Water users' guidelines should be prepared.

5 PHYSICAL IMPROVEMENTS TO INCREASE WATER SUPPLY

5.1 Objectives and Strategies

The objective of this subproject set by the Project Document is:

"Implementation of appropriate improvements to water supply facilities to enable 100,000 (should be 175,000) 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 DWSS 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."

Further, according to the Project Document:

"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."

5.2 Implementation

By the end of October 1991, the nominated schemes covered 180,000 people. The completed prefeasibility studies covered 148,000 and feasibility studies 110,000 people. Construction on eleven new and two rehabilitation schemes covering 24,000 people was started. The schemes under construction consisted of one improved spring scheme covering 160 people, five gravity schemes covering 7,200 people and seven hand pump schemes covering 16,300 people. For the present, the construction of hand pump wells in one ward was completed. These serve 1,150 people.

The implementation of schemes was commenced simultaneously in several districts in order to optimize the manpower utilization. This also improves the possibilities of designers to oversee the execution of their own plans. However, the implementation of feasibility studies and construction works were started too late, and it seems that the target coverage cannot be achieved by the end of 1993.

The users, Users' Committee and Village Maintenance Workers receive training in maintenance and operation of the water supply schemes.

Community involvement strategy of the RWSSP is based on a step-by-step programme, which guarantees the communities involvement in all stages of the scheme implementation: a) Field information is gathered by and in cooperation with the users. b) The design is not allowed to be processed by the engineers before being approved by users in each cluster. c) Official agreement is made with the Users' Committee before construction. d) The users provide unskilled manpower and stones, gravel and other soil material for construction and, together with DWSO overseer, supervision of construction work and material usage. e) Management of operation and maintenance is entirely the responsibility of the users with technical advise of DWSO.

All schemes, requested by the users, will be studied. The following procedure has been adopted:

1. Request from the users
 2. Pre-feasibility study
 3. Feasibility study
(technical/social/economic)
 4. Lay-out of the system
 5. Users' approval
- | | |
|---|---------------------------------------|
| 6.1 Assesment of the health status | 6.3 Technical survey |
| 6.2 Training of the Health Post
staff and Community Health
Volunteers | 6.4 Detailed design |
| | 6.5 Bill of quantities, cost estimate |
7. Final approval of the users and DWSO
 8. Construction
 9. O&M

DWSO take the responsibility for the design and construction of the schemes. The overall responsibility for the schemes will be on the Regional DWSS Director.

PIU provides the manufactured construction materials and tools for the schemes and technical advise for DWSO in design and construction supervision. PIU has also coordinated the use of DWSO's technical manpower for scheme implementation in the project area.

The Project has successfully preferred simple constructions and only locally available materials and devices having an adequate quality standard and spare part supply in the local market. The main scheme types are gravity flow systems in Hill area and hand pump wells in Terai. Special attention has been paid to the reliability and other O&M factors. However, development of construction methods, system applications and devices, for example deep-set and shallow well hand pumps will still require intensive survey.

5.3 Constraints

The new method of work (community participation) and the resuffling of DWSO staff has resulted in a great need for training. A larger number of technical staff is required in order to make up the deficit, resulting from the intensive training programme. Poor transport possibilities during the rainy season have prevented all construction works even in the Terai districts. There have also been problems with voluntary labour contributions during the harvest time.

The hygienic quality of the old water supply sources is poor as a consequence of insufficient water protection measures. About 80 % of samples from private hand pump wells and about 70 % of gravity scheme samples analysed by PIU have been more or less polluted.

Because of the small number of completed construction works it is difficult to appraise the quality level of schemes. It is evident, however, that the constructions of new gravity schemes still offer several possibilities to contamination caused by polluted surface water penetrating to water supply systems. The danger of such contamination could be eliminated in most cases by proper design and construction. Also the strength of structures is questionable. This concerns flood and erosion protection especially.

The sanitation aspect has been almost completely neglected in connection with the improvement of water supply which is in conflict with the basic objectives of the Project.

5.4 Recommendations

The tasks within PIU should be reorganized so that the responsibility for the progress of this subproject would be given to a definite person.

In a consequence of DWSO's increased facilities the overall coordination of schemes would be gradually concentrated from PIU to DWSO's in order to improve the districts' possibilities to take care of the community based implementation of the schemes and optimum usage of manpower and other resources. Correspondingly, the supportive role of PIU should be strengthened.

The implementation of schemes and supervision could also be strengthened by improving the flexibility of manpower revolving between the DWSO's and by training and engaging more overseers and technicians to the offices. Every DWSO should have a sanitation expert responsible for the coordination of sanitation aspects.

The engineering capacity of PIU should be increased temporarily in order to improve the possibilities to assist DWSO to control and optimize the quality level, especially protection measures against contamination and structural strength of the schemes.

Particular importance should be given by PIU to train the DWSO's maintenance unit personnel to work with communities. Stress should be laid also on the final inspection of completed schemes and division of the maintenance responsibilities before assignment of the schemes to users.

6 SOCIO-CULTURAL STUDIES, HYGIENE EDUCATION AND SANITATION PROGRAMME

6.1 SOCIO-CULTURAL STUDIES

6.11 Objectives and Strategies

The development objective given to the subproject 3, Socio-Cultural Studies, Hygiene Education and Sanitation Program is a combination of heterogeneous and difficult tasks, namely,

"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 and health posts, panchayat offices 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."¹⁾

The Project Document leaves immediate objectives and activities to the consultant to define when he is preparing his work plan. The Document does not identify the theoretical framework in which "all key socio-cultural and economic characteristics influencing water supply systems, water usage and sanitation habits" are expected to be identified. It seems, however, that a theory of innovation diffusion has lead the writers to recommend a latrine building programme which should start from schools and other public buildings.

6.12 Implementation

It is not quite clear what is meant by "socio-cultural studies" in the Project Document. The Chart No. 4 refers to the Subproject No 3 as "Socio-Cultural Studies, Hygiene Education and Sanitation Programme", but on pages 12 and 25, the subproject is entitled "Socio-economic Studies, Hygiene Education and Sanitation Programmes".

Furthermore, it reads on page 25, as follows:

"... 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."

If the citation above means that the Project is expected to produce a larger study which should cover the whole Project area, an inception study on health and sanitation in the project area has been written by Dr. Vijaya L. Shrestha, the PIU Health Adviser, in December 1989.²⁾

¹⁾ Project Document, p. 12.

²⁾ The report is a well organized and informative paper on the major demographic, ethnological, and economic features of the people who live in the Project area.

On the other hand, a continuous series of village level socio-economic and cultural surveys is carried out as a part of prefeasibility and feasibility studies.

The Rapid Assessment Procedure (RAP) has been chosen to be one of the main instruments for collecting socio-cultural data.

On the basis of pre-feasibility data, a "situation study report" is written for each potential scheme area. As it was shown to the Mission, these reports provide information on

- * the settlement pattern, type of houses, public facilities;
- * sanitation situation, prevalent diseases and treatment practices;
- * history of the drinking water system, present supply and quality of drinking water;
- * other community projects and the estimated community willingness to take responsibility of a new water supply system.

The feasibility study goes deeper into detail. The "socio-economic feasibility survey form", as it was introduced to the Mission, covers

- * social psychological topics such as the gender, ethnicity, cast, age and profession of the people who are most active at the group meetings;
- * economy of the scheme by providing an estimation of resources such as the average farm-size and supply and demand of labour force;
- * socio-political topics by describing historical developments of earlier community participated projects and giving examples of developmental and income generation activities the community has participated in;
- * health and sanitation problems such as observed or reported diseases and the tidiness of village surroundings.

The Project has also found participatory mapping techniques, useful methods to get information on socio-cultural structure, demographic characteristics and the health situation of the villages.

By the end of the review period, 73 prefeasibility and 53 feasibility studies had been made in 6 districts. Apparently, the Project has been quite effective in these activities and a lot of interesting data is accumulating in its archives.

The Mission was informed that in assessing changes in health behaviour, the following criteria will be used:

- * increase in water consumption;
- * sustainability of the Community Health Volunteers' programme;
- * improvements in environmental hygiene and sanitation;
- * number of new latrines;
- * attendance to the Health Posts.

6.13 Constraints

The Rapid Assessment Procedure is an appropriate method when collecting aggregate and community level data. In its present form it does not yield much data in terms of family level information about resources, attitudes and willingness for changes in health behavior or sanitation conditions. It seems that much is not known about the differences in incomes among the families and their willingness to pay for sanitation facilities. As long as The Mission knows, the PIU has no detailed information on families under the absolute poverty line and not able, without a subsidy, to afford to buy materials needed for a latrine. Seemingly, it is also not known in each community, which families for some other practical or social reasons cannot nor do not want to make a latrine or change their home and its surrounding. Such issues, The Mission thinks, are crucial when hygiene education and sanitation programmes are planned and implemented.

