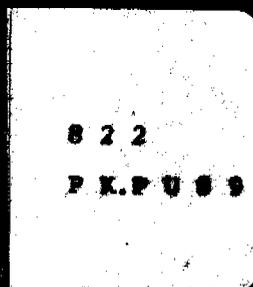


Punjab

Strategic Provincial Investment Plan and Project
Preparation for Rural Water Supply,
Sanitation and Health.



Inception Report

March, 1989

Wardrop - Acres
Cowater International
NESPAK.

822-PKPU89-5188

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Strategic Provincial Investment Plan and Project
Preparation for Rural Water Supply,
Sanitation and Health.

Inception Report

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13N5188 LO: 822 PKPL89

March, 1989

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Cowater International
NESPAK.

INCEPTION REPORT

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EXECUTIVE SUMMARY

Background and Objectives

The Government of Pakistan convened a study workshop in April 1988 to review experience in community oriented water supply and sanitation projects, and to formulate recommendations for modifications to Government Policies in the sector. Based on the resulting World Bank Report dated June 1988, agreement was reached with the Government to prepare a Strategic Provincial Investment Plan and Project Preparation document for each province, the Northern Areas, and also Azad Jammu Kashmir (AJK).

The mission statement used as the basic reference for the strategic planning work reads as follows:

. Committed to the betterment of health and overall quality of life of the rural population through more cost effective and sustainable water, sanitation and hygiene initiatives, maximizing community involvement.

Based on this guideline and the Terms of Reference issued by the World Bank, an investment plan will be designed for Punjab to cover investment and institutional development needs in the sector over the FY90-93 and FY94-97 period. In summary this project will:

. review past investments and assess their effectiveness;

- . evaluate existing institutional arrangements within the rural sector;

- . develop provincial water, sanitation and related health sector investment plans in detail for FY90-93, and indicative for the FY94-97 periods, recognizing Government priorities and sector objectives for the Seventh Five Year Plan;

- . develop procedures for adequate O&M of schemes;

- . develop procedures for annual evaluation of existing schemes;

- . develop specific proposals for improving the effectiveness of PHED and LGRDD; and

- . develop specific phased proposals for effective community participation in planning, design and construction of schemes, and for community management of O&M and financing resource development.

This project will produce the following outputs of which this Report is the first:

- . Inception Report outlining the direction for proposals;
- . draft and final Provincial Investment Plans; and
- . draft and final Project Preparation documents.

Methodology

Following the strategic planning procedure, the Project scope was divided into four major segments, Technology, Institutions, Socio-Cultural and Economy. These segments were further subdivided and the key issues in each subsegment were reviewed with the Provincial Teams, with input from Central Team members. The root causes or factors affecting each issue were then defined and subsequently conclusions established. Based on these conclusions, general goals and initiatives were prepared. These initiatives define the direction which will be followed in developing the Financial Plan and Project Preparation document.

Goals and Initiatives

Throughout the planning process, data has been collected from Government departments, field trips and interviews. This data has been analyzed and the results applied to the ongoing process of focusing the goals and initiatives to where they will be most effective.

Although the goals will be refined continuously, they are summarized as follows:

2 . integrate community participation in project planning, implementation and where applicable in operation and maintenance;

mechanisms
develop financing proposals to facilitate a greater mobilization of community funds for the supply and installation of water schemes, sanitation and drainage

systems, and latrines;

- expand the use of quality handpumps and improved installation procedures into the marketplace;
- increase the level of awareness for health/hygiene issues in the rural areas;
- increase the involvement of the private sector in the design, construction, and operation and maintenance of sector schemes; and
- transfer responsibility for operation and maintenance of water supply schemes to the Union Council, community based organization or private enterprise.

Remarks?

From these objectives, initiatives for further review have been developed. These initiatives are conceptual in nature and subject to change during interactive discussions with the Steering Committee, the Government of Pakistan, World Bank and donor agencies.

The initiatives proposed for further development are summarized below.

Community Involvement Initiative

This initiative will develop proposals to ease introduction of the community involvement process into the Government line department procedures, for the planning, implementation and operation and maintenance phase of schemes.

The following options will be considered under this initiative:

- . orientation programs for Government departments and elected officials to present the implications, problems and benefits of greater community involvement;
- . provide community promoters to facilitate coordination of community groups with Government programmes and procedures. These personnel would promote community involvement to the communities, present them with information on Government programs, assist them in dealing with Government, and in general smooth the interactive process between them; and
- . implement a needs survey to permit introduction of sector programmes, to collect information on the communities prioritization of water and sanitation needs in relation to other needs, and to raise the communities awareness of sector opportunities.

Institutional Development

This second initiative will design a programme of institutional development which will permit efficient processing of community supported projects through various Government departments.

Various alternatives for distributing the responsibilities for planning, design and implementation of schemes will be reviewed. Options under consideration include the following:

Proposals for Responsibilities on Schemes

<u>Task</u>		<u>Agency</u>	
Coordinating Agency	PHED	LGRDD	District Council
Planning - Local Level	P&D	LGRDD	LGRDD
Design	PHED	LGRDD	Consultant
Implementation	PHED	LGRDD	District and Union Council

O&M *0*

Private Sector

The private sector initiative will develop ways and means of;

- . increasing the involvement of the private sector in the design and construction of water supply schemes; and
- . increasing the involvement of the private sector in the operations and maintenance of water supply schemes.

Options under consideration include privatizing operation, maintenance and tariff collection of water supply schemes.

Increasing the work tendered to engineering consultants is another proposal under consideration.

Also under review are methods of providing water under contract from private owners of water supply systems.

A program to assist the handpump industry in Punjab is under consideration. It will include training for installers on installation procedures, better quality products available in the market, and the health hazards of inadequate installation procedures.

In addition credit schemes for the purchase of pumps and more effective ways of introducing higher quality pumps into the marketplace will be considered.

Cost Recovery

This proposal will develop financing or cost recovery schemes which assist in increasing the community's level of contribution, in cash or in kind, for sector projects.

A credit scheme for the improvement of existing water schemes, purchase of handpumps or latrines, is under review. Alternately a grant program to stimulate the purchase of latrines or higher quantity handpumps is being evaluated.

An initiative to establish an effective method of recovering operating and maintenance costs for water schemes is under way. Various methods of direct or indirect collection will be reviewed and compared with past and present procedures used in this and other sectors.

Human Resource Development and Hygiene Education

Human resource development and hygiene education programs will be prepared to support activities generated from within the other initiatives. For example a follow-up hygiene

education program incorporating the demonstration principle
may be prepared for new water supply systems and handpump
and latrine installations.

1. INTRODUCTION

The Government of Pakistan has embarked on an ambitious program to improve the country's rural infrastructure including water supply and sanitation. In 1987, a team of Pakistani and international consultants undertook a national review of the Sector. They presented a Sector Report to the Government in June, 1988.

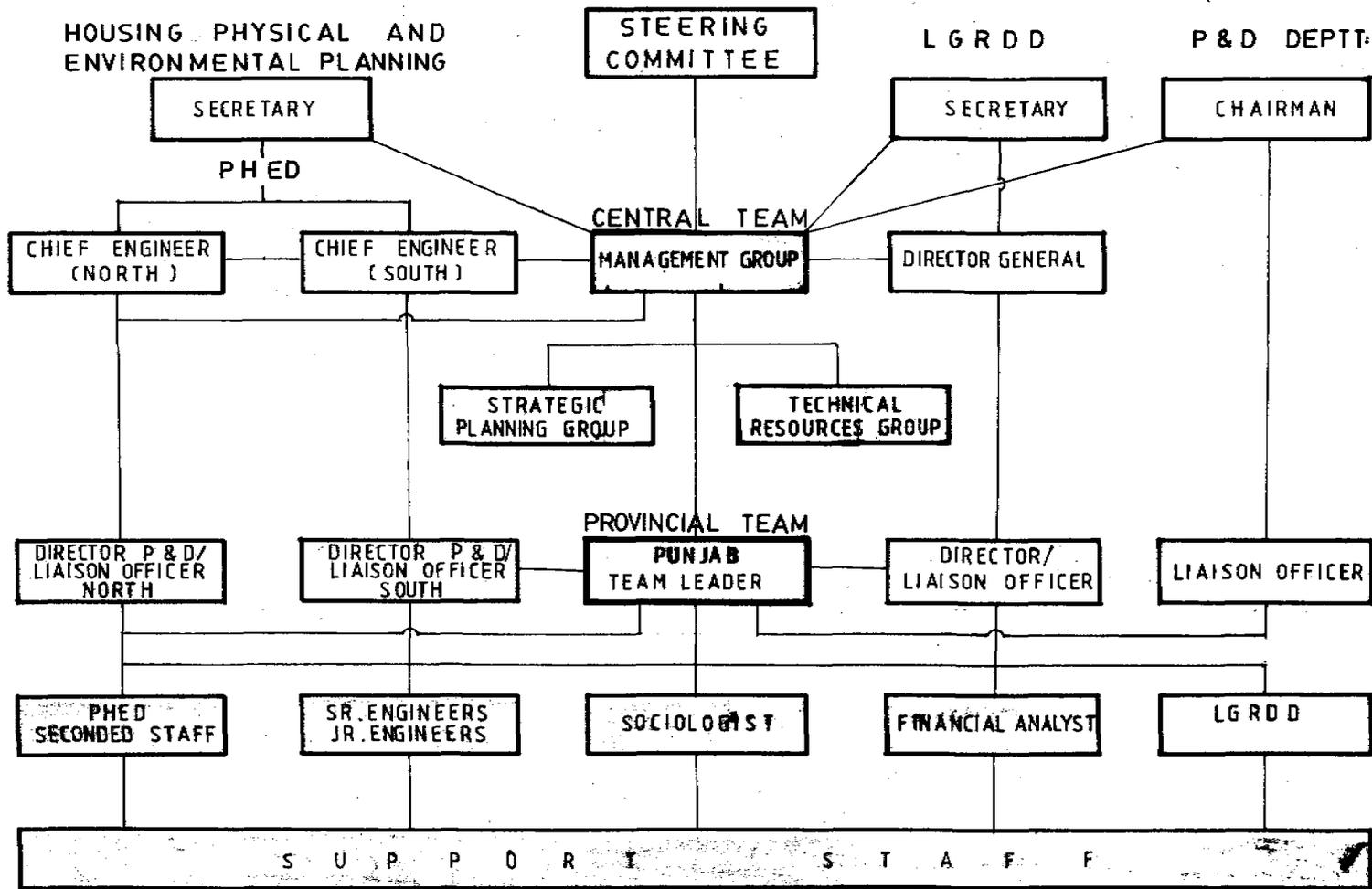
As a result of the Sector Review, the World Bank, initiated this Strategic Provincial Investment Planning and Project Preparation Process to assist the Provincial Government in the development of an investment strategy and identification of projects for implementation starting in 1990. The goal of the projects is to contribute to the betterment of health and overall quality of life of the rural populace through more cost effective and sustainable water supply, sanitation and hygiene education initiatives while maximising community involvement.

In late 1988, the World Bank, with the financial support of CIDA, engaged the project team of Wardrop-Acres in association with NESPAK, and Cowater International, as Consultants for the project.

The purpose of this report is to present the Project Team's approach to the work as a basis for discussion with the Government and the World Bank. An outline of the project organisation and methodology is presented and critical issues in the sector and their root causes are identified. A set of preliminary initiatives with implementation options are proposed as a preview of the likely direction of the investment plans.

As set out in the workplan in this report, the focus of the Team's activities in the next phase will be on refinement of the issues and initiatives through more detailed examination of existing data, some limited field checks and discussions with GOP staff. The preliminary initiatives will be reevaluated and additional initiatives will likely emerge. The specific initiatives that evolve will form the basis of the investment plan and the formulation of projects.

PROJECT ORGANISATION FOR PUNJAB PROVINCE



2. PROJECT ORGANIZATION AND METHODOLOGY

2.1 Project Organization and Management

The Provincial Team is responsible for developing the investment plan and identifying projects for implementation. It is made up of Project staff (Team Leader, three engineers, a Sociologist and a Financial Analyst) and seconded Provincial staff as shown in Figure 2.1. The team reports to, and is guided by, the Provincial Steering Committee made up of:

- . Chairman - Secretary,
Housing, Physical and Environmental Planning;
- . Member - Additional Secretary Technical,
Department of Health;
- . Member - Chief Engineer South,
Public Health Engineering Department;
- . Member - Chief Engineer North,
Public Health Engineering Department;
- . Member - Technical Advisor,
Housing, Physical and Environmental Planning;
- . Member - Director of Planning and Evaluation,
Local Government and Rural Development
Department; and
- . Member - Research Officer,
Planning and Development.

The Provincial Team is supported by the Central Team based in Islamabad. The Central Team takes the lead in developing methodologies for the project, establishes goals and their schedules, and provides technical support to the Provincial Team.

A detailed presentation of the project staffing and individual responsibilities is presented in Appendix II.

2.2 Methodology

The project utilizes a Strategic Planning approach to the work programme in which key issues are identified and are used to focus the activities for the duration of the project term. The process is designed to quickly lead to programmes and initiatives which can be implemented and which will have a reasonable likelihood of success.

The process is an ongoing one in which data is collected, analyzed and used to arrive at an understanding of the strengths which can be built on and the weaknesses which need to be overcome. Through analysis, interrelationships in the sector are identified and are used in the development of potential initiatives. Gaps in the data result in more collection and analysis.

The following activities will be undertaken in the time periods shown:

. Reconnaissance Survey	-	Dec. 1 - Feb. 15, 1989;
. Data Collection	-	February 15 - September 30;
. Data Analysis	-	March 1 - September 30;
. Synthesis of Information	-	March 15 - June 30;
. Formulation of Initiatives	-	March 1 - October 30; and
. Preparation of Outputs	-	June 1 - October 30, 1989.

The outputs of the project will be recommended Strategic Provincial Investment Plans and Project Identification documents in both draft and final form and a National Summary Investment Plan according to the following schedule:

- . June 11, 1989 - Draft Strategic Provincial Investment Plan;
- . Sept. 10, 1989 - Final Strategic Provincial Investment Plan;
- Draft Project Identification Report; and
- . Nov. 5, 1989 - Final Project Identification Report;
- National Summary Investment Plan.

A detailed discussion of the methodology is presented in Appendix II.

3. RURAL WATER SUPPLY, SANITATION AND HEALTH SECTOR

3.1 Overview of the Province

3.1.1 Physiography

The Punjab is divided into three regions, the hills and plateau, the plains, and the deserts. These regions are shown in Figure 3.1.1.

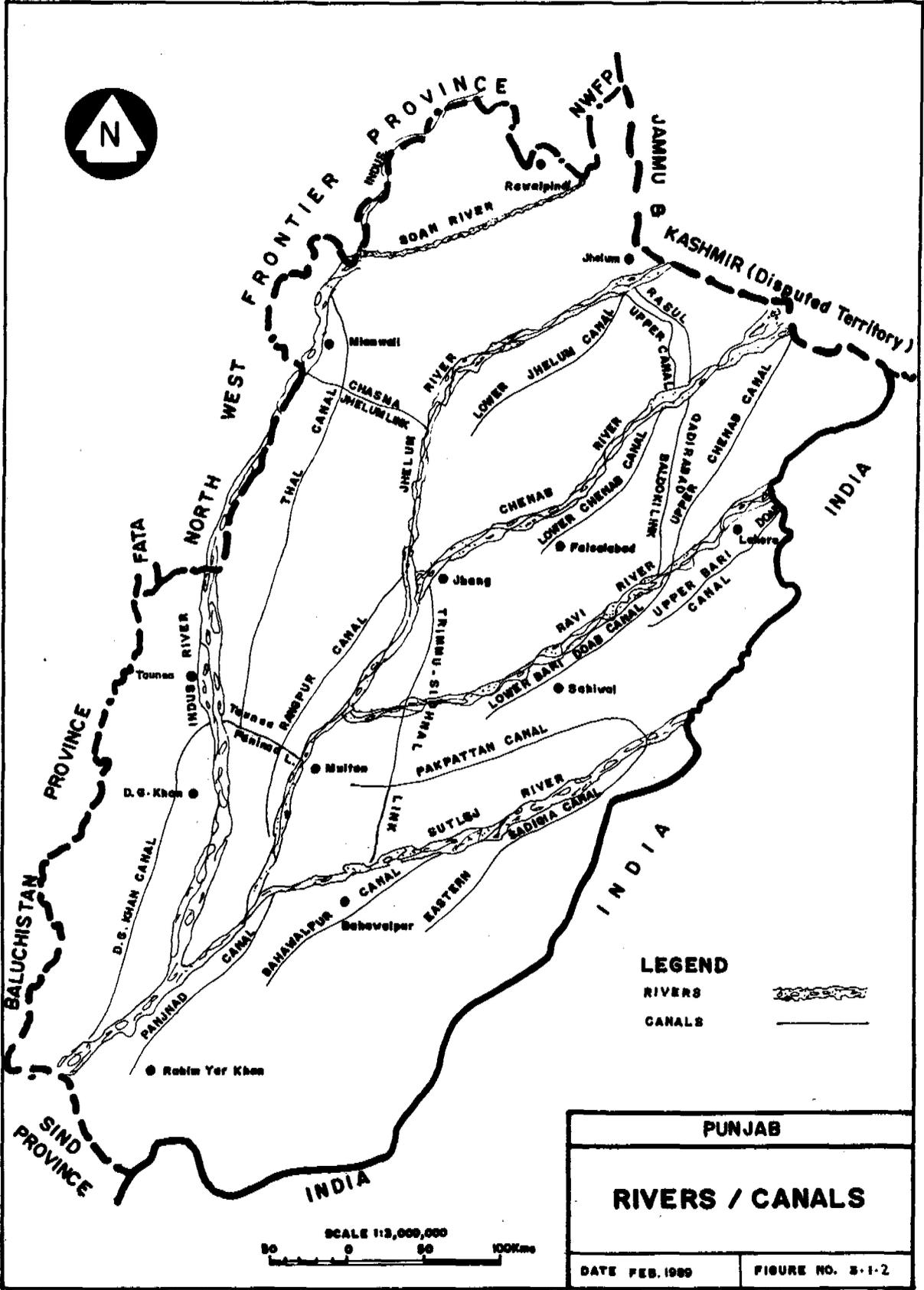
The Hills and Plateau

The hills and plateau include the mountain foothills north of Rawalpindi and Islamabad. The Potwar plateau located south of Rawalpindi is bounded on the east by the Jhelum river and on the west by the Indus. To the south is the Salt range which reaches west to the Indus. Elevations in the Salt Range vary up to eighteen hundred feet and comprise a series of parallel hills and valleys. The Soan and Haro are the largest rivers in the hills and they flow southwest to the Indus.

