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INTERNATIONAL DRINKING WATER SUPPLY AND SANITATION DECADE

TECHNICAL COOPERATION BETWEEN DEVELOPING COUNTRIES

NATIONAL DECADE PLANNING EXPERIENCES

**THE PROCESS OF PLANNING AND IMPLEMENTATION
IN NEPAL**

October 1984

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ABBREVIATIONS

ADB	Asian Development Bank
CSCC	Community Services Coordination Committee
DP	District Panchayat
DWSS	Department of Water Supply and Sewerage
ESS	Environmental Sanitation Section
HMG	His Majesty's Government of Nepal
IBRD	International Bank for Reconstruction and Development
IDA	International Development Agency
IDWSSD	International Drinking Water Supply and Sanitation Decade
LDD	Local Development Department
MOH	Ministry of Health
MOF	Ministry of Finance
MPLD	Ministry of Panchayat and Local Development
NDC	National Development Council
NGO	Nongovernmental Organization
NPC	National Planning Commission
RD	Regional Directorate
RECAST	Research Centre for Applied Science and Technology
SSNCC	Social Services National Coordination Council
TST	Technical Support Team
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
UNWC	United Nations Water Conference
WHA	World Health Assembly
WHO	World Health Organization
YACC	Youth Activities Coordination Committee

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FOREWORD

The preparation of a National Decade Plan is an ideal means of defining a rational and equitable course for the development of a country's water supply and sanitation sector. For its preparation, those responsible will not be limited to the considerations of a regional or sub-sectoral programme, but will be required to analyze information on a national scale in order to establish overall needs, identify resources and constraints, define priorities, establish feasible targets, and elaborate national strategies for their achievement. Not surprisingly, the commencement of the International Drinking Water Supply and Sanitation Decade saw many countries unprepared to undertake National Planning, as sector knowledge and programmes were fragmented amongst numerous agencies, no coordinating machinery was in existence, and development projects were often determined by the preferences of external support agencies. The promoters of the Decade, recognizing the importance of national planning, accordingly gave high priority to supporting countries in the preparation of their National Plans.

The WHO Booklet, "National Decade Plans: Eight Questions They Answer", published in 1982, outlined the desirable contents of a National Decade Plan on the basis of experience gained in the preparation of such plans in a number of developing countries. Some of this experience was obtained during field work carried out under WHO's Cooperative Programmes with the United Nations Development Programme (UNDP), the Agency for Technical Cooperation of the Federal Republic of Germany (GTZ), the Swedish International Development Authority (SIDA), and the World Bank (IBRD). Whilst it has been possible to generalize on the desirable features of Plan content, experience has shown that the planning process has differed from country to country. The lessons to be learned from a particular national planning exercise, whilst probably not applicable in their entirety to the situation elsewhere, can nevertheless contain valuable guidance for others. The World Health Organization, in pursuit of its policy of encouraging technical cooperation between developing countries, has accordingly cooperated with a number of national authors in the preparation of a series of papers, each describing the process adopted for Decade planning in a particular national context. The attached Paper is one in this series, and it is to be hoped that the lessons which it conveys will not only provide an insight as to how the planning process was undertaken in this particular case, but will also assist the nationals of other countries in the important task of preparing their National Decade Plan.

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THE PROCESS OF PLANNING AND IMPLEMENTATION IN NEPAL

CONTENTS

	<u>Page</u>
1. INTRODUCTION	3
1.1 Country Profile	
1.2 Planning Agencies	
1.3 Principal Constraints and Problems	
1.4 Highlights of the Development of the Decade Plan	
2. THE PLANNING PROCESS	6
2.1 Initiating the Decade Plan	
2.2 The Decade Planning Process	
2.3 Technical Procedure	
2.4 National Consultation and Participation	
2.5 Role of External Agencies	
2.6 Decision-making during the Planning Process	
3. THE PLAN FRAMEWORK	9
3.1 An Outline of the Plan Strategy	
3.1.1 Targets	
3.1.2 Major Concentration of Effort and Priorities	
3.1.3 Broad Based Policies	
3.1.4 Financial Requirements	
3.1.5 Operation and Maintenance	
3.2 Reconciling Goals and Resource Constraints	
3.3 Supporting Programmes	
3.4 Contribution of NGOs to Plan Programme and their Finding	
3.5 Interaction of Water and Health Programmes	
3.6 Intersectoral Programmes	
4. PLAN FOLLOW-UP	14
4.1 Impact of Changes in Economic Climate	
4.2 Progress of Implementation	
4.3 Plan Updating and Review	
4.4 Further Programme Development	
4.5 Decade Coordination	

1. INTRODUCTION.

1.1 Country Profile.

Extending about 800 km. along the Himalayas, between 80 E and 88 E meridians of longitude and 26 and 30 N parallels of latitude, Nepal is a fairly densely populated mountainous Kingdom which covers an area of 147,181 sq. km. and has a population of over 15 million. It possesses a wide range of terrain since, within a distance of less than 150 km., the narrow strip of Terai plain, with an altitude of about 75 m. above sea level in the South, is followed by a rapid succession of various ridges and valleys which eventually culminate, in the North, at the towering height of the Himalayas where Mount Sagarmatha (Mount Everest), the highest peak on earth, lies at an altitude of 8,848 m. above sea level. The rugged topography presents a picture of a maelstrom of mountains, with an intricate maze of ridges and valleys. These physiographic extremes have resulted in the division of bioclimatic regions in narrow vertical zones so that in Nepal tropical, temperate and tundra types of climate and vegetation are encountered within a very short distance of each other. However, the country can be divided into three distinct ecological zones from South to the North - Terai Plain, Hills and Mountain.