A description of the casts and ethnic structure of a community is part of each prefeasibility and feasibility study. It is not quite clear to The Mission, how this information is used in practice. There seemed to be no special approach designed, let us say, for a community dominated by the Tharu, or another, specific for the Hill people's villages only.

General status of environmental hygiene of the villages is assessed in connection with and as a part of the feasibility studies. The schools and health posts have been assessed in the same way. Registration of diseases is, however, not reliable. As a part of their training programme, Paramedics who work on the health posts are taught some simple methods of collecting health data among the villagers. The data they can collect is not sufficient but only for getting a very general idea of the health situation in the villages.

It is somewhat doubtful whether a simple innovation diffusion theory would provide practical guidelines for sanitation promotion policies in socially and culturally heterogeneous communities. In sociology, innovation diffusion theories are mostly used to explain technological changes in homogenous societies (such as, the farmers of the mid-western states of North-America), where, as it is assumed, cultural ideals, opportunities, incentives and rewards are approximately same to everyone. A much more complicated theory is probably needed in cases where the process of innovation diffusion is tried to get started in a community which is made up of many cultural and social enclosures such as casts, different religions and ethnic groups.

6.14 Recommendations

As far as the indicators of success in influencing behavioral changes are concerned, the system for project monitoring needs further development.

In order to utilize the data collected, theoretical work, analyses and computerized tabulations are necessary. As the number of schemes increases, the workload will soon exceed the limited staff resources. The project is suggested to initiate discussions with the Department of Sociology and Anthropology of the Tribhuvan University in Kathmandu. Also one Research Assistant should be recruited.

6.2 HEALTH EDUCATION

6.21 Objectives and Strategies

According to the Project Document, The Health Education component shall be based on the output from the socio-cultural and economic study. Support to the existing education programmes by providing health education material is also pointed out. Increasing awareness of the people concerning the connection between water, hygiene, sanitation and health is stated as an objective of this component.

6.22 Implementation

Resources and organization

A Health Advisor and two Training Officers are employed by the Consultant to carry out the Health Education Programme. The presence of a Government Health Officer in the Project remains unclear to The Mission.

The Project has attempted to utilize the services of the Government's health and education sectors. Within the MOH, all health education and sanitation promotion is undertaken by the health post staff, comprising village health workers (VHWs), community health volunteers (CHVs) and supervisory staff. There are nine to twelve VHW's attached to each Health Post.

About 30 per cent of the village population are children enrolled in school. Health is a compulsory subject from grades 1st through 8th but most of the teachers are not qualified to teach this subject.

Coverage

Health education activities are focused on the areas where water supply schemes are to be constructed; however, health education coverage is much larger than the water supply activity. For example, there are nine wards within a Village Development Committee and the water supply scheme might cover only a few of them. Health education activities, however, may cover all the wards.

Since safe water is related to sanitation and hygiene, it seems logical that the concentration of the Community Health Volunteer (CHV) Programme and school health activities are limited to water supply areas only.

Target groups and content of training.

The focus of Health Education is a big part of the trainers' training. Training curriculum for various target groups has been developed by utilizing the data collected from the socio-economic study. Pretests and posttests are also carried out. The Health Post staff, Village Health Workers, school teachers and Community Health Volunteers are the major target groups in Health Education training.

The following progress has been made so far:

Presently, forty-five school teachers have been trained. The Project's target is to train three teachers for each approved scheme area, making the total target of 240 trained teachers. A training programme lasting seven days is focused on common health problems among school age children, improving teachers' knowledge and skills in conducting health education, along with providing basic first-aid treatment to students.

Fourty-four Paramedics, Health Assistants, Auxiliary Nurses, Midwives and sixty-eight Village Health Workers out of the targeted 216 were trained. A five to six day training programme is focused on common health problems in the area and health data collection and its use in Health Education. This is related to The Project's aim to establish the data base at the health post level.

The Project is also conducting training programmes for Community Health Volunteers (CHVs). Actually CHVs' training is one of the working policies adopted by the Government in the implementation of primary health service programmes. Unfortunately, financial constraints have affected the implementation.

A one-week training course for CHVs concentrates on common health problems, hygiene, sanitation, water use, food and nutrition, mother and child care and first-aid treatment. An average of six CHVs in each approved scheme are to be trained, thus making the total number 480. Only forty-eight CHVs have been trained so far. The health post staff and the District Health Office staff have been involved in planning and conducting the training programmes. VHWs should supervise the CHVs work but this linkage seem to be vague.

The selection of CHVs for training is done by the users' committee. Before selection, the community is informed about the selection criteria. Most of CHVs are matured, married women who are living in the village and are willing to serve people voluntarily. In the Hill Region, the aim is to have one CHV per 15-20 houses and in the Terai Area, one volunteer per 50-60 houses. The CHVs do not make regular visits to the houses, but provide their services at home. A CHV is expected to disseminate health knowledge in the community and to provide first-aid care. Moreover, CHV is expected to set an example for the villagers by living in a clean environment, possessing a latrine, etc.

The influence of CHVs in the community is too early to assess. Their influence in their family circle was demonstrated by a clean environment. Some of them have convinced their neighbours to construct latrines. But a follow-up is needed to see, how the community supports this activity. Also, a linkage with the health organization is essential in order to sustain the activity.

Assistance provided by the Project

There are fifty-six health posts in the project area. Two of them were visited by the Mission. They were both inadequately equipped. The staff was trained by the Project. According to the information given, the annual budget of the Ministry of Health for a health post is 25,000 Rs. It is now proposed to be increased up to 50,000 Rs. Drugs distributed to the health posts are supplied twice a year.

Daily attendance to the Health Posts visited by The Mission has been 30–60 visits. Half of the patients, especially children under five years, are suffering from water-borne diseases.

The Project has carried out the assessment of twenty-seven health posts by collecting comprehensive data on existing facilities, activities, attendance, etc. Health Education teaching material is part of the assistance provided by the Project; however, no health education teaching material provided by the Project was available from the two of the health posts visited by The Mission. The other health post visited had received from The Project some of the basic items for the MCH clinic.

In addition to the health education teaching material, health posts, schools and CHVs are also provided with a first-aid kit including some basic medicines and material for first-aid care. This is also a part of the training programmes of all target groups. It is the duty of the users' committee to replenish it on a revolving fund basis.

Training of the health staff has actually been the first and correct start in the Health Education programme. Previously, the health staff often had the least concern regarding hygiene and sanitation. So far the Project has concentrated on trainers' training; however, appropriate and organized health education has not yet taken place at the village level.

According to the Project Plan, health posts in the scheme related areas are to be covered by the water supply and sanitation programme. The Project's policy is to provide those facilities if the health post is operating in a building of its own. One health post has been provided with a safe water supply so far.

6.23 Constraints

The Ministry of Health is not officially involved with the Project. In this respect, the Project Document Plan is deficient.

However, the Project has done its best to proceed with the Health Education Programme. In the present situation, the cooperation with the health organization is mainly built on personal contacts and informal communication with the MOH staff. Thus, the success greatly depends on the goodwill of the persons concerned. Consequently, this situation has limited The Project's role in implementing Health Education activities. It has also been affected in obtaining desired cooperation of the MOH staff.

The missing official linkage with the MOH makes it difficult to integrate the Health Education Programme within the MOH organization. This will seriously impede the sustainability of the project's achievements.

Turnover of the health staff, assigned in the Project area and trained by the Project has been one of the constraints the Project has faced. As the formal linkage with the Ministry of Health is non-existent, there has not been ways and means to influence on this matter.

Taking into consideration the following matters:

- project area (6 districts)
- training needs on hygiene/sanitation
- strength/resources of the health organization
- present progress on sanitation programme
- number of the communities to be assisted by the RWSSP
- follow-up of the activities

with the existing staff resources of the Project (3 persons), it is more than clear, that the workload has exceeded the staff resources available.

6.24 Recommendations

The competent authorities should seriously consider the official involvement of the Ministry of Health with the Project. It is recommended to have a representative of the Ministry of Health in the Steering Committee. The same person should coordinate the Project related activities in the Ministry of Health. Likewise, the representation of the Ministry of Education and Culture in the Steering Committee would be advisable.

In the discussions held with the Health Authorities at district and ministry levels a need for building up a formal linkage with the Project, was strongly pointed out. Necessary coordination with the health related sectors such as education, drinking water and local development are also documented in the National Health Policy of His Majesty's Government of Nepal, 1991.