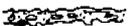
The Potwar plateau is largely an area of Barani (rainfed) farmland. Landholdings are small and many of the landowners served with the military at some time during their lives.

The Plains

The plains are vast deltaic alluvial and flood plain deposits of the Indus, Jhelum, Chenab, Ravi and Sutlej rivers. The average slope of the plains is of the order of one and a half feet per mile and small variations in elevation are discernable between the flood plain areas, sand dunes and deltaic silts and clays.



LEGEND

RIVERS 
 CANALS 

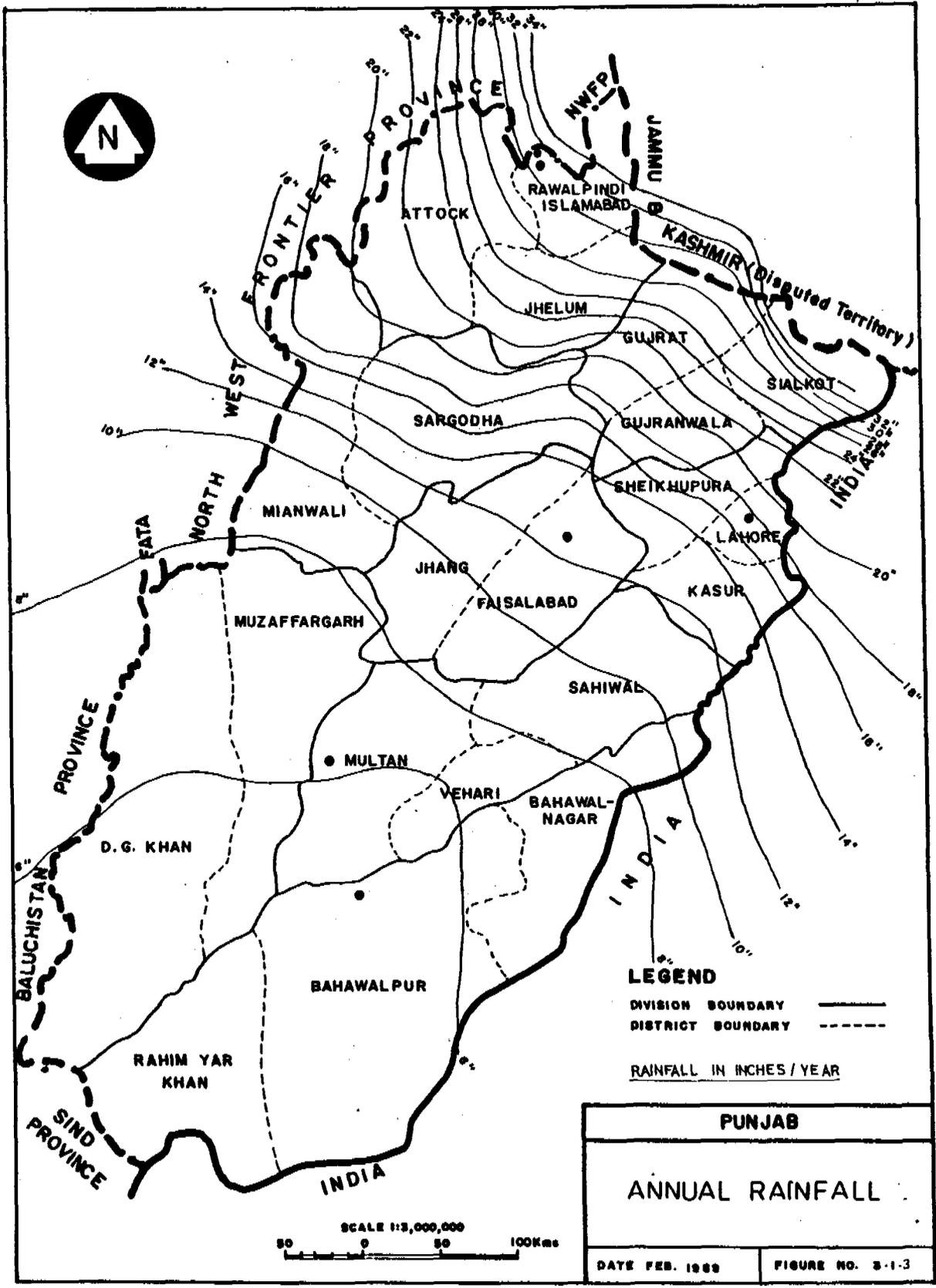
PUNJAB

RIVERS / CANALS

DATE FEB. 1989

FIGURE NO. 3-1-2

SCALE 1:12,000,000
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The Upper Indus plain is divided by the rivers into four large doabs (an area between two rivers). The Thal doab with 7.9 million acres between the Indus and the Jhelum includes many sand dune and desert areas. The Chaj doab with 3.2 million acres lies between the Jhelum and the Chenab. The Rechna doab has 6.9 million acres and lies between the Chenab and the Ravi. The Bari doab with 7.2 million acres divides the Ravi and Sutlej rivers.

Further south lies the Bahawalpur plain which extends downstream on the east of the Indus to Sind Province.

The plains have within them an immense network of irrigation canals (Fig. 3.1.2) and jointly they comprise the largest area of continuous irrigated land in the world. Intensive agriculture with double cropping occurs in most areas.

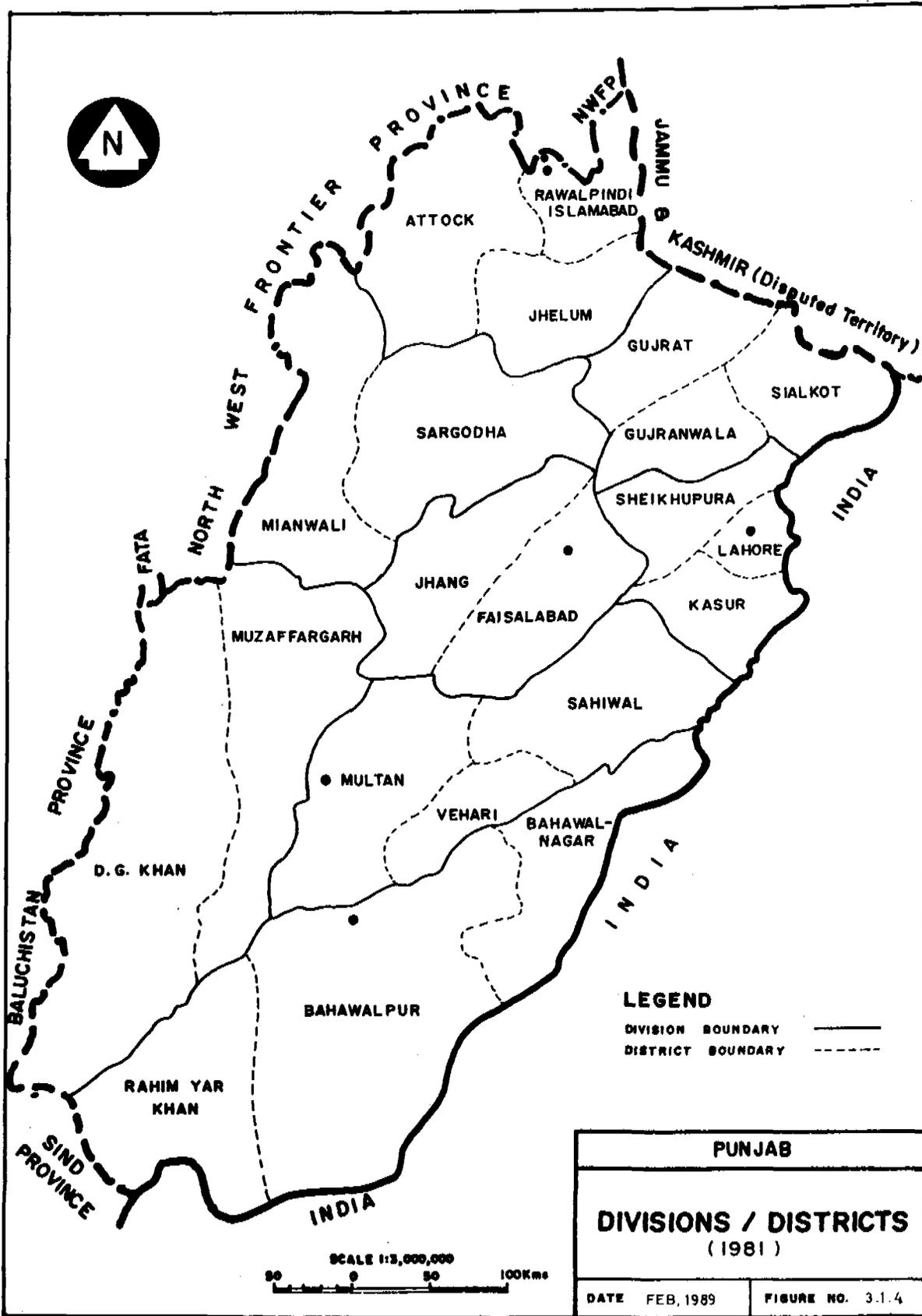
The Deserts

There are three desert areas. East of the Bahawalpur plain lies the Cholistan desert which extends beyond the Indian border. There is a second arid area between the Indus and the Sulaiman Range in D.G.Khan. In the central part of the Thal doab is Thal Desert. Settlement is sparse in these desert areas and in Cholistan a distinct nomadic lifestyle is established.

Annual rainfall in the Punjab is shown in Fig. 3.1.3. Most of the precipitation occurs during the monsoon period of July and August.

3.1.2 Population

Punjab is Pakistan's most densely populated Province. When the 1981 census figures are projected to 1989 using a 3% growth rate, the estimated total population of Punjab is



58.2 million. Projecting rural population growth at a lower rate of 2.3%, the rural population is presently 40 million. Table 3.1. shows the area, population density and household size by district. Fig. 3.1.4 shows the 1981 District Boundaries as they were in 1981. Although the district distribution has changed, we have included to the previous distribution to permit correlation with the 1981 census data.

TABLE 3.1
 AREA, POPULATION, DENSITY AND HOUSEHOLD SIZE
 BY DISTRICT - 1981.

District	Area (sq. km.)	Pop. (000)	Pop. density (people /sq. km.)	Average No. of people/ Household
1 Attock	9,800	1,142	117	5.5
2 Rawalpindi	5,286	2,121	401	6.2
3 Jhelum	7,179	1,167	163	5.2
4 Gujrat	5,865	2,255	384	6.1
5 Mianwali	13,993	1,377	98	6.1
6 Sargodha	12,367	2,553	207	6.2
7 Faisalabad	9,108	4,689	515	6.7
8 Jhang	8,809	1,978	225	6.1
9 Sialkot	5,353	2,711	507	6.7
10 Gujranwala	5,988	2,676	447	6.8
11 Sheikhpura	5,960	2,110	354	6.4
12 Lahore	1,772	3,545	2,001	6.9
13 Kasur	3,995	1,528	383	6.1
14 D. G. Khan	24,240	1,583	65	6.6
15 Muzaffargarh	14,538	2,164	149	6.4
16 Multan	10,847	4,080	376	6.7
17 Vehari	4,364	1,329	305	6.4
18 Sahiwal	10,303	3,612	351	6.1
19 Bahawalpur	24,830	1,453	99	6.4
20 Bahawalnagar	8,878	1,374	155	6.2
21 R. Y. Khan	11,880	1,841	155	6.9

VILLAGE SIZE BY POPULATION PUNJAB

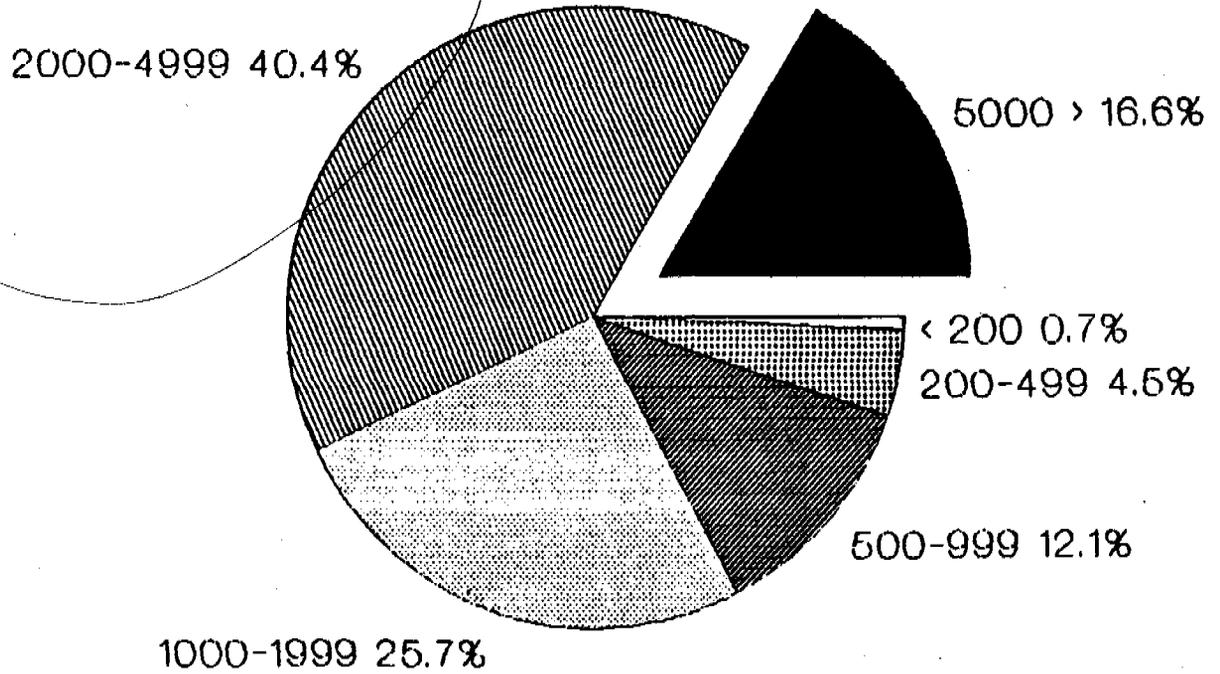
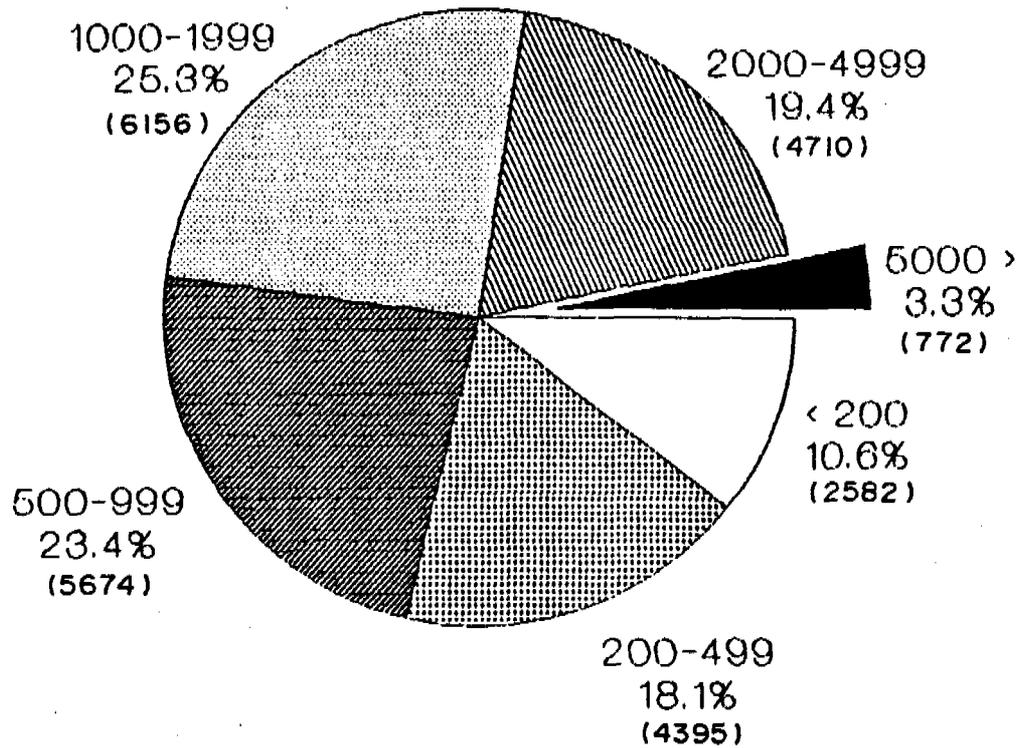