Despite tremendous change during the three decades since Nepal emerged from its long isolation, the country still faces formidable challenges, which are further compounded by its remoteness and land locked nature. During the last decade, per capita economic growth virtually stagnated and agricultural production could not keep pace with population growth.

The mortality rate is 19 per 1,000, with an infant mortality of 145 per 1,000. The incidence of waterborne diseases is 25 to 64 cases per 1,000 population. Major deaths occur among children aged between 1 and 4 years of age, 22 per cent of these being caused by enteric and diarrhoeal diseases.

The country is divided into 5 development regions, 14 zones and 75 districts, which consist of 29 Town Panchayats and 4,021 Village Panchayats.

1.2 Planning Agencies.

In Nepal, although the idea of economic planning was initiated for the first time in 1939, it was only with the announcement of the final draft of the First Five-Year Plan in 1956 that a planned development effort can be said to have started. To date, five periodic plans have been completed, and the Sixth Plan (1980-1985) is currently being implemented. The National Planning Commission (NPC), chaired by the Prime Minister, is the leading agency for the formulation of national policies and plans.

Above the NPC, the highest policy-making body is the National Development Council (NDC), which is constituted under the chairmanship of His Majesty The King and whose members are drawn from a wide section of national life representing both Government as well as the nongovernmental sectors. The Council issues guidelines on the fundamental objectives and policies of the plans, provides directives in order to make sure that national development plans adequately reflect the aspirations as well as the felt needs of the people, and reviews development programmes in order to facilitate their speedy implementation.

On the basis of the general policy guidelines laid down by the NDC, the NPC formulates policies relating to economic and social development, prepares the periodic as well as annual plans, and undertakes regular programme review and evaluation of development programmes. The NPC also estimates the development budget as well as manpower and material requirements on an annual basis.

The actual task of formulating plans and sector programmes is, however, undertaken by concerned departments and ministries of Government under the direction and guidelines of the NPC.

In order to facilitate the formulation and evaluation of development projects, the NPC has also set up a regional planning office in each of the five development regions of the country.

Apart from the Government machinery, the planning process is also facilitated by a number of academic and research institutions. The participants in the planning process consist of academicians, intellectuals, research institutions, and so forth, who are called upon to advance their opinions to the NPC for the evolution of plans and policies. At times, attempts are made to bring together the formal and informal participants by constituting various task forces, expert groups, etc., on specific issues, and the dialogue between the participants at different levels has considerably facilitated the planning function.

Nongovernmental Organizations and Community.

There also exist a number of institutions which play a significant role in aiding and advising sectoral ministries and the NPC to evolve the kind of policies and programmes which specifically reflect the people's needs and aspirations. Most significant of these institutions is the Social Services National Coordination Council, under the chairmanship of Her Majesty The Queen, and six coordination committees under it. In the nongovernmental sector, these committees are the most important forum for looking into issues concerning the development of various programmes, including that for the supply of drinking water and sanitation. At the local level, the district and local units of various nongovernmental organizations are also engaged in the process of formulation and implementation of various projects for the upliftment of the rural masses. The value of the contribution of these organizations, along with the local Panchayats, lies in their practical approach and their experience in finding a practical solution to problems at the field level. Efforts are therefore being made to enlist greater participation of the Panchayat and nongovernmental sector in both the planning and implementation process.

Communities play a vital role in the case of projects which are implemented at the local level and which are initiated especially by the Ministry of Panchayat and Local Development (MPLD). They are involved from the project selection phase. First of all, a project is passed by the village assembly and sent to the District Panchayat (DP) for its approval, after which a feasibility study is carried out by the Regional Directorate (RD), which informs the DP whether the project is feasible or not. The DP then submits a list of priority projects to be implemented annually, and if the project is on the list, a detailed survey is done in which the communities again play an important role. For example, the communities help the survey team with all necessary information and data, and if matters such as a water rights dispute or problems about the location of a tap stand arise, they will help to solve it.

In the case of urban water supply projects, Town Panchayat Ward Committees are involved. The Environmental Sanitation Section of the Ministry of Health is also developing a plan to mobilize community participation for sanitation improvements, the initial responses of local leaders being encouraging.

1.3 Principal Constraints and Problems.

Principal constraints and problems are related to inadequacies in financial resources, skilled manpower and proper management.

Financial Resources:

- (a) Nepal has been experiencing a scarcity of domestic resources which has constrained the realization of developing programmes from the very beginning;
- (b) The Drinking Water Supply and Sanitation Sector could not obtain a reasonable share of resource allocation;

- (c) Although Government collects water charges in some areas, the revenue is far less than the amount expended;
- (d) Although the water supply sector has been receiving external assistance, the quantum of funds available from donors may not be sufficient to meet the targets;
- (e) Some donors have not been regular in their contributions, and some projects have had to be given up when promised funds were not made available.

Manpower:

- (a) There is an acute shortage of trained technical manpower, especially at the engineer and overseer levels;
- (b) Basic level manpower, trained by the Local Development Ministry, was not available at the time when projects were implemented;
- (c) Engineers, overseers and other categories of personnel are not attracted to the sector.

Management:

- (a) Adequate and proper infrastructure (evaluation, monitoring, management information system) has not yet been developed;
- (b) Ability has to be developed to identify fundable projects for submission to potential donors.