It is recommended to strengthen the existing staff resources on Health Education by increasing the present number of Health Training Officers from two to six so that there would be one Health Training Officer per district. These officers should work closely with their District Health Office and the health post staff in the area. This would improve the linkage between the Project and the District Health Offices, promote the institutional development and increase the output of health education. Further on, short term expatriate Consultance Support might be advisable to strengthen the Health Education and Sanitation Programme.

Along with the trainers' training, necessary support should be provided to promote village level health education programmes and to enhance people's awareness on hygiene/sanitation. The following proposals may be considered:

- * Establishment of a mobile audio-visual unit with necessary material. The Mission was informed that this method has been successfully used in the Agriculture sector.
- * The utilization of socio-cultural events, such as youth clubs and religious occasions to disseminate health messages to the community.
- * More emphasis on the development and purchasing of health educational material along with the use of the local talent, such as artists, singers, poem writers and painters should be encouraged.
- * Latrine construction to be commenced along with strong Health Education input.
- * The school health education programme should be given high priority.

- * Involvement of school children by cleaning compounds, sport activities and competition on poster drawing and essay writing, etc. to be a part of the programme.
- * The Project to provide the necessary raw material for these activities.

The extension of the Health Education Programme as presented in the *Draft Proposal for Extension of the Health Education and Sanitation Programme within the Rural Water Supply and Sanitation Project* is premature at this stage. Instead of expanding the Programme, effective measures should be taken to intensify the ongoing in order to improve sanitation and environmental hygiene in the Project area. Some of the proposals, such as official involvement of the Ministry of Health and full engagement of one person from the District Health Office and District Education Office, are, however, strongly recommended.

In order to exchange the experiences on Health Education and Sanitation Programmes within the region, it would be worthwhile for the Project team to visit the FINNIDA supported water supply and sanitation project in Sri-Lanka.

6.3 SANITATION PROGRAMME

6.31 Objective and Strategies

The Sanitation Programme strategy is to commence the implementation from the schools, public building and other location selected by the community. An institutional sanitation programme combined with strong hygiene education and community involvement is expected to create awareness and a demand for private household latrines. Self-reliance in purchasing latrine materials, low-cost design standards and avoiding subsidies are stressed in the Project Document Plan.

6.32 Implementation

Implementation of the Sanitation Programme has been delayed. The project has not been able to finalize its policy and strategy on this issue. One public latrine has been constructed in a school, and some Community Health Volunteers have influenced their neighbours to construct latrines also. In fact, only a handful of households have put up a latrine by their own initiative.

6.33 Constraints

In the Project Document Plan, three large entities exist. Socio-Cultural Studies, Hygiene Education and a Sanitation Programme form one of the subprojects. For a person in charge it is rather difficult to pay equal attention to all of these, as each is quite a large component and needs a lot of effort; especially in the beginning of a new project. Therefore, it would have been advisable to identify the sanitation programme as an independent subproject with a clear responsibility to a specific person. This may have influenced the implementation of the programme more progressively.

Responsibility for the Sanitation Programme is not clearly entrusted to any specific person but is divided between the technical side and the educational side.

The Government's policy on sanitation has not yet been defined which may partly delay the planning process. Moreover, the responsibility between the Ministries of Housing and Physical Planning, Health, Education and Culture is not clear either.

The Mission was told that sanitation is a new matter for DWSS and it has been difficult to connect it with a water supply programme. Lack of technical manpower in the Project has also affected the progress and probably the technical staff responsible because they tend to concentrate more on water supply.

The Mission was repeatedly told that hygiene education alone is not sufficient to convince people to change their habits and build latrines. The question of subsidies was strongly pointed out in the discussions with the Nepali authorities and the Project Staff. The Government officials seem to favour a partial funding of a family latrine construction programme; however, the Technical Assistance Staff do not agree.

6.34 Recommendations

Regarding the present situation and progress of the Sanitation Programme a thorough review of the Project's plan, objectives and strategies is needed and should be the first and most important task in the Project's operational plan for 1992. A position paper on the subject should be completed as soon as possible. The preparation of the position paper should be carried out by the Project Staff, making use of short term local advisors where required.

The poverty level and community affordability should be studied in preparing the paper. The Department of Anthropology and Sociology at the Tribhuvan University in Kathmandu may be able to provide some support in studying the issue and in preparing the paper. The outcome of the workshop on sanitation held on the national level, and the experiences of other projects will be useful in preparing the paper.

Regarding the subsidy issue, it might be useful for the Project to study the villagers' criteria of viewing poverty. The availability of food is used by the farmers as a basis in judging the family's financial situation. The landless farmers (nearly 25 %) who sharecrop for survival are the poorest of the poor, while farmers who produce more than what they need and sell the surplus are categorized as rich. It is logical that for the extreme poor the question of survival has more priority than the latrine construction programme. The Mission is in favour of subsidizing the latrine construction for that group of individuals.

The responsibility of the Sanitation Programme should be clearly entrusted to one person. The Mission recommends that the Health Advisor of The Project should be entrusted with the responsibility.

In general, sanitation seems to be a very sensitive issue; therefore, education on the subject at all levels is not stressed.

7 TRAINING AND HUMAN RESOURCES DEVELOPMENT

7.1 Objectives and Strategies

According to the Project Document, the main development objective of the subproject 4, Training human Resources Development is to develop...

"... relevant knowledge, skills and expertise within the 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..."

This is expected to be achieved ...

"... through practical on the job training, refresher courses, seminars and training in Nepal and abroad..."

It is also mentioned that another objective is ...

"... 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..."¹⁾

The main tasks are defined as²⁾

- * to develop regular operation and maintenance procedures;
- * to prepare guideline manuals
- * to arrange regular training courses and seminars;
- * to promote involvement of women;
- * to identify target groups and to assess their training needs.

It is evident that a community based approach should be applied in all training. Training should also be compatible with the Nepali education system. According to the Project Document, the PIU is expected to make a comprehensive training programme and a manpower development plan for DWSS. There should also be training in new management practices.

7.2 Implementation

Three of the Training Officers are working on the Human Resources Development, two on health education and three on water supply scheme training.

The Mission was informed that skills in community mobilization and labour management have become more required since the recent establishment of a new government policy according to which the construction labour should be provided by the community. The Project has therefore tried to see that training of overseers and technicians would make them increasingly capable to work with communities.

Some ten training courses and seminars have been carried out so far. Twenty-six overseers and other senior DWSS staff have participated in various training schemes for the Project.

¹⁾ Project Document p. 12

²⁾ Project Document p. 26

Fifty-eight technicians are trained by UNICEF/Helvetas Training Centre in Pokhara. After a five-year long "sandwich-training"¹⁾ they will be qualified Water Supply and Sanitation Technicians. No estimation of the drop-out was available.

By November 15th, 1991, no Village Maintenance Workers for gravity schemes and only four Village Well Maintenance Workers had been trained. The targets for the whole Project period are forty trained gravity scheme maintenance workers and two hundred trained well maintenance workers. Furthermore, seventy-six Users' Committee members have been trained. The target for the whole Project period is quite ambitious, namely 480 trained committee members.

There were very few items used for training material to show to the Mission. Some technical manuals had been prepared.

7.3 Constraints

The Mission was not given a good explanation as to why no comprehensive training programme has been prepared. It seems that training has been planned *ad hoc* or for one year at a time.

No individuals are selected and sent on approved study or courses abroad. No program for training abroad has been prepared. Special management training has not been arranged either. There is no training specially for women not directly involved in health education and sanitation.

7.4 Recommendations

Staff resources for human resources development should be strengthened.

A comprehensive training programme is urgently needed for the Project. It should identify the immediate needs as well as the future directions. The possibilities of the training institutes in Nepal to provide the Project with adequate training have to be taken into account. As the number of schemes increases, the workload of training officers will be unbearable soon.

Additional resources are necessary in order to make a manpower development plan for DWSS.

¹⁾ As it was told to the Mission, there are five separate training sessions. The time between them is expected to be used in practical on-job training in field and construction work.

8 COMMUNITY INVOLVEMENT

8.1 Objectives and Strategies

The objective of the Community Involvement, is to achieve a high level of ...
 "... active involvement of local communities in all stages of planning, designing, constructing, operating, maintaining and extending/upgrading the water supply system serving their needs..".

Community Involvement is considered important also in ...
 "...training in preventive maintenance activities, necessary to ensure the continuity and extension of such supplies in the future..." as well as in ...
 "... the encouragement/development of increased economic activities and public health education in order to stimulate economic and public health benefits in the local community."¹⁾

Establishing and assisting local committees are the main forms of activities. In fact, Users' Committees are given a very central role in the strategy outlined in the Project Document. Much of the decision making, information spreading and planning is expected to be started and carried out by them and with them.

8.2 Implementation

The PIU has adopted a view according to which Community Involvement should not be a separate subproject but an approach or principle which should be followed in all activities of the project. Community Involvement is seen by the PIU as a way of doing rather than as a goal itself.