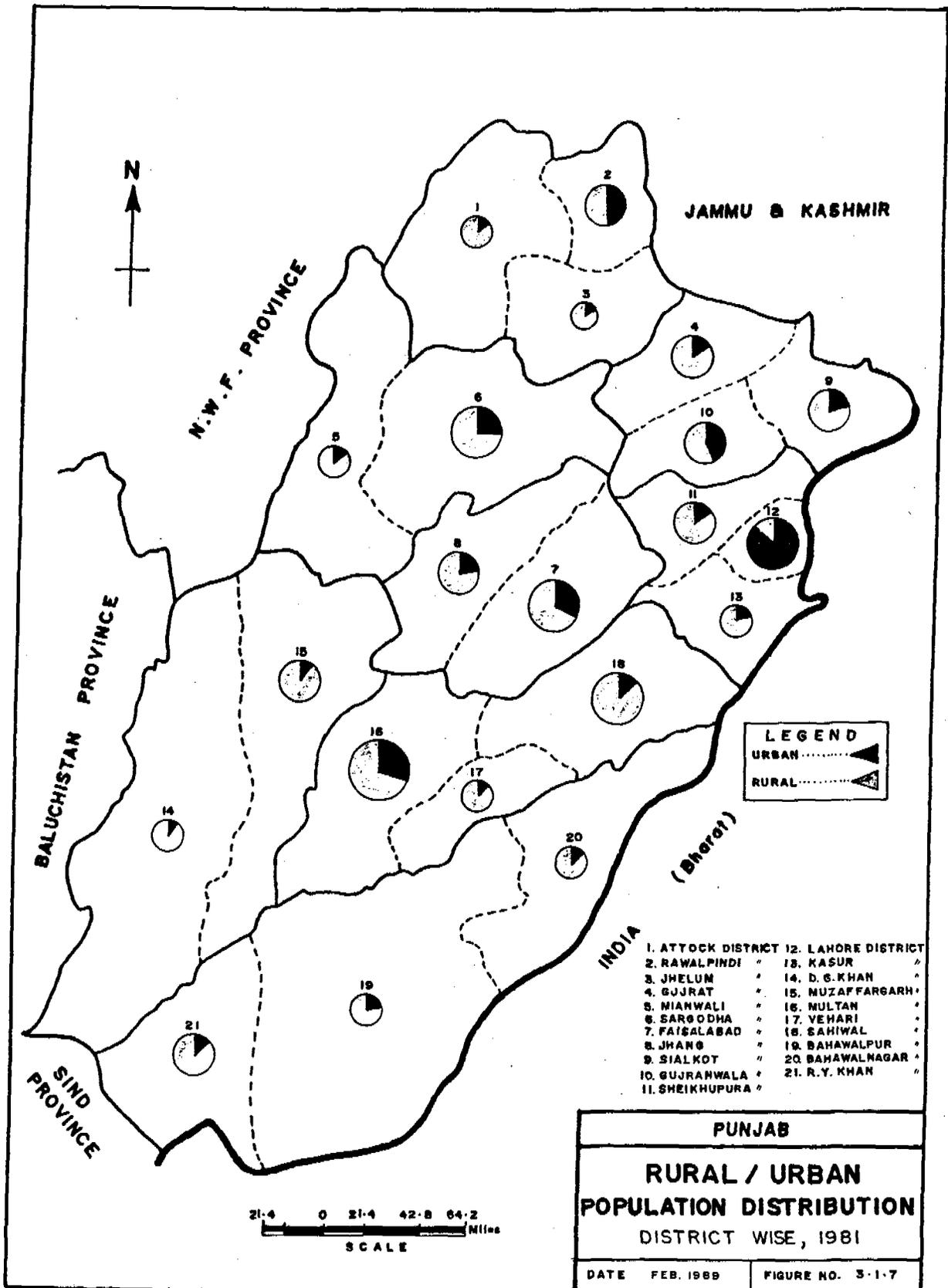
FIG 3-1-5

★ VILLAGE NUMBERS BY POPULATION SIZE
PUNJAB



★ Village Denotes Mouza
TOTAL NUMBERS 24289

FIG 3-1-6



Col. 1

To assist in preparing the data base necessary to evaluate certain physical characteristics of rural Punjab, Figures 3.1.5 to 3.1.7 have been assembled to provide overview of population distribution. Figure 3.1.5 indicates percentage of people living in a certain size of village. Figure 3.1.6 indicates number of villages in each size range. These figures indicate that 66.1% of the rural population lives in 22.7% of the villages with more than 2,000 people. Figure 3.1.7 indicates the percentage of people in each district living in rural areas.

3.2 Status of the Sector

3.2.1 Resources and Supply

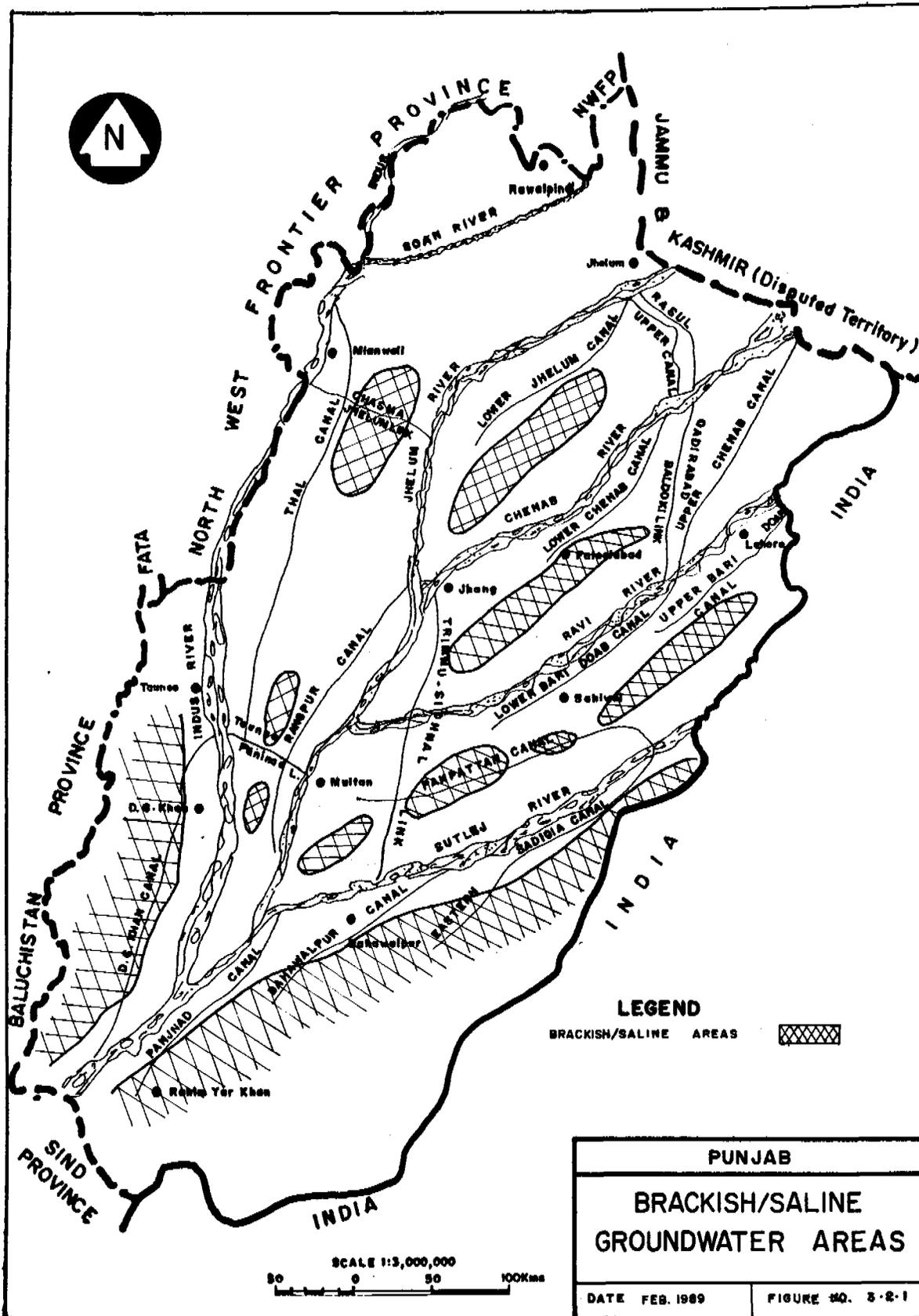
Resources

In the hills and plateau region the sources of water for drinking are from surface flows, springs, wells and rainfall. Surface waters are subject to high sediment loads during the summer monsoons owing to erosion from the overgrazed and deforested land. The potential for groundwater supplies from wells up to 300 feet deep would appear to be good.

In the northern hills and plateau region, groundwater is obtained from springs and shallow percolation wells which recover seepage water from below dry stream beds.

Treatment plants with sedimentation basins and slow sand filters are used to treat surface water from irrigation dams.

In the plains the quantity of surface water from the rivers and canals is immense but its quality is poor and expensive treatment is required. Groundwater is also available in



abundance with quality varying from fresh to brackish to saline as the distance from rivers and main canals increases (see Fig 3.2.1). Over five million acres of land in the Doabs and the Bahawalpur plains have groundwater with total dissolved solids exceeding 2000 ppm. More than 22% of the population live in this zone. The World Health Organization upper limit for drinking water is 1500 ppm.

Water Supplies

Adjacent to the rivers the groundwater quality is excellent and thousands of handpumps and drilled wells provide water for domestic and irrigation supplies. Handpumps are presently serving much of the population in the sweet water zones. These are installed and maintained privately at no cost to the Government. The quality of the pumps is generally low and they are expensive to maintain. About 55% of the population live in this sweet water zone.

In brackish and more saline areas, where sources of potable groundwater are not available, the canal water is used for drinking. The sediment in the water is allowed to settle in containers and it is then passed through coarse filters before being consumed. Community water supplies, installed by Public Health Engineering use water either from the canals which is treated by slow sand filtration or from shallow tubewells drilled adjacent to canals. The high rate of canal leakage permits the withdrawal of the seepage which overlies deeper saline water.

In deserts, such as the Cholistan, water is obtained from specially built covered cisterns which gather the infrequent rainfall. These are known as "tobas". Plans have been made to increase the number of tobas.

Public Health Engineering Department (PHED) is presently installing piped water systems with community tanks or standpipes in villages having a population of less than 5,000 and with house connections in villages with more than 5,000 people. Supply per capita varies from 8 to 15 gpd depending on the village size. PHED assumes a population growth rate of 3% per year for 10 years in establishing their plant design criteria. It is clear from discussions in the field that many people prefer and are willing to pay for house connections. Per capita cost for installing water supply schemes in sweet, brackish and arid zones, calculated on the basis of available data from PHED is given in Appendix 4.

The estimated rural population in the Punjab for 1989 is 40 million. It is estimated that 5.6 million (14%) are served through piped water supplies and 24.4 million are reported to have handpump supplies. This number however includes shallow handpumps taking poor quality water in the brackish zones and many handpumps whose installation or location in the village is such that the tubewells may be polluted.

3.2.2 Disposal of Human Waste

According to a comprehensive rural housing survey in 1973 and a smaller survey in 1982/83, about 6% of people living in Punjab have access to facilities with acceptable means for disposal of human waste.

Latrines have been largely left to the initiative of individual families, although small scale promotion has been attempted by the provincial government with the assistance of UNICEF and some bilateral agencies. Almost all privately installed facilities are crude "Katcha" pit latrines straddled by planks. Pour-flush "Pucca" latrines are generally preferred, but are not common.

In some villages pour-flush latrines with septic tanks are used. In some cases the tanks are sealed with no means of access for cleaning. Liquid effluent from the tanks is being discharged to local drains on the street.

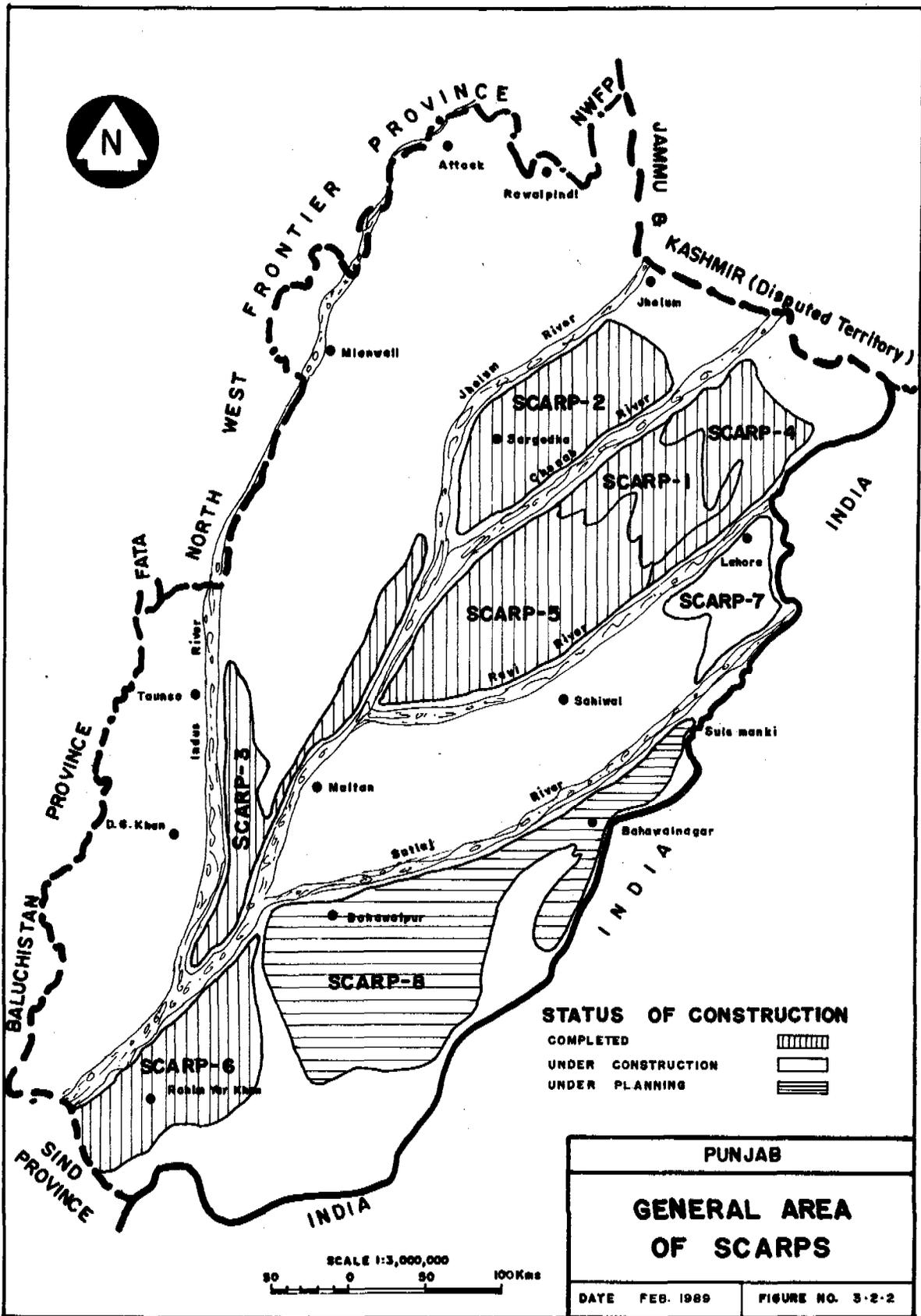
PHED is not involved significantly in latrine or human waste disposal projects. Its emphasis is on water supply and particularly drainage projects.

3.2.3 Sanitation and Drainage

Government policy is to provide water supply schemes in the brackish areas and drainage schemes in the sweet water areas. In the Punjab, PHED emphasizes the construction of bricked streets and drains. These drains are sufficient for removing sullage water from homes. However, they sometimes become plugged and are left uncleaned rendering them ineffective. Improved maintenance by the villagers is required. Drains generally discharge into land drainage ditches, the nearby nullah (stream), or into ponds. In some locations PHED has installed temporary disposal stations to pump the pond water into a field, or nearby nullah.

New water schemes, particularly water schemes with house connections, significantly increase the need for drainage in the village. PHED is trying to provide drainage facilities in conjunction with new water schemes wherever possible.

In many cases the lack of time and resources for proper planning of drainage schemes limits their effectiveness. For example insufficient survey data results in the creation of more ponds than necessary. These ponds are breeding grounds for mosquitoes and unhygienic play areas for children and they reduce the health benefits resulting from the improved water supply in a given village.



Waterlogging of land is a major factor in how effectively drainage can be achieved at the village level and has been identified as a serious problem throughout many irrigated areas of the Punjab. It is caused by the rise of the watertable owing to canal irrigation leakage and the inadequacy of field drains. In order to overcome the waterlogging a series of Salinity Control and Reclamation Projects (SCARPS) were planned and begun in 1960 as shown in Fig. 3.2.2.

3.3 Institutions

The role of various institutions that are involved with the water supply, sanitation and health sector are reviewed in the following sections. These include the elected representatives, Senators, MNA's and MPA's, District and Union Councils, federal and provincial line departments and NGO's.

3.3.1 Elected Representatives

Members of National and Provincial Assemblies and the Senate impact on the sector in two ways, through the Special Federal Fund Programme (SFFP) and by influencing line departments to direct department funds to their own priorities and constituency. The SFFP has recently been cancelled by the new Government and a new Rural Works programme has been announced. Details of the new programme have yet to be clarified. Therefore it is difficult to predict the degree to which elected representatives will affect the sector in the future. It is safe to conclude that their involvement with the line departments will continue.

3.3.2 District and Union Councils

It will be necessary to explain the structure of District and Union Councils and how it works. There are three levels of local government i.e., District, Markaz, and the Union Council. The members of District and Union Councils are elected directly by the people whereas the Markaz is superimposed as a link between Union and District Council, and is composed of the chairmen of Union Councils. Chairman of the Markaz Council are non-voting members of the District Council.

Both District and Union Councils have a clean mandate to provide water and sanitation services. However it seems that there is an overlapping of mandates with PHED. It will be part of the study to view this further and make recommendations.

3.3.3 Line Departments

The line departments that have some degree of involvement in the sector are Planning and Development, Public Health Engineering Department, Health, Local Government and Rural Development, Education and Social Welfare.

Planning and Development Department

P&D is the counterpart of the Federal Planning and Development Department of the Ministry of Finance. Its functions include the preparation of the Annual Development Plans (ADP), acting as the Secretariat of the Provincial Development Working Party, monitoring the execution and performance of all developmental activities undertaken in the province and liaison with Donor Agencies. In essence the P&D coordinates the development activities of all other line departments.