Others:

- (a) Procurement of non-local construction materials is very difficult;
- (b) Accessibility is generally poor, and it is very difficult to transport materials to project sites in remote areas;
- (c) There is a perceptible lack of reliable local contractors;
- (d) An adequate preventive health service network to support rural sanitation and water supply programmes is lacking.

1.4 Highlights of the Development of the Decade Plan.

Decade activities in Nepal date back to the United Nations Water Conference held in 1977 at Mar del Plata, Argentina, where Nepal participated in deliberations on the strategies to be adopted for the provision of safe water supply and sanitation for all by the year 1990, and fully endorsed the Resolution on community water supplies.

His Majesty's Government, in collaboration with WHO, carried out a rapid assessment of on-going programmes which ascertained the country's preparedness to accelerate the development of the drinking water supply and sanitation sector. It also identified the need for external assistance to prepare a Ten-Year Plan for the provision of drinking water supplies and sanitation, and to prepare a large-scale shallow tubewell/handpump scheme for the Terai. These two activities were undertaken with UNDP assistance, with WHO as the executing agency. In order to coordinate efforts, a national group was established comprised of representatives from the Department of Water Supply and Sewerage (DWSS), Local Development

Department (LLD now MPLD), Water Supply and Sewerage Board (WSSB), National Planning Commission (NPC), Ministry of Finance (MOF), and Ministry of Health (MOH). Under the guidance of this group, the Ten-Year Plan for the Provision of Drinking Water Supply and Sanitation and the Shallow Tubewell Scheme for the Terai were prepared.

As part of the preparatory phase activities, a detailed assessment of manpower requirements in DWSS, WSSB and LDD was made, and a project proposal for the training of engineers and overseers was drafted.

His Majesty's Government, assisted by WHO, identified a number of projects for which external assistance could be sought. UNICEF and the World Bank indicated their willingness to provide an increased level of assistance.

Officially, the International Drinking Water Supply and Sanitation Decade in Nepal, was launched by the Prime Minister on 10 November 1980.

Incidentally, the Sixth Plan and Seventh Plan periods coincide with the Decade and the exercise of Inter-sectoral Planning, in relation to Health for All by the Year 2000 to meet the basic minimum needs of the people between 1980-2000, also incorporated the Decade Plan.

2. THE PLANNING PROCESS.

2.1 Initiating the Decade Plan.

As described in the preceding section, the planning process was triggered by the Resolution passed by the UN Water Conference at Mar del Plata, even though Nepal was already engaged in the development of drinking water supply and sanitation programmes.

Although the history of piped water supply systems in Nepal dates back to 1895, when the first system was commissioned to supply water to the town of Kathmandu, it was only after the First Five-Year Plan in 1956 that any action was taken for the improvement of community water supplies in a planned manner. The present Department of Water Supply and Sewerage (DWSS) was established in 1972. The Local Development Department, which was formed in 1971, includes the implementation of small water supply schemes as one of its major activities. Since the rural population, particularly that living in the hills and mountains, had no access to proper water supply, they obtained their water from springs, ponds, canals, streams and rivers. Very often the sources were not protected and were grossly polluted. The water had to be carried over long distances involving much climbing. Hence, there was always a great demand from the rural people for adequate water supply facilities. At the same time, one of the three main objectives of the current Sixth Plan is to meet the basic minimum needs of the people, which have been identified as foodgrains, firewood, drinking water supply, basic health facilities and sanitation, primary and adult education, rural transportation, and clothing.

Thus, although the Decade Plan was started in response to the international appeal at the UN Water Conference, pressure from the community was already gradually building up to initiate programmes as soon as possible, and the passing of the Mar del Plata Resolution provided the necessary impetus to start a Plan in Nepal.

2.2 The Decade Planning Process.

As already mentioned, a multi-sectoral National Group was formed to initiate and coordinate activities in the sector. This Group, which had the advantage of having representation from all the machineries for national planning and resource allocation, had the following responsibilities:

- General planning for the sector in the context of preparation for and implementation of the IDWSSD Plan
- Development of viable sector strategies and formulation of proposals in the form of short and long-term water supply and sanitation programmes
- Coordination, monitoring and evaluation of progress in the sector
- Overseeing programme planning and implementation
- Enlisting national and/or external technological support to operation programmes
- Liaising with the UNDP Resident Representative for the purpose of effective coordination of UN Agencies' cooperation.

Since the Sixth Plan formed the first half of the Decade programme, all through the processes of Decade Plan preparation, the NPC, Ministry of Water Resources, Ministry of Panchayat and Local Development, Ministry of Health and the Ministry of Finance were all heavily involved, separately as well as in a composite body. It is in accordance with the exercise of the National Group that the current Five-Year Plan fixed targets to improve the overall water supply population coverage from 11 per cent to 30 per cent, and for 54% of the Village Panchayats in the country to have at least one community water supply system within their respective areas. The sectoral division of the NPC was in close touch with the National Group, and followed with keen interest the activities leading to the formulation of the Decade Plan which addressed major items such as population coverage, water supply programme, sanitation programme, institutional arrangement, manpower requirement, training requirement, development finance, operation and maintenance and principal constraints.

Furthermore, the Sixth Plan has realized that it is neither easy nor even possible to fulfil all the needs of the villages through normal bureaucratic processes and with Government resources alone. Thus, on the one hand, without mobilizing the country's enormous manpower and local resources, it is not possible to gear up the entire development process, and on the other without people's participation and local Panchayat leadership, the development process cannot fulfil the basic needs of the people, nor can the fruits of development be shared by them. For this reason, the Sixth Plan laid a special stress on the potential major role of the Panchayats in respect of the formulation and implementation of development programmes in the Panchayat sector. Thus, various drinking water supply programmes were incorporated in the Decade Plan in this manner.