In a country which has had many decades an administrative system of local councils, the panchayats, this idea is hardly an innovation *sui generis*. In fact, it seems to be pretty well in line with the directives for construction and management of water supply projects the Nepali Ministry of Housing and Physical Planning gave recently.²⁾

Users' Committees have been founded. In its step-by-step procedure, the Project considers the foundation of a Users' Committee as a precondition for a water supply scheme nomination. The planning process as it has been designed and applied by the Project makes it possible, and in fact very probable, that the needs of the community will be met. Users' and beneficiaries obligations have been identified and directives are under preparation.

The Project's policy is to leave the selection of the Users' Committee members to the community itself. The Training Officers give the community only the suggestion that there should be at least two women members in a committee.

The discussions held with the villagers gave the Mission the impression that there is an increased awareness on the benefits of safe water.

¹⁾ Project Document, p. 12.

²⁾ MHPP/DWSS Water Supply Implementation Guide--Lines (2047, December 1990 - January 1991), English translation.

By Nov. 15th, 1991, 76 Users' Committee members were trained in basics of management, operation and maintenance of a water supply scheme. How well water systems are operated and maintained cannot be evaluated yet, because there is no water scheme completed as of now. Users' Committee members as well as Community Health Volunteers (CHV) and school teachers are given training in hygiene and health education by The Project. CHV's are selected by the Users' Committees. Users' Committees are also expected to collect the money for replenishing First Aid Kits the Project has given to the CHV's.

It seems that the Project has done very much to see that materials, personnel and spare parts used in maintenance and repair of the water supply systems would be made locally available. Nevertheless, by Nov. 15th, 1991, no village maintenance workers for gravity schemes and only four well maintenance workers had been trained. The target is that there should be 40 trained gravity scheme maintenance workers and 200 trained well maintenance workers.

Whether there are improvements in hygienic habits of the villager, cannot be assessed yet because the sanitation programme is badly delayed. It is obvious, however, that environmental hygiene needs more attention.

8.3 Constraints

When community involvement is not treated as a separate and independent subproject, there is a risk that some issues will not be given enough attention to. Communities may be left alone too long to solve their problems themselves without impartial and educated advice and aid which the Project should provide. The progress and activities of the Users' Committees may also be left without a systematic follow-up and monitoring. It seems that the Project had not discussed the question of whether the users' committees should be registered or not.

Women are invited to all group meetings. Nevertheless, women are under-represented in all Users' Committees and it is likely that their needs are not always taken into account to a satisfactory degree.

To what degree women attend the meetings and participate in discussions varies from one area to another. For example, Hill women, the Mission was told, tend to participate in discussions more actively than Terai women. The Project did not give much attention to such differences. All schemes and ethnic groups were treated equally.

8.4 Recommendations

The tasks and duties within PIU should be re-estimated so that the responsibility of mobilizing communities and monitoring the progress of the Users' Committees would be given to a staff member or a definite group of persons.

Promotion of women's involvement, in particular, needs more attention.

The question of registration/non-registration of the Users' Committees should be carefully studied.

TERMS OF REFERENCE

MINISTRY FOR FOREIGN AFFAIRS OF FINLAND
FINNISH INTERNATIONAL DEVELOPMENT AGENCY
Division for Sectoral Services
26.9.1991/HW

**RURAL WATER SUPPLY AND SANITATION PROJECT
IN WESTERN DEVELOPMENT REGION, NEPAL
TERMS OF REFERENCE FOR THE MID TERM REVIEW MISSION,
NOVEMBER 1991**

1. Background

Within the framework of development co-operation between His Majesty's Government of Nepal and the Government of Finland a rural water supply and sanitation project was started in January 1990 in the Lumbini zone of the Western Development Region. The first half of the project phase have now passed and the present situation will be reviewed in order to direct the remaining period of the phase.

2. Purpose of the mission

The purpose of the mission is to assess the progress of the project versus the Project Document and to guide the remaining period of the project phase. Special emphasis shall be given to the following aspects:

- assessing the role/status of Project Implementation Unit (PIU) in execution of the project activities
- reviewing personnel capacity attached to the PIU
- assessing distribution of duties between the PIU and the District Engineers' Offices
- assessing distribution and definition of duties and responsibilities in the PIU
- assessing the mode and stage of organizing the project activities generally
- assessing the approach of the project in relation to the objective of sustainability, specially in operation and maintenance of the facilities
- assessing the status of sanitation and hygiene education components of the project and the capacity of the national personnel of the relevant organizations in the project area in these issues
- assessing the type/approach of the project in relation to institution building
- assessing the relevance of the existing project document and budget proposal as well as the relevance of projected physical targets on the basis of the findings.

Based on the findings the mission is expected to recommend amendments, if needed to the Project Document.

3. Composition of the mission

The FINNIDA mission consists of the following persons:

Mr. Markku Mäkelä, Rural Water Supply Specialist
specialized in management issues, team leader

Prof. Mikko A. Salo, Social Scientist specialized in
cultural issues

Ms. Tuulikki Hassinen-Ali-Azzani, Hygiene Education
Specialist

Mr. Heikki Wihuri, FINNIDA adviser on Water Supply
and Sanitation, resource person

Dr. Kailash N. Pyakuryal, consultant, Social Scientist,
resource person

His Majesty's Government of Nepal is invited to nominate its representative(s) to the mission.

4. Timetable and reporting

The mission shall carry out its visit to Nepal between 11 - 24 November 1991. A draft report shall be submitted to FINNIDA for comments before 31. December 1991. FINNIDA will send the draft to the competent authorities of HMG of Nepal. The final report shall be submitted to FINNIDA two weeks after receiving the comments of both the competent authorities, FINNIDA and HMG.

5. Authorization

Although the mission is entitled to discuss with the authorities concerned any matters relevant to its assignment, it is not authorized to make any commitments on behalf of the Government of Finland.

Helsinki, October 24, 1991

Pertti Majanen
Director
Division for Asia and Latin America

ITINERARY AND PERSONS MET**1 Itinerary****1.1 Meetings in Kathmandu**

10, 11 November	Ministry of Housing and Physical Planning (MHPP)
11 November	Department of Water Supply and Sewerage (DWSS)
20 November	Ministry of Health
21 November	MHPP
22 November	Debriefings at the DWSS and MHPP

1.2 Programme at the Project Area

12 November	Butwal: Meeting with the PIU staff.
13 November	Saljhandi: Visit to gravity water supply scheme; discussion with the Users' Committee Members. Mahendrakot: Visit to Health Post, discussion with the staff; meeting with Community Health Volunteers. Visit to village school; discussion with the teachers.
14 November	Bakderia: Meeting with the Users' Committee Members. Observations on sanitation and hand-pump well programme. Motipur: Visit to Health Post; discussion with the staff. Butwal: Interviews at the PIU office.
15 November	Butwal: Interviews of District Engineers. Final Meeting with the PIU staff.
16 November	Palpa: Visit to a hill water supply scheme.
17 November	Pokhara: Meeting with the representatives of UNICEF/HELVETAS. Meeting with the Regional authorities. Interview of the Project Manager, Mr. D. P. Shrestha.

List of Persons Met**Ministry of Housing and Physical Planning (MHPP)**

Mr. T. P. Upadhyaya Secretary
 Ms. S. Shrestha Add. Secretary
 Mr. S. Wagley Project Liaison Officer

Department of Water Supply and Sanitation (DWSS)

Mr. R. Dutta Director General
 Mr. P. Nepal Deputy Director General
 Mr. S. P. Mathema Deputy Director General

Ministry of Health

Dr. Bahari Chief of the Public Health Division

Project Office in Butwal (HMG and Consultant PIU staff)

Mr. D. B. Shrestha Project Manager
 Mr. D. Subedi Assistant Engineer
 Mr. J. L. Panday Overseer
 Mr. D. R. Pandit Overseer
 Mr. T. Ärölä Project Coordinator
 Mr. J. Notley Procurement Officer
 Ms. M. Notley Training Coordinator
 Dr. V. L. Shrestha Health Advisor
 Mr. R. Bhusal Engineer
 Ms. K. Pandey Training Officer
 Ms. U. Shrestha Training Officer
 Mr. B. B. Thapa Training Officer
 Mr. J. Prasain Training Officer
 Mr. K. C. Ram Training Officer
 Ms. A. Keinänen Home Office, Coordinator
 Ms. S. Koivisto Home Office Secretary

District Engineers

Mr. K. P. Acharya Kapilbastu
 Mr. M. P. Aryal Nowalparesi
 Mr. I. P. Poudyal Gulmi
 Mr. P. D. Shrestha Palpa
 Mr. Singh Argakhanchi