PUBLIC HEALTH ENGINEERING DEPARTMENT - ORGANIZATION CHART

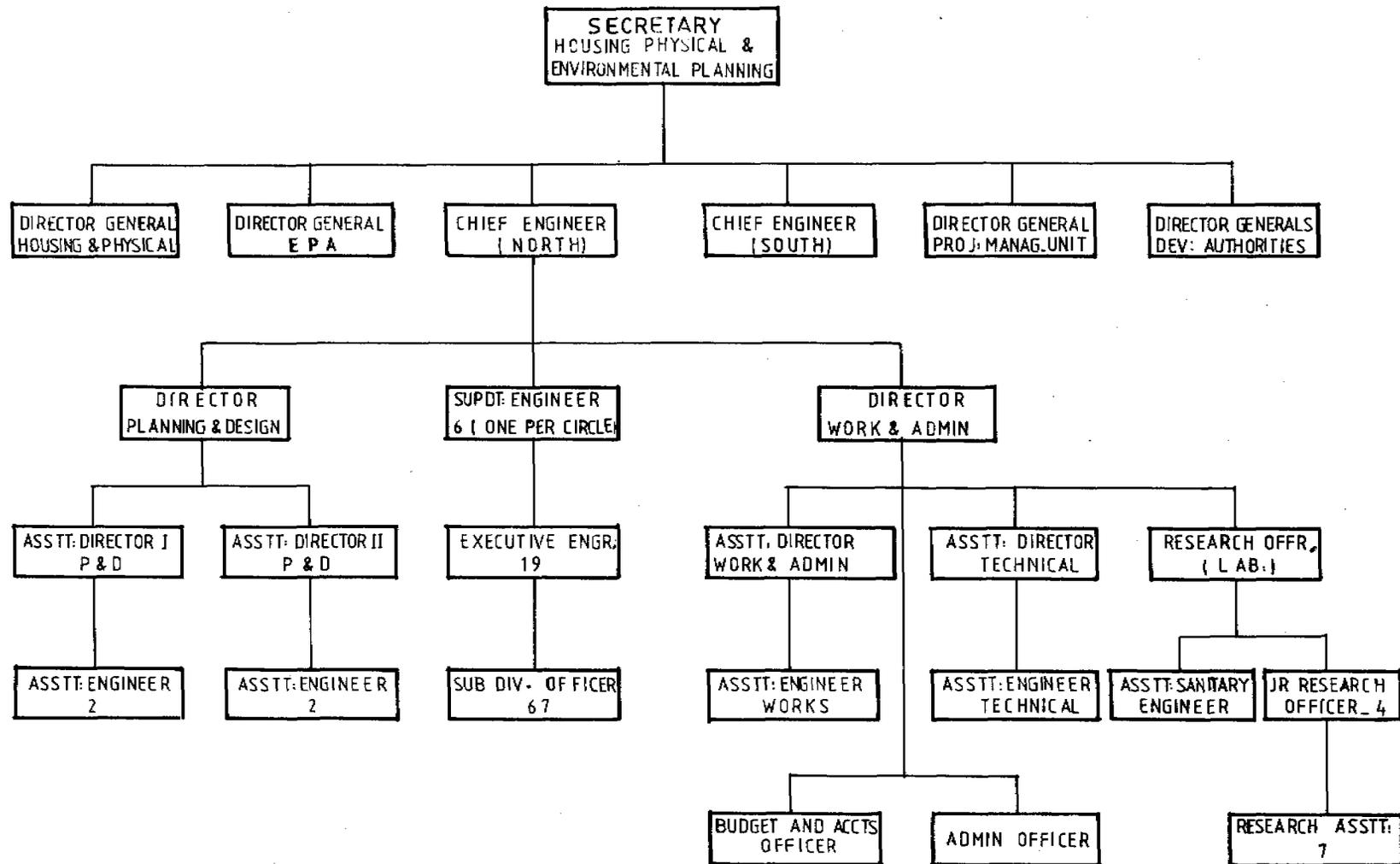


FIGURE 3.3.1

Public Health Engineering Department

The PHED's mandate is to design and construct safe water supply schemes in rural areas and to provide drainage for sullage and storm water in the medium and small settlements. PHED is also involved in the operation and maintenance of water supply schemes for two years following their completion. Fig. 3.3.1 shows the organization chart for PHED.

In Punjab the PHED, for administrative convenience, is divided into North and South zones, each headed by a Chief Engineer.

The projects executed by the PHED are identified either by the elected representatives or by members of the District Councils. The funds for these schemes are provided through the provincial ADP budgetary allocations. In the past, PHED also executed Rural Water Supply Schemes under the SFFP of MNA's and Senators, and the MPA's Funds Programmes.

Health Department

The Health Department is responsible for providing preventive and curative health care. The Rural Health Centers and Basic Health Units, are providing basically curative health services while the preventive content is almost negligible.

For the rural sector there is a Divisional headquarter Supervising the District network consisting of District hospitals, Tehsil hospitals, Rural Health Centers, Basic Health Units and Mobile Health Teams. The funds for the preventive care functions of the development came both from provincial government and donor agencies particularly UNICEF.

LOCAL GOVERNMENT AND RURAL DEVELOPMENT DEPARTMENT ORGANIZATION CHART (1989)

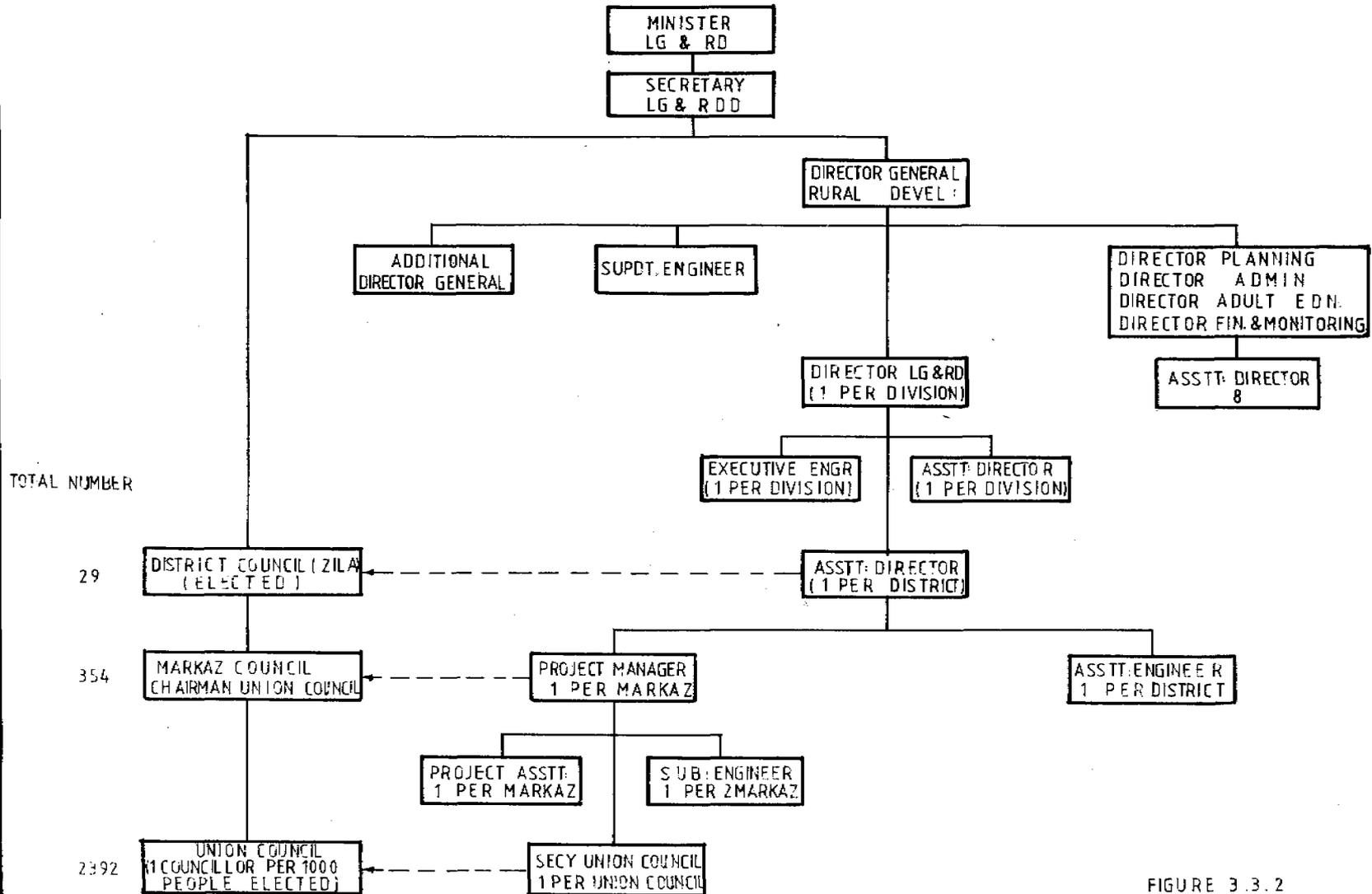


FIGURE 3.3.2

Local Government and Rural Development Department(LGRDD)

LGRDD has two wings. Local Government provides the personnel support to the Rural Development through the Local Government Services cadre. The Rural Development wing is an agency to execute rural works programmes of the provincial and federal government, the SFFP and the MPA's fund programme. Fig 3.3.2 shows the organization chart for LGRDD.

The responsibilities of LGRDD are numerous ranging from rural electrification, field to market roads, construction of schools, basic health centres to small water supply and sanitation schemes.

LGRDD does not possess strong technical skills in the rural water supply sector as PHED, but it is providing technical assistance to District and Union Councils. LGRDD works closer to the grass roots level than any other department. It has engineers and supervisors down to the Markaz and Union Council level. Lack of staffing and resources has reduced the effectiveness of LGRDD in rural development.

Besides its inhouse functions LGRDD, during 1981-86, with the technical and financial support of UNICEF conducted the Punjab Sanitation Programme (PSP). UNICEF spent a total of Rs.18 million on four different components of technology viz., latrines, soakpits, biogas plants and water schemes.

The objectives of the PSP were as follows:

introduction and implementation of the PSP in 55 Markaz, 171 Union Councils and 470 villages in six districts;

- . construction of 940 demonstration latrines in schools, community centres and health centres of selected villages;
- . construction of 32,900 household latrines at an average of 70 latrines per village by establishing revolving funds in selected villages; and
- . construction of 940 soakpits, 470 biogas plants and 470 water cisterns.

3.3.4 Non - Government Organizations

An NGO by definition is a voluntary organization and independent of government in terms of policy making and choice of areas of work. They can use any number of entry points to achieve their objectives. NGO's therefore can be valuable as catalysts and pioneers of new ideas and experiments. New ideas and new methods of working are necessary for programmes deemed to be operating towards an integrated development of Punjab.

Thousands of NGO's are registered with the Department of Cooperatives and Zakat. About 3000 are registered with Social Welfare Department alone and some of them are small rural or urban community NGO's. A significant number of them are organized community endeavours and when involved in community development have contributed in setting up village schools, building small sanitary and drainage systems, running health dispensaries, credit societies, family welfare and adult education centres. However the philosophy behind many of these is still "Social Welfare" and the approach is of doing "Good Work" for the community rather than with it.

The NGO Coordination Council is a body to promote and safeguard the interests of NGO's in terms of their relationship with the government and the outside agencies.

Some of the major NGO's with a National network and successfully operating in Punjab are:

- . Family Planning Association of Pakistan (FPAP);
- . All Pakistan Women Association (APWA);
- . Rural Development Foundation (RDF);
- . All Pakistan Youth Federation (APYF); and
- . Aurat (women) Foundation.

The Punjab Branch of APWA is connected with 15 District branches engaged in welfare, relief, education, health, professional training and monitoring of women's rights.

APWA recently entered into sector related activities and constructed latrines in 10 villages and installed handpumps in girls schools or in community places.

The FPAP is a national, non-government social service agency affiliated to the International Planned Parenthood Federation (IPPF) which consists of 104 autonomous national family planning associations representing 123 countries. The FPAP is among its first members. FPAP have four zonal councils with its headquarters at Lahore. Every zone has work units throughout the Province.

Apart from its own national network, the FPAP is also collaborating with thousands of small organizations, formal and informal, all over the country in villages, major NGO's, Government departments, semi-government agencies and foreign agencies like CIDA, OXFAM, IPPF, etc.

An FPAP youth Project was instrumental in motivating 32 youth organizations to form the All Pakistan Youth Federation. This is a body of more than 250 youth organizations from all across Pakistan. Project staff in 1987-88 participated and helped to organize 45 programmes in which about 5 thousands young boys and girls participated. In addition, the youth project organi leadership training workshops at places in which about 250 persons represented 120 organizations.

Young people both from rural and urban areas are participating in these youth organizations. Besides the educational and cultural activities the groups are involved in "... community service projects such as construction of roads ... renovation of drainage systems in the community, free medical camps, survey on common diseases, campaigns against drugs, seminars on status of women, role of youth, education of community on environmental and ecological issues and health." The youth project is spending about Rs.400,000 on these activities.

There is a large number of NGO's and CBO's in each District working either in collaboration with the Social Welfare Department or independently.

3.4 Economy

Punjab with a population of 58.2 million has 56% of the national population. It is also the most densely populated province, characterized by large sized settlements. This is an important factor in developing designs for cost-effective schemes, both in terms of per capita investment and operation and maintenance costs.

3.4.1 Agriculture and Income Levels

For almost 78% of the rural population, agriculture is the main source of livelihood. With an average monthly household income of Rs. 1527 (in 1984-85 prices) and a relatively better endowment of physical and social infrastructure, rural Punjab is, in comparative terms, more developed than the rural areas of the other provinces. However, the household income is distributed unevenly. A significant proportion (36%) of the population lives below the poverty line, which is about Rs. 1,000 per month per household.

The Table 3.2 below presents rural per household income information derived from the Household Income and Expenditure Survey of 1984-85.

Jhs

TABLE 3.3

ADMINISTRATION AND SERVICES BY DISTRICT

Divisions	Districts	No. of Tehsils	Kanungo Circles	Patwar Circles	No. of Villages (Mauzas)	No. of Electrified %	No. of Tube wells
Rawalpindi	Rawalpindi	4	13	223	1231	31	314
	Attock	4	15	192	554	51	828
	Jhelum	3	12	238	954	39	1157
	Chakwal						
Gujranwala	Gujranwala	3	17	292	1257	56	18697
	Gujrat	3	15	309	1530	44	7602
	Sialkot	4	22	470	2894	34	20372
Sargodha	Sargodha	3	13	223	847	51	3318
	Mianwali	2	14	135	254	41	1570
	Khushab	2	10	118	321	26	489
	Bhakkar	3	20	146	541	22	3062
Lahore	Lahore	2	9	110	362	94	2809
	Kasur	2	8	167	644	60	7399
	Okara	2	12	188	931	38	8053
	Sheikhupura	3	13	259	1095	63	8115
Faisalabad	Faisalabad	3	10	208	838	60	3825
	Jhang	3	20	329	1086	38	9871
	Toba Tek Singh	3	12	118	529	36	3278
Multan	Multan	5	37	465	1640	35	13949
	Khanewal						
	Vehari	3	20	202	779	41	6465
	Sahiwal	3	18	262	1101	42	9914
D. G. Khan	D. G. Khan	2	10	165	488	11	2254
	Rajanpur	3	10	135	448	15	2079
	Lieah	3	21	172	722	9	3625
	Muzaffargarh	3	34	331	977	28	4430
Bahawalpur	Bahawalpur	3	20	182	705	29	4355
	Bahawal Nagar	4	29	244	1086	28	2372
	Rahim Yar Khan	4	29	240	1149	31	5708

TABLE 3.2
INCOME DISTRIBUTION IN THE RURAL AREAS, 1984-85.

Household Monthly Income (Rs)	(Accumulative percentage of Households)	
	<u>Punjab</u>	<u>Pakistan</u>
< 600	10	9
601 - 1000	36	35
1001 - 1500	64	64
1501 - 2000	81	81
2001 - 3000	93	93
3001 - 4500	97	97
> 4500	100	100
 Average Monthly Income (Rs)	 1527	 1538
 % of population below poverty line of Rs. 1000 per mth	 36	 35

The extensive irrigation network in the Punjab is the backbone of Punjab's agriculture. Approximately 75% of the total cultivated area is irrigated. The source of water for the irrigated area is the canal system or privately and publicly installed tubewells. The total number of installed tubewells in each district are shown in Table 3.3. Irrigation to a large extent has made the Punjab the major producer of the country's food grains and cash crops. It supplies over 70% of Pakistan's food products and the bulk of the key cash crops, such as cotton, sugarcane and fruits.

The contribution of various districts to the national output of different crops is given below:

Wheat	-	Grown Throughout Punjab;
Rice	-	Gujranwala (25%), Sheikhpura (18%), Sialkot (12%);
Sugarcane	-	Faisalabad (16%), Sargodha (8%), Toba Tek Singh (7%), Jhang (7%), Sahiwal;
Cotton	-	Multan (20%), Vehari (15%), Khanewal (11%), Sahiwal (7%);
Pulses	-	Sialkot (24%), Leiah (15%), Rawalpindi (14%), Gujrat (7%);
Rapeseeds & Mustard	-	Sargodha (22%), Bahawalnagar (17%), Bahawalpur (12%), Rahimyar Khan (10%);
Potatoes	-	Okara (22%), Sahiwal (16%), Sheikhpura (9%), Sialkot (9%);
Citrus fruits	-	Sargodha (22%), Toba Tek Singh (10%), Rahimyar Khan (10%), Faisalabad (8%); and
Mangoes	-	Rahimyar Khan (30%), Multan (18%), Bahawalpur (10%).