2.3 Technical Procedure.

Although the various machineries or agencies of planning, resource allocation, etc., were included in the National group, and they were involved in all aspects of planning, the technical part of the work was performed by a smaller technical working group from the three main agencies; WSSB, DWSS and MPLD. The DWSS may be said to have played the leading role, although the Plan itself was a product for which all the members of the Committee should get credit. At the same time, the input of expatriates cannot be under-estimated, since they had contributed much time and expertise in giving proper shape to local needs and official decision and priorities.

2.4 National Consultation and Participation.

Apart from consultation with Panchayat leaders and local people for the preparation of plans and programmes for drinking water supplies, a special attempt was made to involve nongovernmental organizations in the process. At the beginning, the Women's Services Coordination Committee (WSSC), Youth Activities Coordination Committee (YACC), Community Services Coordination Committee (CSCC) and other various organizations took a keen interest in contributing what they could at various stages of development of plans and programmes.

The UNDP and the Decade Steering Committee have recognized that national NGOs can greatly assist in the reaching of Decade goals and targets. It was felt that the Decade programme would work best if Government worked closely with the NGOs. After the formulation of the Plan, a workshop on drinking water supply and sanitation was organized in Kathmandu, from 27 September to 15 October 1982, jointly by the Social Services National Coordination Council (SSNCC) and UNDP.

The Workshop was followed six weeks later by a consultation for the International Drinking Water Supply and Sanitation Decade. In both the Workshop and consultation there were participants from different organizations such as Community Development Service, Nepal Scouts, Youth Clubs, 4-H Club, Nepal Jaycees, Nepal Red Cross, religious organizations, Government Departments and International Agencies. The consultation recommended that SSNCC should be the focal point for NGO's Decade action programme in Nepal through two interrelated cells in its technical wing:

- (i) A newly created Decade cell; and
- (ii) an existing but expanded and strengthened Training cell.

2.5 Role of External Agencies.

His Majesty's Government could successfully complete the important activities planned to be executed during the preparatory phase through its concerted efforts supported by the UN System. This has enabled HMG to actually initiate work on the activities planned for the Decade from the beginning of the Sixth Plan.

As a follow-up of the Resolution WHA30.33, which requested the Director-General to ensure WHO's fullest participation in implementing the Plan of Action formulated by the UN Water Conference and in the action to be undertaken during the International Drinking Water Supply and Sanitation Decade, in close collaboration with the concerned Organizations of the UN system, other intergovernmental bodies and nongovernmental organizations, HMG carried out, firstly, a rapid assessment of ongoing programmes. This very useful exercise provided the opportunity to assess the country's level of preparedness, fix national targets to be adopted, and also decide on various other aspects such as priorities, levels of service, sector policies, etc.. His Majesty's Government got very valuable assistance from the WHO. UNICEF has been providing assistance in areas of training, large-scale provision of equipment and materials for rural water supply schemes, hand pump installation, health education, and environmental sanitation. The development of a Ten-Year Plan and the Tubewell Scheme for Terai was undertaken with UNDP assistance, with WHO as the executing agency. As an exercise of the International Plan for Health for All by the Year 2000, with WHO assistance, the requirement for setting higher targets in the water supply and sanitation sub-sectors was realized. The Rasuwa Nuwakot Integrated Rural Development Project is an ongoing project, and IBRD has helped to incorporate increased water supply and sanitation components into the project. Various bilateral and multilateral agencies helped by funding engineering fellowships, and by providing volunteers or staff for rural water supply projects. For the urban sector, IDA loans have been negotiated and various projects have been successfully formulated.

As part of the activities aimed at smoothing and increasing the flow of funds to the sector towards achieving higher targets for the Decade, a small two-tier group of UN Technical Support Team was created with the Resident Representative of UNDP as the focal point. The terms of reference for the Steering Committee include:

- To initiate consultation with representatives of all the bilateral agencies which have existing or future projects related to the Decade
- To take all necessary decisions relating to coordination of external technical support necessary for the Decade

- To promote an increased flow of funds into the sector
- To assist the National Group in the development and implementation of the national programme for water supplies and sanitation.

The Working Group prepares reports and proposals for the Technical Support Team Steering Committee, assists the National Group, liaises with appropriate officers in Ministries or Departments represented in the National Group and meets on a regular and systematic basis, keeping one another and their respective agencies fully informed.

2.6 Decision-making during the Planning Process.

The setting up of the National Group, with representation from various Ministries and Departments, was certainly very useful, since it effectively represented the interests, policies and processes of various agencies. Because of the composition of the Group, it was not very difficult to make necessary decisions at various levels. As a matter of fact, before the first part of the Decade Plan was incorporated in the Sixth Plan, the concerned Ministers, particularly those of the MWR and MPLD were fully aware of the Decade Plan. The departmental planning cells were fully informed of the developments that were taking place in the planning process, and the Ministers, also, could agree upon the general policy or strategy framework before the technical work was finally completed to be incorporated in the Plan.

3. THE PLAN FRAMEWORK.

3.1 An Outline of the Plan Strategy.

The Ten-Year Plan period conveniently spans the Sixth and the Seventh National Plan periods, and it sets out the programme of works to be carried out during each of the National Five-Year Plan periods. It has already been explained how the programme planned for the Sixth Plan period forms a part of the National Sixth Plan, which became operational from July 1980.