UNICEF/HELVETAS

Mr. K. Müller
 Mr. Sharma

Regional authorities in Pokhara

Mr. Shaha Director, DWSS Western Region (water supply)
 Dr. B. B. Karki Director, Public Health Division (health)
 Mr. P. Sharma Deputy Director, Regional Education Office (education)

World Bank

Mr. P. W. Lochery Sanitary Engineer (UNDP/World Bank, Water Supply and Sanitation Program)

**Subproject No 1
DISTRICT WATER SUPPLY DEVELOPMENT PLAN**

EVALUATION OF THE PROJECT DEVELOPMENT OBJECTIVES

Objectives	Indicators of success	Evaluators' statement
<p>COMPONENT 1 Existing data sources</p> <p>Output Review of existing plans and population forecasts.</p>	<p>Relevant water plans or studies in the region reviewed and taken into account during preparation of DWSDP. Relevant development plans in the project area reviewed and taken into account.</p> <p>Updated estimate of population derived and included in DWSDP.</p>	<p>Implementation of this subproject was considerably delayed, and no completed DWSDP existed.</p> <p>The first phase, collection of basic data (mainly on population, socio-economic situation and present water use in all clusters, existing schemes, schemes under construction, and potential water sources) was commenced in one Hill district in October 1991.</p> <p>Collection of data on existing, potential, and required schemes has been commenced in one Hill district and in one Terai district.</p> <p>A ground water recourse study was completed in all three Terai districts.</p> <p>The aim is to prepare population estimates for years 1994, 2004 and 2014.</p> <p>The data, if collected by the manner developed by the Project, can be expected to give a good insight into situation in water supply and existing improvement plans, even if the data forms were still under development, but sanitation and other topics of Subproject 3 need obviously more emphasis.</p>

Objectives	Indicators of success	Evaluators' statement
<p>COMPONENT 2 Water supply sources</p> <p>Output Identification and analysis of potential water supply sources.</p>	<p>a) Hydrogeological and hydrological surveys completed. Existence of maps and documentation showing potential surface and ground water sources and the use of this information in DWSDP preparation.</p> <p>b) Quality of relevant water resources known and documented.</p>	<p>Sufficiency of the present possibilities to carry out hydrogeological and hydrological surveys is questionable. In addition to the ground water study in Terai districts performed by an employed private consultant, the feasibility studies of water supply schemes (e.g. by using V-notch weir for flow measurement) will yield information about water sources.</p> <p>Concerning the availability, yield, and original quality of unpolluted water sources, no serious problems are to be expected. However, as a consequence of insufficient protection measures, groundwater used for water supply is often more or less polluted.</p> <p>The Project has sufficient laboratory capacity for bacteriological tests, but physical-chemical analysis have to be performed in Kathmandu. Even no portable devices for physical-chemical field tests exist.</p> <p>In order to avoid defects caused by unsuitable water quality, the possibilities to perform physical-chemical water quality monitoring should be improved. Protection measures against water pollution require more attention.</p>

Objectives	Indicators of success	Evaluators' statement
<p>COMPONENT 3 Institutional study</p> <p>Output Analysis and assessment of status of DWSS</p>	<p>Prevailing organization analysed and job description collected. Modes of management and operation analyzed. Competence of personnel estimated.</p>	<p>The Project has prepared job descriptions for the staffs of PIU and HMG working with the RWSSP, but not yet for the whole HMG organization. Also, no proposals for future institutional arrangements, manpower development plans or competence estimations of personnel have been made so far, even if all these topics are included in the outline of contents of DWSDP.</p>
<p>COMPONENT 4 Water supply usage</p> <p>Output Assessment of existing water supply system and socio-economic factors affecting water usage</p>	<p>a) The availability of an inventory of existing water supplies to include owner, yield, reliability, usage, water quality, type and condition of structures/equipment etc. and assessment of maintenance and management activities.</p>	<p>The basic data needed for the assessment of existing water supply system will be collected and it is planned to be included in DWSDP.</p> <p>Concerning socio-economic factors affecting water use, the task is more complicated, especially because sanitation should also be taken into account.</p> <p>The inventory procedure and assessment of socio-economic factors should be reviewed in connection with the review of the Project's sanitation component.</p>

Objectives	Indicators of success	Evaluators' statement
<p>COMPONENT 5 Environmental study (EIA)</p> <p>Output General environmental study and terms of reference for EIA component in feasibility studies of schemes</p>	<p>b) The availability of estimated coverage (theoretical and actual) in each districts of Project Area.</p> <p>The inclusion in DWSDP of socio-economic data related to affordability, sanitation and water usage habits and selection criteria used by local communities in choosing water supply sources.</p> <p>The availability of costed proposals to rectify inadequacies in existing water supply systems in the project area.</p> <p>Environmental problems identified and sensitivity assessed.</p> <p>Environmental status of project area assessed.</p> <p>Guideline report prepared for feasibility studies of various watersupply schemes (from point sources to piped systems).</p>	<p>Data needed for these estimations and descriptions, will be acquired in connecton with the basic data collection.</p> <p>According to the outline of the contents of DWSDP the aim is to identify potential sources for about 20-50 % of the new systems.</p> <p>The tasks of DWSDP include also recommendations for the criteria categorizing the present water supply coverage.</p> <p>Only minor attention has been paid to environmental consequenses. E.g. the format for feasibility studies developed by PIU includes mainly technical, social and economical aspects.</p> <p>The role of EIA component should be reassessed by taking into account, not only the environmental disadvantages like pollution problems directed against water supply, but also the possible environmental changes caused by water supply schemes and sanitation.</p>

Objectives	Indicators of success	Evaluators' statement
<p>COMPONENT 6 Determination of indicators</p> <p>Output Each output of the subproject has appropriate, accepted indicators</p>	<p>Indicators of success which can not be determined before a study and planning phase determined and acceptance of them by relevant authorities obtained.</p> <p>Indicators of success presented in this document consolidated and accepted by relevant authorities.</p>	<p>No information available.</p>
<p>COMPONENT 7 Design guidelines</p> <p>Output Appropriate design guidelines established</p>	<p>Existing DWSS design guidelines reviewed, inadequancies identified and revisions made as necessary in collaboration with relevant authorities. Guidelines for field investigations, design criteria and standards presented in the DWSDP which are consistent with DWSS guidelines.</p>	<p>PIU has developed design guidelines for water supply schemes by slightly modifying previous guidelines.</p> <p>Construction technologies for gravity schemes and hand pump wells are under development.</p> <p>There were no revised design guidelines or criteria in use for sanitation.</p> <p>Even if the constructions are comparatively simple, there is an urgent need for design and construction guidelines and assessment and selection criteria for different sanitation purposes.</p>
<p>COMPONENT 8 Recommendations for physical improvements</p> <p>Output Programme for potential improvements</p>	<p>Availability of an implementation programme and expenditure plan.</p>	<p>The current physical improvements of water supply are as a topic of Subproject 2. Other implementation programmes have not been prepared.</p>

Objectives	Indicators of success	Evaluators' statement
<p>COMPONENT 9 Data base</p> <p>Output Data system to permit future updating</p>	<p>Appropriate forms, resources and procedures agreed between relevant parties and in use for regular and systematic data collection.</p> <p>An adequate system and procedures permitting easy storage, retrieval and collation of data available and in regular use.</p> <p>An adequate data analysis system available and in use for planning, management and operational purposes.</p> <p>Adequate Nepalese personnel trained to operate and control all aspects of the data collection, storage, retrieval and analysis system.</p> <p>Data system working manual/guidelines and procedures available and in regular use as a reference source by staff engaged in data system related activities.</p>	<p>The data collection commenced contributes to creation of data system by producing basic data in a form suitable for data handling.</p> <p>For the present, no centralized data system exists. Apparently, the need for preparing it should be reviewed and taken into account.</p>

Subproject No 2
PHYSICAL IMPROVEMENTS TO INCREASE WATER SUPPLY
EVALUATION OF THE PROJECT DEVELOPMENT OBJECTIVES

Objectives	Indicators of success	Evaluators' statement
COMPONENT 1		
Feasibility studies		
Output 1 Review of existing feasibility studies to identify optimum water supply system for each scheme.	Availability of scheme by scheme review, comments of existing studies to define water source viability, quality, scheme design details, costs and maintenance arrangements for a safe and sustainable water supply scheme.	General review of the existing feasibility studies will be performed in connection with DWSDP. Feasibility studies including the review of existing studies will be performed after prefeasibility studies only for schemes nominated by the users. The study procedure is described in chapter 3.
Output 2 Feasibility study for each scheme not already prepared.	Feasibility reports prepared for construction or rehabilitation scheme by scheme and reviewed as outlined above.	By the end of October 1991, the population coverage of completed feasibility studies for construction and rehabilitation schemes was 110 000 people. The nominated schemes covered 180 000 people.
COMPONENT 2		
Point source water supplies		
Output 1 Adequate community participation system.	a) An adequate and active user committee established to manage each spring/well. Agreement on implementation and handing over procedures signed by the committee.	According to the procedure applied by the RWSSP, a formal Users' Committee and contracts for feasibility study, construction, and O&M are required. For shallow tube well projects the Directives include some special conditions. In consequence of the importance of beneficiaries' active and efficient participating special attention should be paid to the role of users' committees, even if it is yet too early to evaluate the situation.