For a rural sector heavily dependent upon agriculture for its income, the crop cash value per capita is the best available estimate of the contribution potential and degree of development of a region. The cash crop value in Punjab is highest in Multan division followed by Lahore, Gujranwala, Bahawalpur, Sargodha, Faisalabad, Rawalpindi and D.G. Khan divisions in descending order. Ranking of the districts in terms of high, medium and low per capita incomes is given below:

High per capita income group	Medium per capita income group	Low per capita income group
---------------------------------	-----------------------------------	--------------------------------

Sargodha	Mianwali	Rawalpindi
Lahore	Jhang	Attock
Kasur	Faisalabad	Jhelum
Gujranwala	Gujrat	Muzafarghar
Vehari	Sheikhupura	D.G. Khan
Sahiwal	Sialkot	
Rahimyar Khan	Bahawalpur	
Multan	Bahawalnagar	

Viewing each District by its contribution to the total production of a specific crop helps identify the richer Districts. This data when read in conjunction with the classification of Districts by level of household income helps indicate the potential for cost recovery and ability to pay.

The Barani (rainfed) areas, represented by the Districts of Muzafargarh, D.G. Khan, Attock, Rawalpindi and Jhelum, have low per capita incomes and generally demonstrated low development potential. The exceptions are the Districts of Rawalpindi and Jhelum with their proximity to the Federal Capital, higher rates of rural migration and rising investment levels in industry because of better access to economic and infrastructural facilities. The low income levels and the limited depth and base of skills in Barani Districts will influence choice of technology, service levels, cost recovery options and potential for community participation. Although Mianwali falls in the medium per capita income category, its income distribution is heavily skewed in favour of the rich, by the tribal and the feudal social structure. It has limited

industrial potential have mainly owing to the lack of skills and availability of physical and social infrastructure. Community participation and cost recovery strategies are likely to be negatively influenced in the foreseeable future by this social structure.

3.4.2 Cost Recovery

Of the total population served, 60% has house connections. Currently, three types of payments are made by beneficiaries with household connections. These include a security deposit, a connection fee, and a monthly or general tariff for water charges. The security charge ranges from Rs. 35-40. Connection charges collected by PHED or LGRDD are Rs. 10 with materials and labour provided by the beneficiary. A quarterly water charge is possible depending upon the type of scheme. The Union Council decides the water tariff which varies from Rs. 10-20 per month. The tariff is collected for the first two years of operation by the PHED and after that by the Union Council even if the scheme continues to be operated by the PHED. PHED, however, has not been successful in recovering its operations and maintenance costs from the Union Councils.

3.4.3 Private Sector

An Overview

The key components that make up what either constitutes the private sector or can influence its activity in this sector are consultants, contractors, artisans, manufacturers, and financial institutions or intermediaries.

Consultants

There are just a handful of consultants with expertise in the sector, while 30 others have listed RWSS as their specialty with the Pakistan Engineering Council. PHED, Punjab, however, does not use local consultants for their rural water and sanitation schemes.

Contractors

PHED performs its responsibility in respect of RWSS schemes through private contractors. The PHED categorizes contractors as A,B,C, and D, based on the value of work that, in the assessment of the PHED, they have the capability to perform. There are a few contractors listed with the PHED under category A (unlimited value).

Contractors under category B perform works with a value of Rs. 3 to 5 million. Because most of PHED's present small piped water schemes are in the cost range of Rs. 2 million or less, mostly A and B class contractors have not done any work in RWSS. The approximate number of C and D class contractors registered with PHED is 1000. The volume of work offered to them is usually very small and is based on scheduled rates. Contracts are presently awarded on a lump sum basis using the schedule of rates drawn up by the Rates Committees Schedules for Punjab.

The PHED has not fully exploited the potential for sub-contracting the relatively simple work on rural projects. Sub-contract packages for tubewells, water treatment, pipelaying and civil works could be parcelled to small contractors or even to the community where feasible.

Manufacturers

Manufacturers of equipment and materials used in sector schemes are based in Lahore, Faisalabad, Jauharabad and Gujranwala. They produce water pumps, electric motors, pipes, hand pumps and sanitary wares. The present level of capacity utilization for different products is:

Water pumps	65%
Electric motors	70%
Asbestos Cement Pipes	40%
Pipes (Other than AC)	100%

The distribution and after sales service facilities for pumps and motors are generally only available in the cities and major towns.

The entire process from handpump manufacturing to installation of handpumps is performed by the private sector.

The handpumps are installed by individuals as well as by teams of artisans depending on the depth of the water table. The skill is quite simple and easy to acquire although some knowledge of the pump and structure is required in case of malfunction after installation. It is generally learned as an apprentice or through association with an experienced artisan. The average cost of installation per unit ranges from Rs. 1000 - 2000 depending on the depth of water table.

The installation of latrines and the construction of the superstructure is normally undertaken by a mason, with the assistance of unskilled workers and plumbers. It normally takes two to four days to complete a latrine. The working life of a latrine is 12 - 15 years. It costs (septic tank type) about Rs. 4000.

Artisans

Most districts of the Punjab have a large number of mistrys (artisans and masons), although the concentration is in the cities and large and medium sized towns. They are, reasonably well-equipped to perform sector work, although the quality of skills still needs strengthening.

Training

There are no institutions, training centers, or technical/vocational schools, where formal training is offered in handpump installation and maintenance, masonry skills, or installation of latrines.

Credit Arrangements

There are a number of organizations dispensing credit in the rural and urban areas. The formal institutional credit for agriculture related activities is provided by the Agricultural Development Bank of Pakistan (ADBP), the Commercial Banks and the Federal and Provincial Cooperative Banks and Cooperative Societies. They use a network of branch offices to disburse credit. The ADBP in addition used Mobile Credit Officers who play an important role in delivering credit at the farmer's doorstep. The loans are either short term - production oriented assistance for inputs like fertilizer and seeds - medium or long term for tractors, other agricultural machinery, tubewells, storage, etc.

Industrial credit is channeled through the Commercial Banks, the Industrial Development Bank of Pakistan, the Regional Development Finance Corporation, the Small Business Finance Corporation, etc.

TABLE 3.4

PROVINCIAL GOVERNMENT OF PUNJAB
STATUS OF PUBLIC FINANCES

Recurring Expenditures	Share in Financing	Annual Growth Rate
	(%) 1986-87	(%) 1977-78 to 1986-87
1. Federal Revenue Assignments of Divisible Taxes	38	17
2. Provincial Taxes	12	12
3. Provincial User Charges & others	11	14
4. Federal Grants	39	40
Total	100	19
<u>Financing of Annual Development Programme (ADP)</u>		
1. Federal Grants and Loans	100	16
Total	100	16

Source: Public Finance Statistics, Ministry of Finance, GOP.

For a substantial proportion of the less affluent rural households, the large land owners, moneylenders, the commission agent (Arhti) and friends and relatives are an important informal source of credit for consumption and housing.

3.4.4 Financial Resources

The capital expenditure on water supply, sanitation and drainage schemes by PHED and LGRDD is financed as part of the Annual Development Programme (ADP) of the Province, staff salaries and allowances for operation and maintenance of schemes are being managed departmentally and paid for from the recurring Provincial Budget.

Table 3.4 presents the sources of financing of the recurring expenditure of the Provincial Government of Punjab. Heavy dependence on flow of funds from the Federal Government is indicated. Federal revenue assignments of divisible taxes (income and sales taxes) contributed 38 percent in 1986-87 while revenue generation by the province through taxes and user charges (largely the irrigation charge) accounted for only 23 percent. The deficit, 39 percent, has been met by Federal grants and subventions. Therefore, altogether 77 percent of the Provincial recurring budget has been financed by the Federal Government. Not only is this dependence high but it is growing rapidly over time as indicated by the fact that the Federal deficit grant has increased at the annual rate of 40 percent over the last ten years. Consequently, the resource position of the Federal Government has been increasingly strained by this burden.

The new Government in its revised budget for 1988-89 has indicated very clearly that it can not continue to finance the growing deficits of the provinces and has asked the

latter to raise their fiscal effort and economize on their expenditures. It is likely therefore, that in the medium run the ability of the provincial departments, like PHED and LGRDD to recruit additional staff and to enhance their implementation capacity will be severely constrained. In addition, special efforts will have to be made to economize on outlays for O & M of infrastructure, including water supply and drainage schemes. Simultaneously, greater priority will have to be attached to cost recovery through user charges like water tariffs.

On the development side, the entire ADP of the province is financed by the federal government. Here again, in view of the relative scarcity of resources at the national level it is unlikely that the provincial ADP, including the sectoral allocation for water supply and drainage, can be expanded rapidly from its present level in the next few years.

3.5 Social Cultural and Community Organization

3.5.1 Social Groupings of Punjab

With the exception of a few tribal pockets, rural Punjab culture is characterized by caste affiliations which play a decisive role in all aspects of life. However from the point of view of socio-economic decision-making, the biraderi (major castes and re-grouping of castes) is important. Other factors affecting social organization are the degree of village dispersal (i.e. whether the village is divided into different hamlets or is located in a well defined boundary), the degree of land concentration (and presence or absence of large landlords), and the existence of other economic and social bases such as commerce and political parties. With the relative degree of development, these variables may affect community cohesiveness and their capacity and willingness to initiate or participate in water supply, sanitation and

TABLE 3.5

SETTLEMENT DENSITY AND ECONOMIC POTENTIAL BY DISTRICT

District (1981)	Settlement Density (sq.km/Mauza)			Rural Level of Development	
	High	Medium	Low	Present	Potential
Rawalpindi	4.7			low	medium
Attock			17.8	medium	low
Jhelum	3.7			medium	medium
Mianwali			23.6	medium	medium
Sargodha			10.6	high	medium
Jhang		7.6		high	medium
Faisalabad		7.0		high	high
Gujranwala	4.0			high	medium
Gujrat	4.3			medium	high
Sialkot	1.8			high	high
Vehari		5.6		high	medium
Lahore	4.9			high	medium
Sheikhupura		5.4		high	medium
Kasur		6.2		high	medium
Multan		6.7		medium	medium
Sahiwal		6.0		high	high
D.G. Khan			27.7	medium	low
Muzafargarh		8.7		medium	medium
Bahawalpur			29.4	medium	medium
Bahawalnagar		8.0		medium	medium
R.Y. Khan		8.9		medium	medium

Notes

- 1) In some areas, the social and economic power and interests of large landlords may present obstacles to community participation and need to be investigated.
- 2) Higher rates of literacy and urbanization tend to increase awareness of sector issues and willingness to take action. While the former has to be compiled on a district basis, the indications of level of rural development with respect to economic facilities and distance from these is given (source: Mohd. Hassan Khan & U. Iqbal "Socio-Economic Indicators in Rural Pakistan - Some Evidences", in Ijaz Nabi (Ed), Quality of Life in Pakistan, 1986, Vanguard Books, Lahore).

TABLE 3.6

GEOGRAPHIC AND SOCIAL FACTORS BY DISTRICT

District (1981)	Geographic Division				Significant Social Factors				
	Barani	Potwar	Other Plain	Desert	Land lord	Bira deri	Mili tary	Tri bals	Others
Rawalpindi	*						*		
Attock	*					*	*		
Jhelum	*						*		
Mianwali		*		*	*			*	
Sargodha	*	*	*		*				Mining
Jhang		*	*		*	*			
Faisalabad			*			*			
Gujranwala			*			*			
Gujrat		*	*			*			Comrs.
Sialkot			*			*			
Vehari			*		*	*			
Lahore			*			*			Pol.
Sheikhupura			*			*			
Kasur			*		*				Comrs.
Multan			*		*				
Sahiwal			*		*	*			
D. G. Khan		*		*	*			*	
Muzaffargarh		*	*		*				
Bahawalpur			*	*	*				
Bahawalnagar			*		*	*			
R. Y. Khan			*		*	*			

Notes

- 1) In the absence of landlords, concentrated settlements may be most conducive to community cohesiveness and participation. In the Potwar areas, community organization appears to be reinforced by a strong presence of service and ex-service men. In other areas, the biraderi can play an effective role.
- 2) Scattered settlements reduce interaction between hamlets & tend to negatively affect social cohesiveness of a village, and may inhibit community participation.

hygiene schemes. An overview of these factors for each district is given in Table 3.5. & 3.6.

Socially Punjab can be divided into four major regions. They are the Potwar districts in the North-West, Central Punjab, South Punjab and the main desert areas.

The Potwar District is characterized by its dependence on rain water, the absence of major landlords and a strong presence of service and ex-servicemen. While villages are more widely in the valleys, they tend to be more concentrated on the plains.

Central Punjab is the most developed area, with the highest rate of urbanization. People live in well defined villages and have strong biraderi or family affiliations.

South Punjab is on the whole less developed and more conservative in outlook and behavior. The influence of major landlords is vary strong and over-rides biraderi affiliations when these do not coincide. People frequently live on land belonging to the landlord and are dispersed in hamlets.

However, it should also be stated that in the canal colony areas of both Central and South Punjab, newer villages demarcated during settlements (Chaks) have wide lanes well organized in straight lines and are most suitable for designing cost effective water supply and sanitation schemes and for hygienic living.

The main desert areas occur in Mianwali, D.G. Khan and Bahawalpur Districts. These are inhabited by nomadic people having their own distinct culture and habits and also settled tribes in which tribal heads are the major decision makers.

3.5.2 Role of Women

Whereas water for agriculture is a male responsibility, for domestic and animal needs, water is collected and stored largely by women and girls. Women are also the principal users of domestic water for food preparation and cleaning of utensils and clothes. In addition, women are responsible for providing food and water to animals in the compound and for the use and disposal of animal excreta. This is coupled with their key role in family hygiene and the health and hygiene education of young children. Women are therefore centrally involved in the sector and are important and immediate beneficiaries of improvements in the sector.

Given the major impact of water and human waste disposal on the daily lives of women, their involvement in planning and implementation of projects in this area has not been adequate. This lack of involvement is partly responsible for the limited success of water and sanitation projects in the Punjab. To properly assess the need for services from the beneficiaries point of view, it is essential that women be involved in project planning, implementation and operation and maintenance.

Although women do participate in various agricultural activities, their perceived role is limited to the household compound. Similarly their access is limited to both decision-making and to information and education which could promote better hygiene and sanitation practices within the household and village. While women are the main users of domestic water, they do not assume responsibility for either improvement in water sources or for operation and maintenance, and are largely excluded from decision-making in this regard.

The generally limited role of women is one of the causes of a higher female mortality rate. This perception that woman's role is limited to household activities, contributes directly to higher illiteracy, particularly in rural areas where the current educational programme is seen as being largely irrelevant to their roles. Compared to urban female literacy of 32%, female rural literacy is low at 9%. In contrast, male rural literacy in the Punjab is 33%. Constraints on mobility also prevent women's exposure to better sanitary conditions that may prevail in other villages and the effects of the urban culture.

The northern Potwar area has traditionally been recruiting grounds for the military and currently experiences large scale out-migration to the Middle East. Because of the long term absence of men, women are assuming responsibility and making decisions in matters from which traditionally they have been excluded. Similarly in other Districts experiencing large scale male out-migration, such as Gujrat, the role of women is also increasing.

The overwhelming absence of women in social institutions, in Union and District Councils, the elected MNA's and MPA's, and in the panchayat or biraderi leadership, is another constraint to effective development of sustainable water and sanitation projects. The same situation exists in PHED and LGRDD. There are no women employed in the field to interact with village women on water and sanitation projects. Without access to women, any assessment of their concerns and desires regarding water, sanitation and hygiene becomes impossible.

There are however indications that female motivators in this sector can have a beneficial impact on sector-related issues and that their presence is accepted by the community. This has been the experience of the UNICEF-LGRDD programme on

Sanitation and Household latrines carried out in the Northern Barani areas. Since the female motivators were also given technical training in latrine construction they were able to educate community women in maintenance procedures.

Unfortunately, at a provincial level, women's educational and technical institutions are not oriented towards the sector in general and rural areas in particular.

3.5.3 Community Based Organizations (CBO's)

In order to ensure sustainability, sector initiatives require maximum community participation and changes in social behaviour and attitudes in sector related activities. The level of community involvement in self-managed or initiated action for community development depends on existing social and economic structures but also a prioritization of felt-needs. In general, communities are organized to look after at least some of their own problems, whether formally or informally. Throughout Punjab, villages have access to one or more of the following organizations:

- . the biraderi leadership;
- . Panchayat (Council of elders);
- . schools;
- . Mosques;
- . Unions Councils;
- . Markaz and District Councils;
- . industrial schools;
- . maternity and child-care centres; and
- . community based organizations(CBO's).

Although many of these may not be sector-oriented, they exist and are used to resolve a variety of community problems and issues.

Community participation in decision-making, management and finances (in cash or in kind) varies in the 3 major regions of the Punjab. In the Potwar district, the absence of landlords, exposure to urban culture, travel, and the felt need for water supply have resulted in higher levels of community involvement. In Rawalpindi, Jhelum and Chakwal successful examples exist. In the Rawalpindi District a CBO initiated by a villager who went on to win the Local Body Elections in 1979 serves to highlight the effectiveness of CBO's. Community priorities started with electricity and a metalled link road. This was achieved through the matching grants scheme of the LGRDD. The CBO subsequently built a girls school, covered and filtered wells, drainage of streets and supervised the installation of household latrines, and overhead water tanks. The CBO carries out its own monitoring and motivational work for both household and village hygiene and sanitation. In Jhelum, UNICEF-LGRDD met with success and has a highly motivated CBO operating in at least one of the villages. In Khoshab, a severe water shortage encouraged one community to initiate a water supply scheme where LGRDD is paying for the water supply system. Similar experiences may exist in this region.

In central Punjab, the high level of development, the relative absence of landlords and the proximity of resources should enhance community participation. One example of a highly successful CBO initiative on a water and community development scheme is situated close to the provincial capital of Lahore, on the banks of the Ravi. This village faced the problem of excess water and annual erosion of village land. They successfully mobilized themselves to receive a grant from the Government and constructed a dam themselves. In the process they saved Rs. 2 lakhs and returned these, to the government gaining additional credibility which served them well for receiving more substantial grants for electrification and other development

projects.

The circumstances are less conducive to current community involvement and initiatives in South Punjab. It is because of high dependency on landlords for employment and the land they live on. Exposure to urban culture and access to resources is likewise less than in other areas. Presently no examples of community participation are readily apparent. But further investigation is required to identify existing structures which could be potential facilitators for community involvement.