3.1.1 Targets.

In the field of rural water supply, the estimated 1980 population coverage of 7% is to be increased to 67% by the end of the Decade. Some 1,450 small water supply systems, serving villages with a population of under 1,500, are planned for construction by MPLD, whilst 830 medium size systems, serving villages with populations above 2,500, are planned for DWSS. In the rural Terai, MPLD plans the installation of 14,000 shallow tubewells with handpumps, and DWSS plans to install a further 17,250.

As far as urban water supply is concerned, the target is to cover 94% of the urban population by the end of the Decade. Also, the existing urban water systems are to be upgraded and improved to provide water for 24 hours a day supply instead of the present 4 to 8 hours a day intermittent service.

The Rural Sanitation Programme is intended to deal only with excreta disposal using household latrines designed to suit local conditions. The 1990 target for rural sanitation is to reach 13.4% of the population, although every effort will be made to achieve a wider coverage. In addition, some 18,000 schools throughout the country are scheduled to receive sanitation facilities through a school sanitation programme.

By 1990, the Decade Plan calls for the construction of sewerage facilities in core areas of six of the densely populated urban centres. It is also planned to introduce a low cost sanitation programme elsewhere in urban communities. 17.6% of the urban population is targeted to be covered by the urban sanitation programme.

Summing up the targets set for the different programmes, the Decade Plan expects that 30% of the total population by 1985, and 69% of the total population by 1990, will have safe and adequate drinking water.

TABLE 1

TOTAL POPULATION COVERAGE BY WATER SUPPLIES AT
1980, 1985 AND 1990: ESTIMATES

<u>Population (in '000)</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>
Total Population 1/	14,010.0	15,687.3	17,590.5
Population Served (Percentage)	1,577.0 11%	4,721.4 30%	12,180.7 69%
Total Urban Population	860.7	1,024.5	1,247.4
Urban Population Served (Percentage)	714.4 83%	911.3 89%	1,147.0 94%
Total Rural Population	13,149.3	14,662.8	16,373.1
Rural Population Served (Percentage)	862.6 7%	3,810.1 26%	11,033.7 67%
Percentage Population Served			
In Mountains	16	28	57
In Hills	8	19	44
In Terai	2	34	100

1/

Population has to be re-estimated on the basis of the 1981 Census.

3.1.2 Major Concentration of Effort and Priorities.

Since the implementation of the programme is divided among three different agencies, viz. DWSS, WSSB and MPLD, there is no definite delineation of special priority. However, it is agreed that safe drinking water supply to more nucleated settlements will be given first priority, since, in Nepal, particularly in the hills, there are many dispersed settlements consisting of isolated homesteads, which makes the delivery of services, particularly piped water supply, very difficult.

Another important consideration will be to give priority to those projects which will drastically reduce carrying distance, thus helping to save time and energy and to release labour which could be used for productive economic purposes.

In the urban areas, first priority will be given to the main densely populated cities, and gradually the other smaller urban centres. Repairs and maintenance of old urban water supply schemes and augmentation of existing schemes will be given priority in that order.

3.1.1 Broad Based Policies.

His Majesty's Government's policy in the hills and mountains is aimed at reducing the water collection journey, improving water quality, and providing an adequate supply of water. By 1990, it is required that there will be at least one water supply system in every Village Panchayat in the country.

Pumping Schemes are not favoured for rural water supply systems in the hills and mountains, as these are expensive and well-trained manpower would be needed for operation and maintenance. The use of hydraulic rams will also be limited, as they require proper maintenance. Therefore, the adopted policy is to implement relatively simple technology projects with the maximum use of local resources, as well as local skills and talent.

In the case of the Terai, where the water table is usually fairly high, shallow tubewells with handpumps will be installed. HMG has laid down that coverage is to be 1 handpump for about 200 people. In addition, the well will be sited so as to minimize the water carrying distance to within 150 metres. It is estimated that approximately 32,000 handpump schemes will be implemented by 1990. Deep tubewells for handpumps and for community pipe water supplies will also be needed in some areas of the Terai.

In the case of urban water supplies, it is the policy of HMG that all towns should have a piped water supply. By 1990, this will be the case; however, this does not imply complete coverage of the population, since there are wards which are so far away from the towns as to make it uneconomic to include them in the urban systems.

For the purpose of the Decade Plan, sanitation is taken to mean excreta disposal systems only.

In order to achieve Decade objectives, the following main policies have been laid down:

1. To minimize expenses, maximum use of local resources and techniques should be made while implementing projects;
2. Projects must be selected on the basis of the possible degree of willingness of the beneficiary community's participation;
3. Operation and maintenance aspects of completed projects must be taken care of by the Local Panchayats.

So far as institutional changes are concerned, little has occurred. An Environmental Sanitation Section has been created in the Department of Health, under the Epidemiological Division, in order to monitor the interaction between water and health programmes. The creation of the Local Development Ministry is no doubt a change, but since it did not take place in response to the Decade Plan, it cannot be taken as a significant change. However, since it is no longer a Department under the Home and Panchayat Ministry, it has a better scope for increasing its activities, including those relating to drinking water and sanitation.

3.1.4 Financial Requirements.

To avoid unnecessary computation, the estimated financial investment for the Decade Plan has been based on 1980 prices. Hence, for national budgeting, close monitoring of price levels will need to take place, so that revision may be made to take account of inflation. It is estimated that during the Decade, some Rs 3 000 million (US\$ 250 million) will be needed to meet the targets set.