Objectives	Indicators of success	Evaluators' statement
	b) Local contractors and materials used in construction and maintenance wherever feasible and appropriate.	The Project has successfully preferred only locally available materials and devices having an adequate quality standard and spare part supply in the local market. However, development of local devices, e.g. deep-set and shallow well handpumps (as Nepal No. 6) will still require intensive survey.
	c) Community education commenced.	By November 15th 1991, 76 Users' Committee members were trained. This corresponds with 16 % of the total target by the end of 1993 (six per approved scheme).
	d) Land easement acquired.	In order to avoid possible siting problems arised often in cases where no public land is available, an agreement with landowner is required for placing structures like tube well on private land.
Output 2 Existing water points rehabilitated within the hudget allocation	Rehabilitated WP's fully operational and providing safe sustainable water supplies to local communities. Reasons for failure assessed and reported.	No experience yet available.
Output 3 New wells or spring protections constructed as required	a) Field investigations for all WP's (including hydrogeological and hydrological investigations as needed) in accordance with DWSS guidelines.	The sufficiency of hydrogeological and hydrological investigations is questionable.

Objectives	Indicators of success	Evaluators' statement
	b) Local community involved in siting and planning of water point.	All planning is based on close cooperation with the users. The project has adopted "Resource Mapping" procedure, where the villagers draw maps of their area showing houses, present and potential water sources, and other important matters and activities.
	c) 1000 WP's designed and constructed according to DWSS guidelines.	Hand pump well construction was completed only in one ward by the end of October 1991.
	d) Adequacy of yield and acceptability of water quality ascertained after construction in accordance with DWSS guidelines. New WP's fully operational and providing adequate safe sustainable water supply.	No operation experiences yet available.
Output 4 Functioning of O&M system at each water point	a) For each VLOM pump equipped well, attendants appointed, trained and able to maintain the pumps and use the tools. Pump repairers and local contractors trained and available for hire by user committees. O&M procedure developed and documented and procedure manuals available and in use at each water point. Spare parts available locally at reasonable cost. Local community successfully operating and maintaining its WP.	Project's training activities have been modest. The present experiences are insufficient for evaluation.

Objectives	Indicators of success	Evaluators' statement
COMPONENT 3		
New and rehabilitated piped water schemes		
<p>Output 1 Existing piped schemes rehabilitated as far as possible within the budget allocation and new piped water schemes constructed, developed and installed in cooperation with relevant groups</p>	<p>a) Local communities, involvement in a similar manner to that established for point source water supplies.</p>	<p>The role of communities in all stages of implementation has been emphasized. The communities have to take responsibility for O&M with technical advise of DWSO and they have to be involved in scheme identification, design, and construction. Also agreements concerning feasibility studies, construction works, and O&M are required in order to quarantee adequate community participation. The present experiences are insufficient for evaluation.</p>
	<p>b) Trained maintenance workers appointed and available for maintenance.</p>	<p>No experiences on maintenance available. By November 15th, 1991, no village gravity scheme maintenance workers and only four village well maintenance workers had been trained. The total targets by the end of 1993 will be 40 (on average one for each completed gravity scheme area) and 200 (on average one for five wells).</p>
	<p>c) Health education commenced.</p>	<p>No organized health education programme seems to have been carried out in the villages, and no Community Health Volunteers (task 480 by the end of 1993), Village Health Workers (216), Health Post staff members (66), school teachers (240) or Village Health Committee Members (320) were trained.</p>

Objectives	Indicators of success	Evaluators' statement
	d) Studies undertaken of piped schemes proposed for improvement.	By the end of October 1991, the population coverage of completed prefeasibility studies of construction and rehabilitation schemes (mainly gravity schemes) was 148 000, which corresponds with 82 per cent of the total coverage of nominated schemes (180 000 people).
	e) Detailed planning, design and construction undertaken of 40 new and 20 rehabilitated schemes.	By November 15th, 1991, construction of eleven new and two rehabilitation schemes covering 24 000 people had been commenced, but no completed schemes existed.
	f) New and rehabilitated piped schemes fully operational and serving local communities as designed. Reasons for failure assessed and reported.	No experiences yet available.
Output 2 Functioning of O&M system at each piped water scheme	a) Trained operators capable, and actively operating and maintaining each piped system with the necessary tools. O&M procedures developed and documented and procedure manuals available and in use for each piped water scheme. Each piped scheme being successfully operated and maintained.	No experiences yet available
	b) Spare parts available locally at reasonable cost.	On basis of the Projects policy the situation satisfactory.

**Subproject No 3
SOCIO-CULTURAL STUDIES,
HYGIENE EDUCATION AND SANITATION PROGRAM**

EVALUATION OF THE PROJECT DEVELOPMENT OBJECTIVES

Objectives	Indicators of succes	Evaluators' statement
<p>COMPONENT 1 Existing Data and Previous Studies</p> <p>Output Relevant data base.</p>	<p>a) A comprehensive inventory of relevant studies/surveys in project area reviewed and analysed.</p> <p>b) Results used for socio-cultural study and the programme in general.</p>	<p>Data has been collected by carrying out prefeasibility and feasibility studies which cover both technical as well as socio-economic and health aspects. The mission was informed that at least one research assistant is needed to be recruited to tabulate and analyse data.</p> <p>Findings and results of socio-cultural studies are only partly utilized. More analyses are needed.</p>
<p>COMPONENT 2 Socio-cultural Studies</p> <p>Output 1 Socio-cultural profile of inhabitants in Lumbini Zone.</p>	<p>a) Potential willingness of community for social change assessed.</p> <p>b) Constraints identified.</p>	<p>Evaluation of the willingness for social change is an essential part of the feasibility studies. They are, however focused on water supply rather than on sanitation or health behavior.</p> <p>There are many different socio-economic ethnic, religious and cultural groups in the area. Nevertheless, constraints such as poverty and differences in attitudes have not been given much attention.</p>
<p>Output 2 Baseline data on population profile and water usage and sanitation in Lumbini zone.</p>	<p>a) Environmental health status defined.</p>	<p>General status of environmental hygiene of the villages is assessed in connection with and as a part of the feasibility studies. The schools and health posts have been assessed in the same way.</p>

Objectives	Indicators of success	Evaluators' statement
	b) Morbidity data for water and sanitation related diseases established.	Registration of new cases of diseases is not reliable. As a part of their training programme, Paramedics are taught by the Project some simple methods of collecting health data among the villagers. However, the data they can collect is not sufficient but only for getting a very general idea of the health situation in the villages.
	c) Suitable indicators for project monitoring identified	<p>The Mission was informed that in assessing changes in health behaviour, the following criteria will be used:</p> <ul style="list-style-type: none"> * increase in water consumption * sustainability of Community Health Volunteers programme * improvements in environmental hygiene and sanitation * number of new latrines * attendance to the Health Posts. <p>It seems, however, that a more sophisticated monitoring system is needed.</p>
Output 3 Relevant socio-cultural and economic factors affecting water use and sanitation.	Information gained and used for defining the scope of and means for hygiene and sanitation activities.	Rapid Assessment Procedure (RAP) is used in order to collect data on health and sanitation behaviour, food habits, health and illness behaviour and practices. It is helpful when training courses are planned for different users' groups in the water supply scheme areas. It seems, however, that it does not result in family level information of willingness and ability to pay for water supply/latrine construction. Differences in incomes and preferences within and between different ethnic groups and casts are not given much attention.