Of institutions panchayats, biraderies, CBO's and Union Councils seem the best vehicles for mobilizing community involvement. Mosques, schools and industrial homes may be useful institutions for motivation. However, women do not participate in the traditional institutions, though informally they may have an input. Similarly CBO's and Union Councils tend to by-pass women in decision-making.

3.5.4 Practices and Beliefs related to Human Waste Disposal

In the Potwar plateau area men, women and children generally go out to the field to defecate. These areas are often gender segregated. Adults normally relieve themselves early in the morning or after sunset and may take water along for anal cleansing. Children are more flexible in timing and use the nearest fields. In the mountains, adults often use dry river beds.

In Central Punjab, fields are also commonly used for defecation. In bigger villages of higher density and exposure to urban areas, women from richer families may defecate within the home where foot-rest latrines (Khuddian) are fairly common. Latrines are situated in a corner of the compound with mud or cement walls (but no roof). These

latrines consist of two bricks for foot placement with enough space for excreta in between. Latrines in the compound are generally accompanied by a separate place for bathing and washing after defecation.

For removal, a hole may be made in the outer wall of the "Khuddian" facing the street. This allows for outside disposal straight from the streets, bypassing the need for Mussallis to enter the compound.

In South Punjab, only poor men and women use the fields. Women usually have arrangements within the compound. "Khuddians" exist but richer families have a more sophisticated arrangement. This consists of placing big empty tin cans inside a raised cement structure supported by two walls. The excreta collects in the cans and is removed by sweepers. This structure is enclosed by walls on three sides and may have a wooden door or cloth closing off the entrance. A separate place is constructed for washing and bathing and anal cleansing. Waste water usually flows into the street through a drain, though some people may make a ditch at the end of the drain outside their house in the street.

Adult excreta is perceived by many to be somewhat harmful although it may not be perceived as being connected to disease. With respect to cattle excreta, while high caste wealthy Muslim families may avoid contact with fresh cow-dung; they do use cow-dung cakes as fuel in the kitchen and other village women may make these with fresh cow-dung.

If the choice exists, people generally prefer water which looks clean and tastes good for drinking and cooking even if it is harmful to health. In Bahawalpur where ground water is brackish, canal water is often used as drinking water. Although people do not link disease with water, dirty water

is avoided. At least inside the house it is felt that dirty water is not desirable. People do make drains for the waste water from the house, but do not seem to mind if it flows into the street.

Diarrhoea is not generally related to faecal - oral transmission. If a child gets diarrhoea, the cause is generally sought in the mother's diet. Breast milk is frequently stopped and rice water, porridge and water is given to the baby. Urban contact has brought a trend for bottle milk. At the same time in many rural areas older people do not like this trend.

When children on bottle-milk get diarrhoea, it is usually thought that the dry milk brand does not suit the child. Therefore cow, or buffalo milk diluted with water is given to the baby or the brand is changed.

3.5.5 Human Resources Development (HRD)

Existing institutions for human resources development can be identified as Educational institutions, Government departments, NGOs and Private organizations.

Educational institutions, universities, polytechnics and technical training centres (TTCs) are currently providing different levels of technical expertise in sector-related subjects. This training does not appear however to have sufficient feedback from field experience and is lacking in social training for working with communities. Furthermore, women's polytechnics and TTCs do not offer courses that are relevant to this sector at all. This, despite the fact that the more technical courses offered at the village level TTC's in the Barani areas have had measurable success. At the university level, social science subjects do not incorporate the subjects of water, hygiene and sanitation

and are not currently oriented to community based development. There is therefore a gap between HRD in the social and technical fields.

With respect to government departments, the PHED and LGRDD are the most sector-focused. While the PHED has a high level of technical expertise its staff is not trained to be facilitators at the community level. On the other hand, the LGRDD is community oriented and works in close collaboration with Union and Districts Councils, but does not always have enough technical training and is under-staffed. There seems to be a need for cross-fertilization in both educational institutions and government departments of the technical and social fields, both of which are required to achieve desired improvements in the sector.

NGOs have already been discussed in section 3.3, but need to be mentioned here both as potential sources and recipients of HRD schemes. Certain NGOs such as the Family Planning Association of Pakistan have considerable experience in health, hygiene and sanitation programmes as well as community participatory methods. To be more fully involved in this sector they may need to have technical training. Others such as the Adult Basic Education Society could also be a source of HRD for the community.

At the community level, there is a lack of data regarding the level, quality and area of expertise available for sector development. The community would have to receive training to upgrade artisan's skills in technical aspects required for maintenance in general and the installation of the more basic infrastructure such as pit-latrines, filtration technology, hand pumps etc. They would also require training in, project management, and basic accounting procedures.

Training at the community level could be conducted by PHED, LGRDD, technical educational institutions, the private sector and concerned NGOs. Training could be channeled through primary schools, existing CBOs, Union and Districts Councils, Medical Health Service and industrial homes and also TTCs in rural areas. To be effective these institutions themselves may require training.

3.5.6 Hygiene Education

Public health & hygiene education has remained the responsibility of local authorities like District and Union Councils. Concurrently, the curative services are managed entirely by the Provincial Government with much larger resources and administrative machinery. Almost 80% of the Health budget is being spent on curative services and the remainder on Hygiene Education. It should also be noted that a large fraction of the budget is utilized for urban population through hospitals and dispensaries and little is left for the rural areas.

In the Punjab the awareness of people for a link between human waste and disease is low. In addition some programs lie with the Education, Health and Social Welfare Departments, and various voluntary health agencies to impart health and hygiene education to the rural masses along with general education. The constraints identified in this respect are:

- . Absence of adequate finance and administrative machinery, in the more remote villages;
- . Lack of communication and transport facilities for workers of Public Health and Hygiene Education in the rural areas;

. Absence of proper arrangements for recording, collecting and compiling of vital data; and

. Socio-economic conditions do have some repercussions on the status of hygiene in our society. In low socio-economic classes the relationship between disease and social factors is obvious. There are many people who do not know the significance of such factors as poverty, illiteracy, malnutrition, overcrowding, infection and overpopulation.

Basically there is a joint responsibility of providing Hygiene Education by both the Education, Health and Rural Development Department.

The status of Hygiene Education in the Education department is such that School Health Service is of recent origin and still in the process of development. A majority of the schools have inadequate School Health Services.

The aim of the Health Department is to provide curative services to the public. The programme of Basic Health Services provides for primary health care in rural areas. The task of providing education is too great for the doctor and Lady Health visitor alone.

Hygiene Education can generally be delivered by two sources:

. internal resources such as Local Health Workers and teachers; or

. external resources such as radio, television and Non-Government Organizations.

4. ISSUES AND CONCLUSIONS

4.1 Introduction

Prior to developing initiatives for the next phase of this assignment, the main segments in the sector were identified. These segments along with a breakdown of subsegments is shown below:

<u>Segment</u>	<u>Subsegment</u>
Technology	. Water Resources . Water Supply . Sanitation and Drainage . Human Waste Disposal
Institutional	. Government Departments . Local Government . Non-Government Organizations . Elected Representatives
Economic	. Cost Recovery . Private Sector
Socio-Cultural	. Communities . Practices and Beliefs . Community based Organizations (CBO) . Women in Development . Population . Health/Hygiene Education . Human Resources Development

Each of the subsegments were reviewed in detail to define the key issues applicable to each. The issues were analyzed and root causes or factors relevant to the issue were defined. From this analysis, conclusions were reached as to

the impact of the issue on work in the water, sanitation and health sector. These conclusions were then used to form the basis of the goals and initiatives. The initiatives will focus our project tasks in developing the financial plan and subsequently the recommended projects.

4.2 Water Resources

Key issues considered were the following:

- . water availability and quality; and
- . excess water.

4.2.1 Water Availability and Quality

A large portion of the irrigated plains along the rivers have sweet groundwater available. Handpumps or motorized pumps are used to draw water for both drinking and irrigation purposes. For the brackish water areas, which are primarily centered between the five major rivers of the Punjab. Canal water or canal seepage groundwater is frequently used for drinking.

Where the canals are too small or clay soil overlays prevent sufficient canal water seepage, treatment plants using canal water are provided.

Therefore in the plains, availability is not a major issue, but in the brackish areas quality is a problem. In the northern Potwar plateau, water is much more difficult to obtain and often its supply from springs, percolation wells, small storage dams and shallow tube wells is intermittent.

In Cholistan desert groundwater is saline in most areas. Tobas or rain water collection systems are used to provide drinking water. However water quality is a problem with this

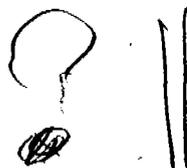
system as well.

4.2.2 Excess of Water

Seasonal rainfalls in the Potwar plateau area can result in high erosion rates. This erosion results in silt being carried into the rivers increasing the need for treatment.

On the irrigated plains, insufficient drainage of irrigation water from the soil has caused waterlogging of the soil. Salinity Control and Reclamation Projects (SCARPs) are underway to drain these areas and thus reclaim the land for agriculture. Waterlogged land or undrained irrigated land causes a problem for drainage of villages and village ponds. High water tables due to waterlogging can also be a factor in the selection of latrine technologies.

4.2.3 Conclusions



. water quality is unacceptable in the brackish water areas and from most surface water sources. Costly treatment systems will be required in these areas; and

. salinity control programs also create the opportunity to drain village ponds effectively along with latrine effluent.

4.3 Water Supply

Of the various issues reviewed under this segment, the following two key issues are discussed here:

. operation and maintenance; and
. design and service level.

4.3.1 Operation and Maintenance

Although there are problems involved in quality control during construction of water supply systems for villages, the key issue appears to be that Union Councils have not accepted the responsibility for operation and maintenance of water supply schemes.

There appear to be a range of causes for this problem. First the income base for the Union Councils is low. This makes it difficult for them to pay the operating and maintenance costs of schemes. Secondly, the technical ability of the Union Councils and LGRDD in this area is limited. In addition they are not likely to be interested in accepting a treatment plant from which they have received free water for the last two years if there is a way to prolong this situation. Clearly this situation has resulted in the community having little sense of ownership in the project.

The maintenance of handpumps has also been a problem in that the costs to maintain many pumps is unacceptably high. The cause of this problem is generally related to product design or fabrication shortcomings. Finding ways of introducing higher quality handpumps into the marketplace at acceptable prices would reduce maintenance costs.

4.3.2 Design and Service Level

PHED and LGRDD require upgrading in the areas of district planning, field surveys, design procedures, design tools and field supervision during construction. Government time requirements for submission of cost estimates and detailed designs are such that it is difficult to prepare quality site specific designs. Budget constraints also represent a contributing factor. The root cause of this situation appears to be the policy used in selecting projects. This

policy permits MNA's, MPA's and Senators to select villages for schemes without obtaining community involvement or sufficient prior engineering input.

Government policy for water supply systems permit house connections for villages of 5,000 people or greater and standpipes for smaller villages. This creates problems in the smaller communities where house connections are preferred as well. This leads to lack of willingness to pay for the scheme O & M costs. This policy of not providing house connections represents a constraint for cost recovery.

4.3.3 Conclusions

project funding, and approval procedures, which do not include sufficient involvement from PHED or the community, contributes to lower quality and unsustainable designs;

. there exists a significant demand for house connections combined with a willingness to pay;

. lack of community involvement in the design, construction and initial operating and maintenance of new water schemes is contributing to a lack of interest on the recipient's part to accept the responsibility for O & M; and

. introduction of higher quality handpumps to the marketplace would tend to enhance the cost effectiveness of these water supply systems.

4.4 Sanitation and Drainage

The key issues analyzed in the drainage sector are:

- . designs of drainage systems; and
- . links with water supply.

4.4.1 Designs

The design of drainage schemes for villages is a major area of PHED involvement at this time. Small drains combined with bricked streets are widely used. The drains discharge to ponds on the outside of a village or into a SCARP drain. These drains collect sullage water from the homes, and also effluent from septic tanks. Rainwater also washes the animal wastes from the streets into these drains.

The ponds into which the drains discharge represent health hazards. Technologies should be reviewed to see how the hazard can be minimized and appropriate solutions incorporated in project designs. A review of design procedures and the corresponding appropriate technology is required to ensure drainage systems installed and effluent discharged are acceptable from a health perspective.

The drains cannot accommodate significant rainfall volumes, but the bricked streets and drains do permit more rapid drying of the residential area after a rainfall. This improves the overall cleanliness of the village, particularly during the monsoon season.

4.4.2 Links with Water Supply

PHED has noted that providing house connections for water systems will result in a larger drainage problem in the

streets. As a result they are coordinating their efforts to provide drainage schemes in conjunction with water systems.

Because the irrigated plains are very flat and in many places waterlogged, many villages are surrounded by one or more ponds which collect various types of drainage water. Because of the level land in the irrigated plains it is often difficult to eliminate these ponds.

4.4.3 Conclusions

- . separating sullage and latrine effluents would decrease the hazards of open drains and ponds;
- . providing house water connections in a village will increase the need for drainage systems. In effect, if the benefits of home water connections are to be fully utilized, then drainage services are also required; and
- . elimination of ponds or improved pond design is required to reduce the health hazard created by them.

4.5 Disposal of Human Waste

Statistics indicate that the coverage of adequate human waste disposal facilities (latrines) is very low in rural areas. Issues considered in reviewing this subject include:

- . Perceptions of need for disposal; and
- . Design and Cost.

4.5.1 Perception of Need for Disposal

Although cleanliness during defecation is part of the local culture, the health risks associated with human waste are not well appreciated. The demand for latrines that does

exist is largely based on an interest in privacy and convenience, particularly for women. This is particularly the case in more densely populated and larger villages.

PHED has not to any great degree pursued active promotion or installation of latrines although they are installing some demonstration latrines through the Environmental Protection Agency. PHED is concentrating most of their effort on providing water supply and primarily drainage schemes.

4.5.2 Design & Cost

Clearly with alternatives such as defecation in the fields being an inexpensive option, the significant costs of latrines will slow their implementation. The cost of a latrine is a major expense for most villagers and its cost is a significant constraint to increased use.

4.5.3 Conclusions

- . convenience and privacy are key factors in the existing interest in latrines; and
- . the significant initial cost of latrines is also a constraint to the use of latrines.

4.6 Government Departments

In reviewing government departments, the following key issues were reviewed:

- . department mandate;
- . links between Departments; and
- . links with Communities.

4.6.1 Department Mandate

PHED has the mandate to provide water, sanitation and drainage services to urban areas and the rural communities.

It has a strong engineering base and implements small rural schemes as well. The mandate of PHED to design effective and efficient facilities is constrained by the process which permits elected officials to select both the villages and the timing for project implementation with minimal input from engineering. This process prevents comprehensive planning. The short design time allowed for, effects the quality of design as well. If villages were selected for projects one or more years in advance, and funding allocated accordingly, the opportunity for improved planning and design becomes available.

PHED's mandate is to operate water schemes for 2 years before turning them over to the Union Council. This policy combined with the project selection process, lock PHED into a position which makes it not only difficult to plan and design effectively, but it almost eliminates any opportunity for involvement with the community.

LGRDD has a structure which brings it closer to community through the Union Council. However, LGRDD's mandate is much broader, as it implements mainly projects such as roads, schools, etc. On some water schemes, LGRDD uses PHED to perform the design because it has limited engineering capability in this area.

way.
The Health Department's mandate is primarily curative. As a result of its mandate, funding and training budget constraints, it does not have a major impact on the hygiene awareness of rural people.

4.6.2 Links between Department

As noted previously LGRDD uses PHED services for design of water schemes. However, other than its link to the Union Council when it transfers water schemes to them, it operates largely on its own without much interaction with the Education or Health Departments. PHED has a strong link with a relatively new group called the Environmental Protection Agency (EPA) which mainly monitor industrial pollution. EPA does however see human waste disposal as a pollution issue and is presently involved in a demonstration latrine program.

4.6.3 Links with Communities

PHED is not well connected through government departments to the Union Councils. PHED receives its mandate and ongoing operating instructions from the Secretary of Housing, Physical and Environmental Planning. This lack of a link with the community, Union Councillor, or LGRDD, makes contact or liaison with the community very difficult.

4.6.4 Conclusions

. PHED's mandate and actual operating environment appear to be in conflict. The result is unsustainable water schemes which do not recover capital or operating costs; and

. Although LGRDD is closely linked with the community it also has difficulty in recovering costs for O & M.

4.7 District and Union Councils

The following issues were reviewed in this subsegment:

- . attitude towards sector; and
- . financial resources.

4.7.1 Attitude towards Sector and Financial Resources

The broad mandate of LGRDD to provide a wide range of services to the sector, limits the attention received by water, and sanitation schemes, neither of which increase the economic well being of a community the way electricity, roads and schools will. Combining this with the significant financial limitations of LGRDD, it is clear why major thrusts in this sector are not forthcoming once minimum water quantities are available.

4.7.2 Conclusions

- . A shortage of funds and the priority ranking of water and sanitation schemes in general limits the effectiveness of local government in this sector.

4.8 Non-Government Organizations (NGO's)

Local NGO's receiving funding from the government must be registered with the Social Welfare Department. Most groups are urban based and of little assistance to the rural water, sanitation and hygiene education sector. However, there are youth groups, women's groups and health organizations which may be of use in disseminating the information necessary to increase hygiene awareness.

4.8.1 Conclusion

f. . NGO's can be helpful in increasing hygiene awareness.

4.9 Elected Representatives

MNA's, MPA's and Senators in effect establish where major funding for water and sanitation projects will be allocated. A key issue which this group has not dealt with to date is the preparation of institutional procedures which will permit communities to initiate more projects. When schemes are designated to a certain village with insufficient input from the community, perception that water should be provided free by Government is perpetuated.

4.9.1 Conclusions

✓ Elected representatives should act to increase community involvement in the project selection, implementation and operation phase of schemes as this will tend to remove a major barrier to cost recovery.