For WSSB programmes, IDA loans have been negotiated for 75% of the total requirement, and it is anticipated that this will remain the case. For DWSS during the Fifth Plan (1975-1980), the method of funding was nearly an equal split between internal funds and externally secured grants. The sum of the individual annual budgets during the Fifth Plan was about Rs 120 million (US\$ 10 million) as against projected 1980 based estimates of Rs 290 million (US\$ 25 million) for the Sixth Plan and Rs 930 million (US\$ 78 million) for the Seventh Plan, representing increases of 140% and 675%, respectively, or an average of 400% over the Decade. HMG has developed this accelerated programme with the hope, based on preliminary responses received from bilateral and multilateral agencies, that more external funds will be forthcoming.

MPLD operations have been substantially supported by UNICEF personnel and materials, and by personnel from a number of volunteer agencies. The sum of individual annual budgets during the Fifth Plan was about Rs 46.8 million, which includes the cost of materials, plus

other services provided by UNICEF, but not the cost of personnel provided by UNICEF and the other Agencies. Compared to the Fifth Plan allocation, the projected estimates for the Sixth and Seventh Plans are Rs 196 million and Rs 422 million, respectively, representing rises of 310% and 800%, respectively, or an average of 560% rise over the Decade. Such an accelerated programme has been developed in the hope that more external funds will be following.

As mentioned in the constraints and problems section of this report, some donors have not been very regular in their contribution, and some projects had to be given up when promised funds were not made available. Hence, because of the priority which has been given to drinking water supply programmes, HMG is trying to allocate domestic funds to these projects and negotiate with the multilateral and bilateral donors for other projects for which external resources are more easily forthcoming.

3.1.5 Operation and Maintenance.

WSSB Projects: By virtue of being a body which is charged with providing a public service for which the recipients must pay an economic price, the Board is obliged to operate and maintain its facilities so as to discharge its obligation. In addition, because the Agency financing the major portion of WSSB's investments, the IDA, is interested in protecting its investments in a manner which will ensure the recovery of money loaned to the Board, very close monitoring by both officials of WSSB and IDA takes place. To date, the levels of tariffs appear adequate to ensure the satisfactory operation and maintenance of the WSSB system; given, of course, the fact that intermittent supplies are improving steadily with the aim of eventually attaining a twentyfour hour pressure supply.

DWSS Activities: For DWSS activities in the urban sector, the issue of operation and maintenance is complex. It is the policy of HMG that recipients contribute towards the cost of the service where they have a private connection. Presently, public standposts are providing water without any charge. No attempt has been made to achieve a self-sustaining operation in towns under the jurisdiction of the Department, as tariffs do not reflect the cost of the service.

MPLD Activities: Because the construction of water supply systems by MPLD had to rely on village contribution, and thus the available workforce, more attention needs to be devoted to operation and maintenance. Most projects after completion are handed over to the users' Committee, formed soon after the survey is complete. The users' Committee would be engaged in routine inspection, maintenance and operation of the system, and would also provide local materials and unskilled free labour for operation and maintenance, for which a village maintenance worker may be recruited and paid monthly salary in cash or in kind.

Thus, except in the case of projects under WSSB, the cost recovery policy is not adopted in an economical manner. However, it is estimated that cost recovery is 100 per cent in large cities, and 50 to 60 per cent in smaller towns. 58 per cent of urban consumers are charged on the basis of metered consumption. In rural areas, local participation ranges from 25 per cent to 40 per cent of the total cost, depending upon the location of the project.

3.2 Reconciling Goals and Resource Constraints.

As has been pointed out earlier under the heading of constraints and problems, the provision of resources is definitely a great constraint, along with skilled manpower. In March 1983, an exercise was done in order to find out the possible resource gap.

In view of these facts, although HMG is trying to divert domestic resources to drinking water supply projects, it seems that some of the projects and programmes will have to be pruned or dropped altogether. As it is rightly realized that a plan marks the route between the existing position and the required future position, any change in either the starting point or target, or in the route to be followed, will have an inevitable consequence on the targets, and will necessitate a revision. The value of such a long-term plan is its

indication of the route or trend that should be adopted immediately to reach the derived targets. The National Group has accordingly to be constantly vigilant as to the availability of financial resources, and to revise the programmes as and when it is necessary to reconcile the goals with resources.

Similarly, manpower constraints also lead to similar actions. Any plan, after all, is dependant on both quality and quantity of certain inputs, such as manpower. If projected numbers of engineers and overseers cannot be provided for one reason or another, the specified targets may not be achieved. The bases of the plan are carefully spelled out so that the variables such as manpower training, procurement and fund release may be eased in a timely manner to allow the targets to be attained. Only with the full cooperation of all the concerned Ministries and Agencies in removing the negative effects of the above variables, can the targets be achieved. Otherwise, the programmes will have to be pruned accordingly to the availability of the manpower on the one hand and financial resources on the other.

It would not be out of context to mention that in August 1983, a Decade Orientation and Sector Review Workshop was organized in Kathmandu, which actually proved to be an important and valuable exercise. The task forces which were formed worked effectively, and produced important material that should be a useful feedback for a review or adjustment of the Ten-Year Plan at an appropriate time.