Objectives	Indicators of success	Evaluators' statement
COMPONENT 3		
Hygiene Education		
Output 1 Trained Health Educators active in the project area functioning Health Education Programme	All trained personnel deployed and carrying out Health Education activities at all levels.	<p>Health Post Staff, Village Health Workers, school teachers and Community Health Volunteers are the major target groups of the health education training programme. It means that the emphasis has been on "trainers' training".</p> <p>Some problems and constraints are obvious:</p> <ul style="list-style-type: none"> * Full cooperation with the health staff has not been obtained. It is due to the fact that there is no formal linkage between the Project and the Ministry of Health. * Community Health Volunteer Programme is a new activity and there is a risk that CHV's can be seen by the health post staff as potential rivals and not helpers and co-workers. A careful follow-up is needed. * A well-designed monitoring system for health education activities is not yet established.
Output 2 Health education material	Material/equipment in regular use for health education purposes.	<p>The project has received some health education material from UNICEF, Helvetas and other organizations. It is adequate but the amount available seems to be too small. The Missions visited the Health Posts in two water supply scheme areas and noticed that they both had not gotten any health education material from the Project.</p> <p>It was also noticed that the Project has not purchased any kind of Audio-Visual materials or equipments for health education purposes.</p>

Objectives	Indicators of success	Evaluators' statement
Output 3 Community consultation	Programmes organized/executed at each community	No organized health education programmes seems to have been carried out in the villages. Community Health Workers and the Health Post staff are, however, expected to give advice in health and sanitation matters to their patients. Health education is also one of the compulsory school subjects from grade 1 to 8 but the school teachers claim that they are left without necessary knowledge and skills on proper health education.
Output 4 Water/Sanitation users committee	Committee meetings regularly to discuss water and sanitation matters and taking appropriate action to ensure safe supply of water and sanitation facilities within the community.	It seems that there is an increased awareness of the importance of community participation for the operation and maintenance of water supply systems in the target areas. Since no water supply system is in full operation yet, Users' Committees do not have their meetings on a regular basis. It is evident that sanitation matters need more attention on all levels of society.
Output 5 Community participation	Community groups used for spreading information. Gender specific issues addressed.	Information is spread at community meetings and group discussions. Women are invited to participate in them. There are also female members in the users' committees. The Mission could not find out how much gender specific issues are discussed at the meetings. It was informed that women's possibilities to influence the decisions made at public meetings differ from one ethnic group to another.

Objectives	Indicators of success	Evaluators' statement
COMPONENT 4 Sanitation Programme		
Output 1 Improved health education and sanitation facilities in schools and public institutions	<p>Good health habits and practices developed and in use.</p> <p>Health Committees established and active at each location.</p> <p>Constructed latrines in regular use.</p> <p>Improved hygiene standard apparent/visible.</p> <p>Latrine types identified for each location.</p> <p>Construction materials organized.</p> <p>Masons trained in construction of latrine slabs and other components using local material.</p> <p>Construction/use of latrines in houses of water/sanitation committee, women trainers, and project workers.</p> <p>Construction/use of latrines in schools, health posts and Panchyat offices.</p>	<p>The Project has not made itself clear what would be its policy and strategy in implementing the sanitation program. Different opinions and disagreement occurs, particularly on whether family latrines should be subsidised or not.</p> <p>The responsibility for leading the implementation of the sanitation programme was not specified and entrusted to anybody in the Project Staff.</p> <p>Consequently, the results were almost nil. Only one school latrine has been built by the Project.</p> <p>No health or sanitation committees have been established. Health matters are brought up for discussion at the Users' Committee meetings by the Community Health Volunteers trained by the Project.</p> <p>No improvement in hygiene standards and people's health behavior can be expected as long as the Project is totally unable to provide families with any kind of sanitary facilities.</p>
Output 2 Proposal for sanitation extension programme	Component manufacturing facilities established. Latrines constructed/used in project area communities.	There is no proposal prepared yet.

**Subproject No 4
TRAINING AND HUMAN RECOURSES DEVELOPMENT**

EVALUATION OF THE PROJECT DEVELOPMENT OBJECTIVES

Objectives	Indicators of success	Evaluators' statement
COMPONENT 1		
Assessment of needs of manpower and training		
Output 1 Manpower development plan for each post.	Task analysis prepared for each post. Skill analysis of DWSS personnel done.	A Manpower Development Plan for DWSS has not been made. The mission thinks that it is a much too ambitious task for the Project staff.
Output 2 Training needs study.	All training needs assessed.	Problems are identified through field surveys and the training of trainers is designed to solve these problems. Field surveys are, however, only a poor substitute for a real training needs study.
Output 3 Comprehensive training programme for various categories.	Training implemented according to the comprehensive training programme.	The Mission was not given a good explanation as to why no comprehensive training programme has been prepared. Training has been planned <i>ad hoc</i> or for one year at a time.
COMPONENT 2		
Local community training		
Output Community based O&M.	Each community properly using its water supply. Attendants trained and active at each spring and piped schemes. Trained pump attendants appointed and working properly at every VLOM pump in the project area.	Since no water system is in full operation, these details are not relevant.

Development	Indicators of success	Evaluators' statement
<p>COMPONENT 3 Skilled labour training</p>	<p>Trained labour force in various skills active in water supply and sanitation sector.</p>	<p>By November 15th, 1991, no village maintenance workers for gravity schemes and only four village well maintenance workers had been trained. The targets for the whole Project period are 40 trained gravity scheme maintenance workers and 200 trained well maintenance workers. Furthermore, 76 Users' Committee members have been trained. The target for the whole Project period is 480 trained committee members.</p>
<p>Output Sufficient number of pump repairers trained. Skilled labour force for DWSS. Sufficient number of workers trained in construction and repair of small systems in the Project area.</p>		
<p>COMPONENT 4 Piped scheme operators training</p>	<p>a) Every piped scheme has trained operators assigned and active in O&M activities.</p>	<p>There is no piped scheme completed as of now.</p>
<p>Output Sufficient personnel in operation and maintenance of piped schemes.</p>	<p>b) Training material and programmes developed and available for DWSS to continue training of operators.</p>	<p>There were very few items used for training material to show to the Mission.</p>
<p>COMPONENT 5 Training abroad</p>	<p>Key individuals selected and sent on approved study tours/courses etc. abroad in accordance with the approved comprehensive training programme.</p>	<p>No comprehensive training programme has been prepared. No individuals have been sent abroad for training.</p>
<p>Output Increased capacity of DWSS</p>		

Development	Indicators of success	Evaluators' statement
<p>COMPONENT 6 Training of trainers</p> <p>Output Enhanced competence and number of trained personnel</p>	<p>Key individuals in training selected and trained in relevant training institutes.</p> <p>Trained personnel is familiar with the methods of planning and implementation of training.</p>	<p>Technicians have been sent to the UNICEF regional training centre in Pokhara to become qualified as UNICEF Certified Water Supply and Sanitation Technicians.</p> <p>However, no contacts have been taken to other training institutes. For example, the Nepal Administrative Staff College (NASC) and the Institute of Engineering could provide the Project with adequate training in technical and nontechnical field. They are located in Kathmandu.</p>
<p>COMPONENT 7 Management training</p> <p>Output Increased management skills</p>	<p>Trained personnel using new management practices.</p>	<p>Special management training has not been arranged.</p>

**Subproject No 5
COMMUNITY INVOLVEMENT**

EVALUATION OF THE PROJECT DEVELOPMENT OBJECTIVES

Objectives	Indicators of success	Evaluators' statement
<p>COMPONENT 1 Health/hygiene</p> <p>Output Increased awareness amongst the population in the Project area of the benefits of safe water supply, proper water use and sanitation and their importance in public health terms.</p>	<p>a) Regular use of improved water supplies and reduced use of polluted sources.</p> <p>b) Improvements in hygienic habits of population served by improved water supplies.</p> <p>c) Water supplies used properly and kept clean.</p> <p>d) Participation of local communities in hygiene education activities.</p>	<p>Cannot be assessed yet since no water scheme is in full operation so far.</p> <p>Cannot be assessed yet. The sanitation programme is delayed.</p> <p>Environmental hygiene needs more attention.</p> <p>Community Health Volunteers are selected by the Users' Committees. Committee members, CHV's and school teachers are given training in hygiene and health education by the project.</p>
<p>COMPONENT 2 Decision making and planning</p> <p>Output Full and active involvement of local community in all decision making affecting their water supply.</p>	<p>a) The existence and registration of a water committee to present the local community views and interests.</p>	<p>Users' Committees are expected to collect money for replenishing the First Aid Kit which the Project has given to the CHV's.</p> <p>The discussions held with the villagers gave the Mission the impression that there is an increased awareness on the benefits of safe water.</p> <p>Users' Committees have been founded. They are considered as a precondition for a water supply scheme nomination. The Users' Committees are, however, not registered. It might cause some problems in the future.</p>

Ojectives	Indicators of success	Evaluators' statement
		<p>It seemed that the Project had not discussed the issue of registration. If the Community Involvement had been taken as an independent subproject, as it was originally planned, the problems of non-registration would have been studied in due time.</p>
	<p>b) Local community interests/views taken into account in detailed planning and design of their water supply system.</p>	<p>The Project's policy is to leave the selection of the Users' Committee members to the community itself. The training officers give the community only the suggestion that there should be at least two women members in a committee.</p> <p>Women are invited to all group meetings. To what degree they really attend the meetings and participate in discussions varies from one area to another. The Mission was told that Hill women tend to participate in discussions more actively than Terai women.</p> <p>The Project seemed not to give much attention to such differences. All schemes and ethnic groups were treated equally. Women are under-represented in all Users' Committees and it is likely that their needs are not always taken into account to a satisfactory degree.</p>
	<p>c) Local community carries out obligations required under water supply agreements.</p>	<p>Obligations are identified and directives are under preparation. It is too early to assess whether they will be carried out by the local communities or not.</p>