4.10 Cost Recovery

With the Government of Pakistan presently mobilizing additional resources, the importance of cost recovery cannot be overemphasized. In the context of this project, however, there are fundamental differences in the manner in which the concept would be applied to each of the broad sector components, water supply, sanitation and drainage. The reasons, briefly stated are as follows.

management.
+ For water supply schemes, the critical issue is the recovery of operation and maintenance costs. The funding of operational costs by the beneficiaries is a prerequisite for the sustainability of the implemented schemes.

In human waste disposal programmes the costs are investment in nature and the objective is to expand coverage of improved latrines. Moreover, a latrine is a private good. The expenditure incurred on the creation of this asset is, therefore, a private investment.

Not only does drainage fall in the category of a public good, it also suffers from an indivisibility problem. Furthermore, as the recipients of such a facility generally face considerable difficulty in evaluating the benefit that is accruing to them, either directly or indirectly, mobilizing the community for a drainage scheme can be an extremely arduous task. Because of differences in the way cost recovery applies to each service the key issues listed below have been reviewed under the headings of water supply, human waste disposal and drainage:

- . *with!* affordability ;
- . willingness to pay; and
- . criteria and mechanism.
- . *which concept (CRAFT, LOCAL/Cooperative & experience)*

4.10.1 Water Supply

Cost recovery must play a crucial role in the strategy to provide potable water in the rural areas. It should be a critical component of the central theme, because the success of any program for supplying drinking water in the rural sector will hinge on the cost recovery criteria that are developed and the methods and mechanisms for achieving cost recovery that are designed.

The urgent need to apply the concept of cost recovery in the case of drinking water arises for the following reasons:

The contributions, if any, being made toward O&M costs are inadequate to keep the facility running. Rising O&M costs are draining precious resources that can be more fruitfully employed in expanding and improving water supply facilities; and

whereas the system of paying for a utility like electricity, and even a water related service like irrigation water, are well established, the underlying principle is apparently not accepted and therefore, not applied to drinking water.

As noted earlier, there are four main issues affecting cost recovery; affordability, willingness to pay, the criteria for cost recovery, and the mechanisms for recovering costs. They are discussed in detail below.

Affordability

With respect to affordability, there are significant variations in income levels in the province as a whole and between districts. Furthermore, 36% of the rural population in the Punjab is living at the margin. What these vulnerable segments can afford to pay for their water particularly in the lesser developed districts - which are also the water scarce areas, will be influenced by the service level and the technology applied. Estimates based on PHED furnished data presented in Table 4.1, indicate that the average cost per household, in 1987-88, for the existing technology mix and service level, is Rs. 8-10 per month.

TABLE 4.1
OPERATION & MAINTENANCE COSTS--(PER HOUSEHOLD PER MONTH)

<u>DISTRICT</u>	<u>COST (Rs.)</u>
Sahiwal	3-10
Faisalabad	5-8
Jhang	3-6
D.G.Khan	4-15
Muzaffargarh	3-5
Multan	3-11
Vehari	4-6
Bahawalpur	9-15
R.Y.khan	8-10
Khanewal	3-6
Rajanpur	5-10

87/81

Also Table 4.2 shows that 64 to 92 percent of the rural households can afford to pay for water at the existing tariff rate if water charges are not to exceed 1-2 percent of their monthly income.

Low cost - 1/10 Rs/year = 3¢

Table 4.2

ANALYSIS OF AFFORDABILITY OF WATER CHARGES IN PUNJAB.

(% of Rural Households with Ability to Pay)

Monthly Water Tariff per Household (Rs)	If Water Charges do not exceed.		
	1% of Income	1.5% of Income	2% of Income
5	92	94	96
10	64	86	92
15	36	64	81
20	19	45	64
25	11	30	50
30	7	19	36

Source: Household Income and Expenditure Survey, 1984-85.

Notes:

. Data is not readily available for the other districts. We understand from PHED, however, that O&M costs per household per month average around Rs. 8-10 in these districts.

. Costs do not include any element for depreciation of the installed plant and equipment.

When we view the estimates arrived at in Table 4.1 in conjunction with Table 4.2 it becomes apparent that the majority of rural households in the Punjab can afford the current recurring costs of keeping the schemes operational.

talked with politicians!

Willingness to Pay

The biggest obstacle facing sustainability of water supply schemes is the lack of willingness of the beneficiaries to pay the cost incurred in supplying water to them. Water is regarded as a basic right. Many believe that it should be provided free by the Government. We understand that this perception is strengthened by the politicians, who first promise their constituents free water and then pressure the Government into conceding to their demand.

Part of the reluctance to pay also stems from:

People pay for hand pumps
willingness to pay only if house connections are provided;

the lack of funds to educate or mobilize the communities for this purpose;

consciousness of communities to their lack of control over funds contributed by them;

accessibility to alternative traditional sources of water, say a nearby canal; given that there is lack of awareness on the importance of good quality water; and

the inadequacy or irregularity of water supplied from PHED installed schemes.

Criteria and Mechanism

Two other issues that along with the paramount issue of willingness to pay, will be subjected to further study during the next phase of this project. They are the criteria for cost recovery, and the methods of effecting recovery.

Cost recovery criteria will have to be developed by addressing the following questions.

- . what should be recovered and from whom;
- . should the beneficiaries be expected to contribute towards capital costs;
- . should all sections of community pay the same charge for services or should there be some cross-subsidization criteria; and
- . should O&M cost recovery criteria be the same for both new and existing schemes, particularly if it becomes difficult to mobilize and organize community to take over O&M services in respect of earlier schemes based on more complex technologies and higher service levels?

For the development of cost recovery methods and mechanisms, the following will be examined:

- . ways of mobilizing community for cost recovery;
- . capital contribution methods, i.e. cash, labour in kind, etc;
- . the manner in which the system for cost recovery, timing of payments, will operate. For instance, some households can pay more easily on a seasonal basis. The non-agricultural households, may prefer monthly payments; and
- . who should be responsible for the collection of water supply charges and for enforcing payments? For instance, if the operation of the scheme were the sole

responsibility of the community then the community must be free to devise its own ways of denying access of water to non-members or of penalizing defaulters.

4.10.2 Human Waste Disposal Systems

A latrine is in effect an investment in the improvement of a private home.

The capital costs of individual household latrines could either be met entirely by the Government, or partially subsidized by it. However, with the Government of Pakistan facing a resource constraint, it is unlikely that it can afford to fund a significant portion of this investment.

Therefore, the ability of rural households to finance such an investment needs to be assessed.

Whereas the available data on household income and expenses is inadequate to ascertain the financial strength of households at different levels of monthly income, some inference can be drawn from the data on saving flows provided by the Household Income and Expenditure Survey of 1984-85 (HIES).

According to the HIES, households earning up to Rs. 1000 per month barely balance their budget, while those in the monthly income range of Rs. 1000 to Rs. 1500 have a monthly saving of approximately Rs. 96. With households earning Rs. 1500 per month saving of Rs. 4152 per annum are possible. Given the national marginal propensity to save of 0.08, households earning Rs. 2000, can save up to Rs. 1930 per annum. This is also substantiated by the HIES data. In other words, the cost of a pour flush latrine, including material and labour costs for pit excavation and construction of superstructure, would be the equivalent of 3.5 years savings

for households falling in the income band Rs. 1500 - Rs. 2000.

With households financially unable, partly in view of other pressing needs, to set aside funds for installing latrines from their savings, availability of credit may play an important role in this regard, particularly for the lower income groups. Methods of increasing credit, to the target group should therefore be designed. For instance, whereas a loan for a pour-flush latrine could become an integral component of a housing loan, to be disbursed by an agency entrusted with the responsibility of providing housing related finance for existing dwellings, specific loans could be disbursed through a financial intermediary like the Agricultural Development Bank of Pakistan, or the Union Councils. To stimulate interest in sanitation, loans for latrines may have to be supplemented with attractive incentives for borrowers, say in the form of an automatic fully paid membership to a monthly lottery offering handsome prizes, to all those who have constructed a latrine financed through credit.

4.10.3 Drainage

Recovering costs of drainage schemes would present a special problem because drainage is a public good and the benefits of such a facility do not fulfil a specific day to day need.

Consequently, the issues of willingness to pay, the cost recovery criteria and the mechanism for effecting recovery, will have to be examined in greater depth. We may find that the cost recovery mechanism for instance, will have to be some form of an indirect tax, a surcharge linked to and collected with, the monthly water tariff.

4.11 Private Sector

The private sector has the potential to increase its already substantial involvement in this sector in which it supplies and installs latrines, handpumps, and treatment schemes.

Private sector issues considered include the following:

- . quality of products;
- . capability and capacity; and
- . limitation to further involvement.

4.11.1 Quality of Products

The lack of standards or enforcement of standards is a basic cause of low quality in various products including handpumps and pressure pipes. Some Union Councils have also expressed concerns with the general workmanship on water schemes received from PHED.

As there are no formally enforced standards applied to handpump construction and installation, the purchase cost of this product is generally low while the maintenance cost is high.

4.11.2 Capability and Capacity

The capacity of handpump manufacturers is significantly greater than the demand at this time. The product is however manufactured in a large number of small shops. This makes it difficult to apply standards of quality.

The handpumps installed are frequently installed in such a way that pollution is inevitable. The reason for this is a lack of training of the installers and a lack of understanding by the purchaser of the hazards involved.

Again the need for hygiene education of both the installer and the purchaser is apparent.

The number of contractors such as artisans, involved in basic water and sanitation systems is adequate. Also PHED have sufficient contractors available to construct the projects which they tender.

Design work for water and sanitation schemes is performed almost exclusively by PHED. At present PHED is expanding staff in an effort to meet the demands of the schemes required by the Annual Development Plan.

Private consultants have the capability to perform the design work involved in rural water and sanitation and drainage projects. Their capacity to complete assignments in this section is not clear although one would expect their capacity to increase quickly, should the opportunity arise.

4.11.3 Limitations to Further Involvement

There appear to be a significant number of constraints on the increased use of the private sector. The lack of credit to handpump installers limit the type of payment arrangements which can be offered to customers. Similarly tight control on credit for larger contractors limits the rate at which work can be completed, the number of contracts which can be accepted, etc..

Limitations on the number of contractors permitted to bid on PHED tendered work along with other factors such as credit limits, and the size of work packages tendered, will limit involvement from other contractors. This will result in higher costs. The reasons for limiting the number of contractors is to exclude poor quality contractors. An alternate approach to limiting the number of bidders would

be to increase quality control procedures.

Government policy presently severely limits the use of engineering consultants on PHED work presently performed by PHED. Should the work load for engineering consultants in this sector increase, a limitation to performing quality work would be a need for training and orientation of new staff to the engineering and social factors involved in sector work.

The involvement of the private sector in operating and maintaining water supply schemes is small at this time. The constraint to increased involvement appears to be a lack of awareness of this option by both Government, communities and the private sector.

The involvement of the private sector in total package design, installation and operation of water schemes is limited. To date this turn key approach is limited by a lack of awareness and initiative to test this opportunity.

4.11.4 Conclusions

- . improvement in the quality of handpumps would reduce maintenance costs;
- . less restricted access to credit would increase the number of people who could afford new handpumps or latrines;
- . lack of hygiene education of both installers and purchasers of handpumps can seriously affect the quality of water produced and the health of the users; and

. there are numerous limitations on increasing the involvement of private contractors and consultants in this sector. These constraints severely limit their increased involvement, although many of these limitations are not difficult to remove.

4.12 Communities

The approximately 25,000 communities or villages in the Punjab and their socio-cultural character are an important factor effecting this sector. Within this subsegment, the following key issues were defined:

- . knowledge and awareness;
- . resources and capabilities; and
- . perceptions of Community Organization.

4.12.1 Knowledge and Awareness

Contributing factors to a low awareness of health issues as they relate to the use of water and sanitation are a low literacy level, insufficient and ineffective hygiene education, and in some areas, a lack of exposure to urban cultures. However around the larger industrialized areas such as Lahore, Gujranwala and Rawalpindi, awareness or interest in latrines, and better water and drainage schemes is noticeably higher. The cause appears to be the influence of the larger communities, access to more mass media information and higher incomes which allow the people to afford more services.

4.12.2 Resources and Capabilities

Many people in the rural areas are poor and cannot pay for basic levels of service. However, mobilizing their labour to assist in installation of schemes should be a criteria even

for basic levels of service. A larger constraint to mobilizing this labour input, would appear to be the need for someone to motivate the community or coordinate between it and the implementing agency. As noted previously there are areas where rural people can pay for certain services.

4.12.3 Perceptions of Community Organizations.

Government often views community based organizations as inappropriate for use in implementing sector projects. Because many are informal groups, they are perceived to be unviable. Specific case studies however show that this need not be the case. An apparent constraint to getting involved in providing water and sanitation services or hygiene education is a lack of opportunity and also a lack of desire.

4.12.4 Conclusions

- . awareness of the link between water, human waste disposal and health is low;
- . a facilitator could assist community groups in initiating sector projects and contributing to their implementation;
- . present procedures for implementing water and sanitation schemes do not accommodate community involvement; and
- . providing water and sanitation and drainage schemes together with the related operation and maintenance at no cost in cash or in kind to the community, makes efforts at community involvement difficult.

4.13 Practices and Beliefs

Practices and beliefs can significantly affect any effort at improving health, if they in some way work for or against a given objective. Key issues presented include:

- . defecation practices and perceptions of human waste;
and
- . provision of water.

4.13.1 Defecation Practices and Perceptions of Human Waste

The fields are generally used for defecation. One primary cause of this is a lack of health education and possibly the difficulty relating to or understanding the health message once it is presented. Presenting the message through the mosque leadership may make the message more acceptable particularly because Islam teaches cleanliness.

More important to the acceptance of latrines than health issues is the interest in privacy and convenience, particularly for women. This becomes a more significant issue where there is less groundcover, or in more densely populated areas.

4.13.2 Provision of Water

Running water is generally assumed to be safe for drinking. This perception is based on religious beliefs and works against the health message that drinking of river or canal water is safe. Running taps excessively while washing instead of using wash basins for example, wastes water and increases drainage problems outside the home. Increased drainage problems contribute to increased health problems.

4.13.3 Conclusions

- . practices and beliefs are an obstacle to health education and efficient use of water;
- . factors such as convenience and privacy, particularly for women, may be much larger motivators for the use of latrines than health; and
- . provision of house connections often increases existing drainage problems outside the home. This problem is reinforced by beliefs regarding running water.

4.14 Community based Organizations (CBO's)

Community based Organizations can play a major role in expanding the contribution of the community to sector projects. They include social welfare, women income generation schemes, health, family planning, water and sanitation, youth and cultural groups. Key issues reviewed include:

- . resources and capability;
- . perceptions of CBO's; and
- . relevance to sector;

4.14.1 Resources and Capabilities

The apparent lack of resources and capabilities of CBO's in general to participate in sector projects is likely caused by a lack of knowledge regarding existing sources of support, lack of management, mobilization capability and a general lack of appropriate technology expertise.

Contributing factors include the lack of training for these groups, lack of liaison personnel who can educate the CBO as

to the workings of the government and its various funding programs. The fact that projects in the water, sanitation, and health sector are not given a high priority also tends to reduce the number of CBO's involved in this sector.

Lack of government programs to fund CBO's efforts also limits their growth, and effectiveness.

4.14.2 Perceptions of CBO's

A contributing factor to a weak involvement of CBO's in sector projects can be the perceived threat of a democratically based group to vested interests or existing leadership within the community. This can be particularly true in the feudal belt in south and central Punjab. In the Potwar plateau regions of northern Punjab, existing projects by UNICEF in particular have shown that this potential constraint is not a factor there.

The perceptions of government departments and elected officials are frequently that these organizations are not sufficiently capable of organizing and participating in planning and operation of water and sanitation schemes.

4.14.3 Conclusions

- . training is required to provide government employees and elected officials a complete perspective of the potential benefit of community initiated projects;
- . facilitators are required in some situations to link CBO's with the resources of government, NGO's, and other programs for assistance; and
- . increased funding for projects with community involvement as a pre requisite would likely increase

the number of CBO's involved in this sector.

4.15 Women in Development

Because women play the lead role in providing water and health services in the home, their importance to sector work is significant. Key issues considered include:

- . health/ hygiene awareness; and
- . Status.

4.15.1 Health/Hygiene Awareness

Women practice cleanliness in the home but are not generally aware of the links between unclean water and excreta. However, for those villages in the more densely populated districts nearer the large cities, the influence of the urban setting and greater access to services and mass media are tending to change this.

4.15.2 Status

The status of women is lower than that of men. Their role is primarily in the home. These duties are often seen as non-productive and therefore unimportant. They are often excluded from decision making in the home and in the community. This segregation of rural women is based on culture, particularly in the feudal areas. The affect of this isolation of women is that often they are overlooked by planners designing village services and as a result, their isolation increases.

Rural women also receive less training in schools than men. As a result, their literacy rate is also lower. This again contributes to isolation and makes the task of hygiene education more difficult.

4.15.3 Conclusions

- . the lack of participation by women in water and sanitation projects is not in keeping with their role in the home, or the major impact these projects can have on their workload and quality of life; and
- . there are many constraints to increasing the role of woman in providing proper health services to their family, and to increasing their input to the community decision making process.

4.16 Population

Key issues considered in this section include the following:

- . population distribution and settlement pattern;
- . population migration; and
- . size and number in household.

4.16.1 Population Distribution and Settlement Pattern

With a rural population growth rate presently at 2.3%, it is the population distribution and not the growth rate which will play a larger role in sector projects. In the Punjab 16.6% of the rural population live in villages with more than 5,000 people, another 40.4%, for a total of 57%, live in villages larger than 2,000 people.

This concentration of people in large villages would suggest that economy of scale should tend to reduce the cost per capita of supplying water. As well most, of the more densely populated areas are on the irrigated plains, where either treated canal water or groundwater is available for use. The effect of this higher density cluster of villages

is that centralized water supply schemes providing water to multiple villages may be viable alternatives.