Although Nepal has made significant progress in the first three years of the implementation of the Decade Plan, it has been revealed that to attain the mid-term (1985) and the final (1990) targets, coverage programmes will have to be more than double their present rate of implementation in 1984-1985, and increase several times more thereafter to reach the target of 1990. This demand on the institution requires that the identified constraints be either resolved to permit an acceleration in the implementation of the Plan or accepted as difficult problems, and the targets of the Plan pruned accordingly.

3.3 Supporting Programmes.

It has been accepted by the Decade Plan that the major constraint to the water and sanitation agencies lies in the recruitment of technical personnel, of whom engineers and overseers represent the most critical. Only these two grades are discussed in the Plan, since other grades such as draughtsmen, tracers, laboratory technicians and chemists are needed in small numbers, and individual special arrangements can be made for them. No training programme can hope to succeed unless the particular needs are satisfied. Firstly, the conditions of services for which the candidates are being trained must be satisfactory, so that they can be retained in service after training. Secondly, the candidates selected must be of a sufficiently high academic ability, and thirdly, the course must provide them with a qualification which will be recognized. Hence, training, whether pre-service or in-service, has become a necessity, and the first phase has already started.

Appropriate technology has been the most important project of the Research Centre of Applied Sciences and Technology (RECAST) of the Tribhuvan University. Technology which is found to be appropriate and suitable to the Nepalese environment will be diffused gradually among the people. MPLD has taken the responsibility of propagating technology, accepted by RECAST to be appropriate, to various areas of the country.

Water quality surveillance has not yet become an important regular programme outside the urban areas. In the rural areas, it has only been possible to start analysis in doubtful cases. The Environmental Sanitation Section of the Health Ministry has also been engaged in checking the water.

None of these support programmes are well developed. The most difficult problem is that of adequate manpower, as it is feared that the required number of engineers and overseers will not be easily obtained. The problem will have to be solved either by sending candidates abroad, or by bringing the trainers to the country from overseas, otherwise the

Decade targets may have to be revised and pruned accordingly. In the field of appropriate technology for sanitation, the use of pour flush latrines has been very popular, and although coverage is not wide as yet, much progress has been achieved in various parts of the country.

3.4 Contribution of NGOs to Plan Programmes and Funding.

There has not been any deliberate attempt to explicitly incorporate the contributions of nongovernmental organizations into the economic and financial expenditure targets of the Decade Plan. Community participation in MPLD activities should, however, not be under-estimated, as smaller projects are initiated, implemented and maintained by local people through users' and maintenance committees. A caretaker is usually appointed by the community which raises funds for salary and the procurement of some tools and materials. Although there is no direct contribution in the form of financial resources, substantial inputs are made at local level towards project completion. Some external social organizations, such as Save the Children Fund (UK), Foster Parent Plan, and Save the Children Fund (USA), have also been involved in water supply and other schemes in different limited parts of the country.

3.5 Interaction of Water and Health Programmes.

The Decade Plan document states that no allowance has been made in the financial resource requirement calculation for the activities of the Environmental Sanitation Section, as the exact form which they will take is unknown. Additionally, since ESS will provide services rather than materials, contributions are not generally viewed as part of the development of the sector, although the document admits that such inputs are essential to sector development, and it is entirely for the support of Decade activities that the ESS has been set up, providing very close technical coordination with WSSB, DWSS and MPLD. In spite of the modest manner in which the ESS is involved in the Decade Plan, it has done quite a lot in improving the sanitation of Kirtipur, and has also chosen some selected uncovered Panchayat to launch programmes of Drinking Water and Sanitation for demonstration purposes. In about six districts, viz. Kathmandu, Bhaktapur, Morang, Chitwan, Kaski and Banke, ESS has launched programmes through schools, Panchayats, Health Posts, and interested areas of the private sector. Although primary health care workers have not yet been allocated any responsibilities, district public health offices and their Health Inspectors are sometimes used for the purpose. Recently in the four districts selected for JCHP it is planned to integrate the implementation of the Decade Plan with PHC activities.

3.6 Intersectoral Programmes.

Although the Decade Plan does not yet include intersectoral programmes, the programmes of the Decade Plan have been incorporated into other intersectoral Plans of Action, such as the Plan of Action for Health for All by the Year 2000, Joint Nutrition Support Programme, Integrated Rural Development Projects, etc.. For example, the Sagarmatha Integrated Rural Development Project has Drinking Water Supply as an important component in its programme. The National Group for IDWSSD can claim to be a body able to tackle the problem of coordination between intersectoral programme management and the sector agencies, as it draws its members from different agencies.

4. PLAN FOLLOW-UP.

The process of Decade planning is continuous, and the Plan should undergo regular revision as and when necessary in the light of new knowledge. For example, after the Decade Plan was drafted, the 1981 Census has revealed that the population growth rate during the last decade was 2.6%, whereas the Plan assumed that it was less than 2.16%. Coverage levels have accordingly to be corrected and incorporated. Further revision may be required as a result of changes in other variables, such as financial resources, manpower availability, etc..

4.1 Impact of Changes in Economic Climate.

It is an unfortunate coincidence that the last few years have been extremely difficult for the global economy, as this has affected various projects which were already included in annual programmes.

The Mid-term Review of the Sixth Plan has shown a significant shortfall in investment in real terms during the first three years. It has thus become imperative that a greater effort be made to mobilize resources - both internal as well as external - during the remaining two years of the Plan period, so as to increase investment and improve productivity in critical sectors. If this is not done, the possibilities of achieving national Decade targets will be badly affected.