Ojectives	Indicators of success	Evaluators' statement
<p>COMPONENT 3 Design</p> <p>Output Local views fully incorporated into the detail design of water supplies.</p>	<p>a) Design meets the relevant needs of the community.</p>	<p>The planning process as it has been designed and applied by the Project makes it possible and, in fact very probable, that the needs of the community will be met. Nevertheless, there may be cases where women views will not be taken into account.</p>
	<p>b) Beneficiaries are using water supplies as planned.</p>	<p>Cannot be assessed yet since no water scheme is in full operation by now. The Project is carrying out a water consumption survey.</p> <p>Present daily water consumption varies from 27-72 l per person.</p>
<p>COMPONENT 4 Construction</p> <p>Output Strong Local community involvement in construction of each water supply system.</p>	<p>Local materials, personnel, contractors etc. used in maintenance and repair of the water supply systems.</p>	<p>Local materials and personnel have been extensively used. There is no experience in the operation and maintenance of new water supply systems. It seems that the Project has done alot to see that all spare parts would be made locally available.</p>
<p>COMPONENT 5 Operation and maintenance competence</p> <p>Output Local capability to keep the facility properly maintained and operational.</p>	<p>a) Local community provides suitable candidates for training as pump attendants and repairmen.</p>	<p>By Nov. 15th, 1991, no village maintenance workers for gravity schemes and only four well maintenance workers have been trained. The targets are 40 and 200, respectively.</p>
	<p>b) Local community appoints trained attendant and/or repairers to undertake regular maintenance of the facility.</p>	<p>Cannot be assessed yet.</p>

Ojectives	Indicators of success	Evaluators' statement
	c) Community operated W/S properly operated and maintained.	By now, 76 Users' Committee members are trained in basics of management, operation and maintenance of a water supply scheme. How well water systems are operated and maintained cannot be evaluated yet.
	d) The communities able to finance the O&M of their water supplies.	Cannot be assessed yet.
COMPONENT 6 Management of facility	a) Water committees established and responsibility for managing/operating facility handed over to them as agreed.	Not relevant yet.
Output Facility completely managed and supervised by representatives of the local community as agreed with community.	b) Local management ensures the means for O&M.	Not relevant yet.

JOB DESCRIPTIONS
(November, 1991)

1 PIU CONSULTANTS

1.1 Project Coordinator (Mr. T. Ärölä)

- * Lead the consultant team within PIU.
- * Working as a counterpart to the Nepalese Project Manager (Mr. D. B. Shrestha).
- * Responsibility for the inputs provided by FINNIDA.
- * Programming and budgeting for the entire project period.
- * Annual workplans and annual budgets for FINNIDA inputs.
- * Reporting and expenditure follow-up.
- * Coordination of the activities of the different sectors of the Project.
- * Approval of procurements.
- * Responsibility for DWSDP preparing.

1.2 Procurement Officer (Mr. J. Notley)

- * Quality control and support of the local suppliers.
- * Development of water supply technology.
- * Personnel administration, financial management, logistics.
- * Management of the field work of the District Development Plans.

1.3 Health Adviser (Dr. V. L. Shrestha)

- * Initiation and maintaining of regular contacts and coordination linkages with MOH and MOEC at all institutional levels.
- * Development of HESP policies, programmes and procedures.
- * Organization of orientation/coordination meetings with the health and education sectors at the implementation level in order to intergrate HESP activities into the main stream government.
- * Management and supervision of health related research and training activities.
- * Management and supervision of water quality monitoring.
- * Exploration, inventoring and availing suitable teaching and training materials for the use of HESP training and distribution to schools, Health Posts, Village Health Workers, Community Health Workers and Community Health Volunteers.
- * Analysing health data and improvement of health programmes.
- * Assisting, management, coordination and supervision of the work of the Health Training Officers.

1.4 Rural Water Supply and Sanitation Engineer (Mr. R. Bhusal)

- * Supervision of the survey, design and construction of water supply schemes together with the PIU/HMG Engineer (Mr. D. Subedi).
- * Monitoring the progress of the water supply construction programme together with the PIU/HMG Engineer.
- * Assisting DWSO Assistant Engineers and Overseers in survey, design and construction supervision activities together with the PIU/HMG Engineer.
- * Assisting in the technical training of DWSO staff.
- * Development of design practises for the water supplies and sanitation in DWSO's.
- * Assisting in the desk data collection and compilation necessary for the District Development Plans.

1.5 Training Coordinator (Community Participation and Education Specialist) (Ms. M. Notley)

- * Manpower planning of the Project together with Distrigt Water Engineers.
- * Planning and coordination of all training activities, excluding health education and other health related training.
- * Organization of the orientation of DWSO staff.
- * Overall coordination of the water supply scheme activities, together with the Engineer of PIU/HMG (Mr. D. Subedi).

1.6 Training Officers (Mr. B. B. Thapa, Mr. J. Prasain and Mr. K. C. Ram)

- * Assisting the DWSO staff in socio-economic studies in new water supply scheme areas including:
 - * short visits to the villages to assess the need of water supply (prefeasibility studies)
 - * feasibility studies to find out the socio-economic factors affecting water use, peoples' readiness to participate the implementation of water supplies, their economical status, willingness and ability to pay for water supply services, cultural features affecting water use, etc.
- * Assisting DWSO staff in the community education activities to prepare the villages for construction work, including organization of workshops for Users' Committees, public village meetings, womens' meetings etc.
- * Training need assessment and assisting the Training Coordinator to draw up the training plans; writing up training programmes for various training courses; organization of different level training for DWSO staff.
- * Assessing and contacting the available training facilities in Nepal in the fields of water supply and sanitation, environment, management etc.
- * Practical organizational work to implement the training.

1.7 Health Training Officers (Ms. H. Subba and Ms. K, Pandey)

- * Conducting health and sanitation related studies at the community/cluster level.
- * Organizing various types of training at district, community and cluster levels.
- * Designing curriculum for all types of training.
- * Coordinating HESP activities at the sub-district and community/cluster levels with health and education sectors i.e. Health Posts, health workers and school teachers.
- * Coordinating water quality monitoring activities at the field level.
- * Assisting in the evaluation of the health and sanitation related teaching and training materials.
- * Preparation of lists of supportive materials for Health Posts and schools in order to strengthen these institutions.

2 DWSO STAFF (working with RWSSP)

2.1 District Engineers

- * Collecting the requests of communities and proposing new schemes to be taken into the RWSSP programme.
- * Coordination between the donors.
- * Liaison with the other sector agencies, like health and education.
- * Coordination the overall survey, design and construction activities.
- * Major decision making concerning the individual schemes, e.g. limit of the of the scheme area, sources to be used and intake sites.
- * Conducting the major meetings with the community and sign the agreements.
- * Final checking and approval of the designs and estimates.

2.2 Assistant Engineers (6 people in all)

- * Undertaking the prefeasibility study of the schemes.
- * Proposing the first lay-out of the schemes.
- * Organizing design meetings with the villagers.
- * Supervising and advising the overseers in detailed survey and design, and overall responsibility of the scheme design.
- * Preliminary checking of the designs.
- * Supervision of the construction activities and reporting to the District Engineer.

2.3 Overseers (30 people in all)

- * Participating prefeasibility studies.
- * Undertaking feasibility studies.
- * Preparing the first and second lay-out of the schemes.
- * Participating the design meetings with villagers.

- * Explaining the health and sanitation programme, and Community Health Volunteers' selection criteria to the Users' Committee.
- * Undertaking detailed survey.
- * Preparing the designs and estimates for the water supply, in the detail level on production drawings.
- * Preparing the designs and estimates for the school and Health Post latrines.
- * Preparing all necessary design files.
- * Organizing the Users' Committee training seminars and introducing the designs and estimates to the community.
- * Assisting the Users' Committee in manpower utilization.
- * Making material requests to PIU and transportation arrangements.
- * Field supervision.

2.4 Technicians (65 people in all)

- * Undertaking the present water supply survey and source measurement in the feasibility study.
- * Assisting in recourse mapping and health data collection.
- * Assisting in detail survey.
- * Undertaking the construction work, like pipe fitting, casting of difficult concrete and ferrocement structures.
- * Supervision of the village craftsmen like masons and carpenters.
- * Supervision of the voluntary village labour.