4.2 Progress of Implementation.

Within the first three years of the Plan period, DWSS has completed 49 piped water supply systems, and 735 shallow tubewells with hand pumps have been installed. This has increased population coverage by 320,000. Additionally, 219 new projects were surveyed and final designs completed. In the field of sanitation, about 947 household latrines were constructed as demonstration units with a population coverage of about 6,000. A detailed manpower study of sector agencies was also recently completed by the World Bank with UNDP funding and WHO collaboration.

So far as WSSB is concerned, the World Bank Project I was continued during fiscal year 1980-1981. The work involved overall water supply improvement in Kathmandu, Lalitpur and Pokhara, and sewer improvements in Kathmandu and Lalitpur. In the same year, World Bank Project II, involving 5 urban towns and 100 villages in the Kathmandu valley, was carried out. In 1981-1982, Project III, involving 12 towns for water supply and improvements of the sewerage system in Kathmandu, was initiated. In fiscal year 1982-1983, World Bank Project I was completed, designs for Project III were completed and tenders for the work obtained. Feasibility studies for 4 water supplies and sanitation projects in 22 towns, involving updating master plans and feasibility studies, were initiated in 1983 with UNDP and World Bank assistance.

MPLD has so far completed 244 groundwater supply systems, and 490 tubewells were installed. Detailed engineering design for 270 projects has been proposed. In the field of sanitation, 940 pit latrines have been constructed as demonstration units. In Pokhara, 20 latrines have already been constructed, while in Banepa some 250 units have been constructed. Similarly, sanitation programmes have been launched in other places, such as Khokana and Dadhikot, with popular participation.

ESS has given organizational advice to Kathmandu Town Panchayat for its sanitation cell, and has cooperated with the Nepal Paediatric Society in carrying out a sanitation programme in Bode Village. ESS has also supplied an appropriate design for toilets to some schools in the Kathmandu valley, and has conducted sanitation surveys in 7 districts of the Kingdom.

4.3 Plan Updating and Review.

Within the framework of the Five-Year Plan, approved by the NDC, the annual plans prepared by the Ministry of Water Resources (for DWSS and WSSB), Ministry of Panchayat and Local Development (for MPLD), and Ministry of Health (for ESS), are discussed thoroughly in the Planning Commission and with the representative of the Ministry of Finance. The agreed programmes are then incorporated in the Annual Development Programmes and Budget of HMG. These discussions, along with the quarterly review of implementation at the ministerial level and the biannual review of implementation in the National Planning Commission, provide an opportunity to evaluate performance and introduce necessary corrective measures to achieve targets or apply mid-course changes. In addition, a Mid-term Review of the Five-Year Plan is

undertaken by the Planning Commission with the same objective. Such a Mid-term Review has recently been completed under the chairmanship of the Prime Minister, which may, in due course, result in additional resource allocation for some sectors, including that of water supply and sanitation. The Decade Programme has been integrated into the country planning process, and will be continuously reviewed and updated through the working of this process. The Decade Plan had drawn the special attention of HMG, since it is a part of a global plan of action. The TST and WHO are also constantly watching the progress of implementation, the problems and constraints which have to be overcome, on the basis of which they are coming forward with appropriate advice.

4.4 Further Programme Development.

It is a routine practice in the NPC that soon after the Mid-term Review, the Secretariat engages in the preparation of a short memorandum containing the basic principles of the next National Five-Year Plan. Seminars also may be held at the Centres of various Development Regions, in order to solicit opinions and comments from local Panchas, administrators, planning officers, etc., about the Plan, its performance, and the principles to adopt for the next Plan. After this, different task forces are constituted to make detailed studies in different fields of development. The process of the preparation of the memorandum has already started, and the Decade Plan will undergo a thorough review. On the basis of the remaining tasks to perform and the constraints or facilities of resources - both human and financial - further programme developments will be made.

4.5 Decade Coordination.

As already mentioned, HMG is trying to redirect domestic resources for drinking water supply in substitution for external resources which did not materialize as committed, so as to ensure, as far as possible, that Decade targets are achieved. As external assistance will, however, still play a very crucial role, coordination among the various agencies working for the Decade is absolutely necessary. It is very fortunate for Nepal that all the agencies involved are cooperating, not only with the Government but also amongst themselves, in Plan Implementation. The Technical Support Team has been purposely divided into two groups - the Steering Committee and Working Group. The former consists of the UNDP Resident Representative, IBRD Resident Representative, UNICEF Representative, WHO Programme Coordinator and Representative, and UNDP Deputy Resident Representative, while the latter includes the Project Officer, UNICEF, WHO Sanitary Engineer, UNDP Programme Officer, etc.. Furthermore, many health programmes are being supported by the collaborative efforts of WHO and UNICEF. For the present, there is accordingly no need for any change in the machinery of coordination.

However, in view of the great resources gap which has not yet been properly bridged, it is felt that if the commitment of the Decade goals is to be honoured, the multilateral and bilateral agencies will have to come forward with a much larger assistance. The target is definitely ambitious, and all the agencies should make a concerted effort to assist this needy country to fulfil its ambition aimed at the wellbeing of the people. Although death is an inevitable terminal event, there is no reason why people should succumb to chronic and repeated infection and infestations as a result of unsafe water and unhygienic environment, which convert man from a productive unit of society to a liability. So it is necessary that the various agencies, including the bilaterals, come forward to help the Nepalese people to help themselves in this great task of providing such a basic need as drinking water and sanitation, since they have committed themselves to the Decade Plan and Decade goals as equal and active partners of the people residing in the countries of the Third World.