In the Barani areas population densities are lower and simultaneously, the water is more difficult to locate. Therefore in these areas, the per capita costs for supplying water systems are higher. Central water supply plants providing water to multiple villages from a large water supply source may be more viable than multiple smaller water schemes.

4.16.2 Population Migration

Population migration is generally from the north, NWFP and AJK. It brings with it low cost labour. Out migration is to the south, towards Karachi and overseas, generally taking with it skilled labour. This out migration, combined with rural to urban migration, will tend to remove labour with skills related to the sector from the rural areas.

4.16.3 Conclusions

. Efficiencies of scale should be considered when planning water supply facilities in the more densely populated rural areas, particularly those closer to the larger cities.

4.17 Hygiene Education

Hygiene education must be an integral part of the overall preventative health effort. Key issues reviewed under this subject include:

- . hygiene awareness in the community;
- . resources and commitment; and
- . difficulty reaching women.

4.17.1 Hygiene Awareness in the Community

Although it is not based on formal hygiene education programs, there is an inherent cleanliness in many of the daily activities performed by people in the community. This cleanliness is based on the teachings of Islam and has filtered down and become part of the community culture as well.

Some examples include:

- . washing five times a day for prayers is part of the Islamic teaching;
- . canal water is settled and filtered before drinking and cleaning is performed with water whenever possible in an effort to maintain cleanliness. Hands are also washed after defecation if water is available;
- . efforts are made to cover food and water stored in the home;
- . the house and particularly the kitchen is washed daily. If the floors are made of mud, then they are swept daily; and
- . drinking water containers are not used for other purposes and are cleaned regularly on the inside and outside.

Hygiene education would seem to fit in well with the basic cultural background. However programs to date have generally not been effective. The cause appears to be more on the education provider side than on the recipient's side. The message is not being effectively transmitted.

In the Punjab, starting the hygiene education process through the demonstration principle of providing clean water, or providing latrines, would be the preferred method. Follow-up training to expand on benefits of the new facilities and other household hygiene issues may have a more significant impact than a broad based hygiene education program.

4.17.2 Resources and Commitment

Resources committed to hygiene education, or preventative health education is part of the mandate for the Social Welfare, Education, Health and Rural Development Departments. Generally these programs are inadequately funded, quite fractured between various departments, and staffed by people who are significantly under-utilized due to a lack of commitment to their work.

4.17.3 Reaching Women

Women are involved in preparing meals and cleaning the home. They are therefore basically responsible for cleanliness in the home. If they are not presented with the hygiene message, the impact on the families health will likely be small.

Yet as part of their culture, women are generally segregated from men. In addition their literacy rate is lower and they are generally excluded from decision-making in the community. These factors make it more difficult to reach them with a hygiene education program. Women must be part of the hygiene education delivery team.

4.17.4 Conclusions

- . many basic attitudes towards cleanliness are inherent in the cultural practices and beliefs of the rural communities;
- . present hygiene education programs are not very effective; and
- . hygiene education should include the demonstration principle, to provide a focused program as follow-up on new water supply, sanitation and drainage, and latrine installation programs.

4.18 Human Resource Development (HRD)

Either formally or informally human resource development will be an integral part of almost every project. In reviewing this subsegment the following key issues were identified:

- . perceptions of value of training;
- . needs in training; and
- . mechanism to integrate skills into the sector.

4.18.1 Perceptions of Value of Training

There appears to be a perception within PHED that training of engineering staff and water scheme operators does not provide the rate of return required to justify upgrading training, as little is done in this regard. Often personnel with minimal training are hired for operation of water schemes. Alternately even if basic training is given, there may be no motivation to implement new ideas if more work is involved in implementing the new concepts under conditions where work loads may already be high, particularly at

certain periods during the year. Therefore basic causes of a low value being placed on training, are the apparent lack of return on the training investment perceived by both the provider and recipient, or a concern that new ideas may generate more work which for various reasons may not be desirable.

4.18.2 Needs in Training

Although training facilities for engineers and technicians are producing sufficient quantities of trained personnel, improvement in the quality of training and incorporation of training regarding the value of community involvement in the planning and engineering process would be beneficial. However providing this focus may be more appropriate with specific groups of engineers and technicians, directly involved in the sector. On the job upgrading seminars for this task may be more effective than training an entire class of students.

Improved qualifications or training of new water scheme operators and ensuring that on the job training is applied, will improve the performance of water schemes. Additional training is required in this area to improve performance of schemes and to ease transition of the plants to the Union Councils.

Masons are generally trained under the apprenticeship system. A constraint to upgrading their awareness of latrine installation procedures and health/hygiene issues is likely a lack of awareness of the additional work this sector may provide for them. The same situation arises with handpump installers where a lack of health education results in many pumps being installed without concrete bases to keep surface water from contaminating the well.

4.18.3 Mechanism to Integrate Skills into the Sector

For qualified staff in each area of expertise, the additional skills required for engineering, installation and operation of rural water supply, and sanitation and drainage systems are not great. Similarly, training masons in latrine installation is not difficult. Therefore as funding is a key constraint at most training and education facilities, and because priorities may prevent sector related issues from being incorporated in the program, it may be more appropriate to direct training activities to very specific target groups in, on the job training seminars, to supplement their existing expertise. This approach would focus training on those who have something to gain from the presentation instead of presenting the information to a large class where only a small number will use the information, and those that do may not use it for some time.

4.18.4 Conclusions

. for artisans and masons a perception that marketing training incorporating applicable hygiene education will result in increased income, will increase motivation and effectiveness of training and provide a multiplier effect as the hygiene message regarding use of safe water passes from the mason to his customers during the sales process; and

. focus training on small well defined groups where the information will be most relevant and effective. Use on the job training wherever possible.

5.0 DEVELOPMENT OF INITIATIVES

5.1 Goals

Throughout the data collection and subsequent analysis phases, a focus was maintained on the basic project goal. That primary goal is to improve the health and overall quality of life of the rural population, through implementation of more cost effective, and sustainable, water, sanitation and hygiene education initiatives while maximizing community involvement. Supplementary goals derived from this primary goal and from the conclusions, include the following:

- . integrate community participation in project planning and implementation, and where applicable in operation and maintenance;
- . develop financing proposals to facilitate a greater mobilization of community funds for the supply and installation of water schemes, sanitation and drainage systems, and latrines;
- . expand the use of quality handpumps and improved installation procedures to the marketplace;
- . increase the level of awareness for health/hygiene issues in the rural areas;
- . increase the involvement of the private sector in the design, construction, and operation and maintenance sector schemes; and
- . transfer responsibility for operation and maintenance of water supply schemes to the Union Council, community

based organization or private enterprise.

The potential initiatives proposed in this report have been selected to maximize the opportunity for community involvement. These goals represent the basic guidelines against which all initiatives are measured.

In this section of the report, a list of initiatives has been prepared which will be developed further in the coming months. Each initiative will be evaluated in significantly more detail prior to incorporating it into the Financial Plan. This will involve collection of additional information from field trips, reports and interviews.

Additional input will be obtained from agencies or organizations presently or potentially involved in the initiative. Input will also be obtained from elected officials at various levels in an effort to structure the initiative in a way that will enhance its acceptance.

Although sector projects have a significant impact on the quality of life of rural women, they are excluded from decision-making within the village and often ignored in sector schemes. For changing attitudes and practices, the involvement and awareness of women appears to be pivotal. Consequently the role of women will be considered in all relevant sector initiatives.

5.2 Initiatives

5.2.1 Community Involvement

The object of this initiative is to develop proposals to ease introduction of the community involvement process into the project planning, implementation and operation phase.

Increasing the involvement or participation of the average rural person in the decision-making process as it relates to services provided for him by others, may have the most profound affect on the long term success of new projects in this sector or other sectors for that matter.

Within this initiative the following options which aid the introduction of community involvement will be considered:

- . orient government departments and elected officials;
- . community promoters; and 
- . needs assessment survey.

Orient Government Departments & Elected Officials

In early 1988 case studies of successful projects involving community based organizations were made. In Mansehra the CBO's were mobilized by the District Councils. The CBO's were actively involved in organizing the construction work, participating in it, and operating and maintaining the schemes. All this was done with little outside technical assistance.

Similarly in Baldia (sanitation), in Orangi (sewers), the Northern Areas and AJK, examples of CBO's successfully completing schemes have been documented.

Even with these successes, there is a perception in the government that projects involving the participation of CBO's, even those registered with the Social Welfare Department, are not viable for implementing or operating schemes.

Frequently line department staff do not recognize informal organizations which have existed behind the scenes for years. It is important that these perceptions be replaced

with a better understanding and then more effective use of CBO's under government support. A project which creates the required promotional tools to inform government personnel and elected representatives about the benefits of community involvement is required.

Case studies would be provided from within the Punjab, to detail information on CBO's and their involvement in self-help development projects. Case studies would be made of projects in and out of this sector which have been planned, financed and supervised by government agencies.

The case studies would be transferred to video and presented in the local language by professionals working closely with the government agencies involved.

The video's would be used as promotional material for government agencies, and also in training institutions involved in training government personnel to develop a better understanding of the various roles and responsibilities of government, the community and the private sector in such schemes.

Resources required would include a group of professionals (consultants, university or NGO) with documentation skills and experience in community development and preparation of audio-visuals. Financial and institutional resources would also be required.

Potential projects include, preparation of orientation programs for PHED, LGRDD staff and elected officials at the local and provincial and federal level. This may involve outside consultants, staff seconded from NGO's, CBO's or other government departments where this process has worked effectively.

Community Promoters

With the ultimate objective of reaching the vast rural population with services and having the community taking responsibility for O&M, a promotional project is proposed. Communities have to be prepared and properly oriented for their role before undertaking projects in this sector. New staff would be added to the implementing agency or existing staff trained to work as a liaison between the community and the government department. These new personnel would therefore have to be conversant with both the technical and social/communications aspects of project delivery. They would be attached to a community development cell within the department.

There may be one promoter for every two Union Councils. The promoters would provide the local representative CBO's or general community with information on the benefits of the water and sanitation program, and details such as guidelines, ways of working with the government departments, funding possibilities and the roles and responsibilities of all parties in the water supply and sanitation project. However the promotor should not become the community's representative in this process, but remain a facilitator.

The promoters would have a variety of informational tools at their disposal including videos and pamphlets. They would be responsible for supervising needs surveys, holding planning meetings, contributing to prefeasibility studies, detailed design, educating and training members of the community, upgrading community management and organizational systems and assisting the community during construction. They will also be the key link to the line agency after project completion by providing technical support in cost recovery, maintenance and monitoring. For some of these responsibilities he may draw on expertise from other

departments to assist in his work.

Such a unit within the line agency would require training facilities, technical assistance during set-up, vehicles and support services, and promotional and demonstration material.

In the Punjab, UNICEF is presently involved with Local Government in a project to promote and implement water and sanitation projects integrating the community involvement concept. Staff are being hired and work is underway. This project will be reviewed.

Needs Assessment Survey

Assessment of community needs could be a first step in the overall planning of rural water supply and sanitation schemes. A survey could be carried out which not only raises village awareness about the future program, but also allows the District to better understand the needs of the communities as expressed by the community members themselves. It also provides clear-cut information on the communities socio-cultural, environmental and physical conditions. In reality the survey becomes a tool to begin dialogue with the community.

District wide needs assessment surveys should be carried out. The surveys could be carried out by District Councils through Union Councils, and executed by consultants to ensure quality control. The District Council would provide most of the personnel but the consultants would be responsible for establishing protocol, organizing survey teams, data collection, analysis and preparation of reports.

next step?

Community is a partner?

5.2.2 Institutional Development

This initiative will design a program of institutional development which will permit more efficient processing of quality, cost effective schemes.

Institutional development is another option which can contribute to community involvement by simplifying the scheme implementation procedure and making the procedure more appropriate and therefore more effective in dealing with community involvement.

Presently most water and sanitation projects in the Punjab are designed and implemented by PHED. Often the Local Government funded projects are also designed by PHED. Community involvement on water schemes in particular does not become significant until two years after project completion when the scheme is turned over to the Union Council for operation, maintenance and cost recovery. During this two year interval, PHED has been operating, maintaining where possible collecting O&M tariffs from the communities. The following table presents options which highlight various approaches to reorienting or developing existing departments in a way which will accommodate community involvement effectively.

Proposals for Responsibilities on Schemes

<u>Task</u>	<u>Agency</u>		
Coordinating Agency	PHED	LGRDD	District Council
Planning - Local Level	P&D	LGRDD	LGRDD
Design	PHED	LGRDD	Consultant
Implementation	PHED	LGRDD	District and Union Council and Union Council

Not very clear

The three alternatives shown do not represent all options available. Clearly more options will be discussed. In addition the entire organization chart could be split in two with different approaches for smaller and larger villages.

PHED Option

For this option, macro planning functions and specific project approval will be carried out by the Provincial P & D. As is presently the case, this option has the PHED taking a strong lead role in providing the technical inputs of its engineers, managers and supervisors. It acts as an implementing agency in collaboration with the Union Councils.

This alternative would enhance interaction between PHED and the community, in an effort to create the conditions which will make it easier for community involvement in operations and maintenance of installed schemes. This would require the creation of a wing within PHED which would liaise with the community. Selected staff, experienced in community development could be seconded from projects or other Departments such as the LGRDD.

LGRDD Option

This alternative has the LGRDD taking a lead role in providing the technical and management expertise for the project through its engineers, managers and supervisors. It depends heavily on the District or Union Council to carry out the project with strong community participation at the village level.

The initiative in this alternative is basically strengthening the LGRDD in technical expertise and project management. This would require the addition of engineering

and management staff which have strong experience in rural water supply and drainage program delivery. The additional strengthening needed in project management reflects a need for staff with experience in community development within this sector. These could be drawn in from other areas (either Government or NGO).

District Council Option

This alternative allows the community to have a strong say in the project, its wishes being expressed through the elected representatives. In it, the District Council takes a strong lead role in providing management. Technical expertise could be provided by private consultants or alternately by PHED. The LGRDD is responsible for district/sector planning for rural development, having strong input to P&D in their macro-planning. Again heavy reliance would be placed on the Union Council for project implementation and operation through the community and its CBO's.

This alternative would involve establishment of a District level planning and project/programme monitoring unit within the LGRDD staffed by planners, financial analysts, economists, and sociologists. At the District Council level the initiative would include establishment of community development units within the District Councils staffed by sociologists, and social workers.

5.2.3 Private Sector Initiative

This initiative will develop ways and means of:

- increasing the involvement of the private sector in the design and construction of water supply schemes; and

increasing the involvement of the private sector in the operations and maintenance of water supply schemes.

The private sector, both large and small, can make major contributions to more efficient design and construction of water supply and drainage schemes. They can also contribute more in the area of operation, maintenance and cost recovery on water supply schemes. Following are some options which will be considered.

The performance of a number of PHED designed water supply schemes has not been satisfactory for a wide range of reasons, some of which are beyond PHED's control. Under Provincial regulations, a water supply scheme, on successful implementation, must be transferred, for purposes of operation and maintenance, to the Union Council.

In many cases the Union Council cannot set aside adequate resources in terms of personnel and finances to keep the schemes running. Consequently the Union Councils have generally been reluctant to accept the schemes. This problem has been compounded by a view held by many that water being a basic right should be provided free by the Government. The view that water is generally regarded as 'a free good' is an exaggerated assessment of the perceptions of the people. Payments for irrigation water are well rooted in history. Even if it were argued that payment for irrigation water is accepted because water usage in this case is linked to income generation, it is important to note that in certain areas some sections of the population pay for water supplied from privately owned sources or by individuals working as water carriers. In other words, the notion of water being 'a free good' is, somehow, only nurtured when the Government is performing the role of the provider.

Therefore, in view of the above discussion an initiative to privatize the O & M of water supply systems and billing and collection of water supply tariffs in new and existing schemes should be considered. Bids for operating the schemes should then be invited. The schemes could be leased out for a maximum of 3 years to those bidding the lowest tariffs. A selective application of this initiative is recommended in areas where there is no shortage of relevant skills. Preferably the contractor would be an individual or group of individuals from the community.

In some cases the upgrading of water schemes may be necessary before they can be transferred. PHED has indicated that many communities would be significantly more willing to pay for the operations and maintenance of schemes if house connections were provided.

Use of Engineering Consultants

In discussions with PHED, there appears to be an interest in having consultants at least contribute to the overall design effort. Difficult design schedules, limited opportunities for comprehensive engineering, planning, and insufficient funds for support services may be contributing to a sense of frustration.

Because most of the work in the rural water & drainage sector is done by PHED and LGRDD, the number of consultants with experience in this field is limited. An upgrading program should be offered to interested consultants. This will take the form of workshops including field visits to self-help projects and introductions to the principles and practices of community based projects incorporating appropriate technology.

Government line departments such as the PHED and LGRDD should make more use of consultants. Serious attempts to draw on the pool of consultants will minimize requirements to establish additional inhouse engineering design capability, and also permit local consultants to export their expertise to other clients.

If the community, through the Union Council or District Council, selects its own consultants, it will likely result in improved design at lower costs. The design team can under these conditions respond more directly to the communities needs. In addition the community will achieve a greater sense of project ownership.

Private Sector Turn-key Option

As an option to Government design, installation and operation of water schemes, the private sector could be invited to perform all or some of these functions. Preparation of performance specifications in conjunction with the community, for water service requirements can be used as tender documents for private contractors. Variations of this concept are being used in different forms in the Punjab and other countries.

This concept may apply to a simple privately owned tubewell water supply system, or to much larger single or multi-village treatment plants.

For this initiative, several sites could be selected as a test case to evaluate the degree of support and involvement from the community. Units could be set up in PHED, District Councils or LGRDD to monitor and evaluate such schemes over a 2 to 5 year period. After the initial evaluation of this initiative, the concept could be improved and extended to other districts.

Support to Handpump Installers and Manufacturers

Handpumps are the key delivery mechanism for drinking water in the Punjab and particularly in the sweet water areas. A review of the private sector handpump installers in the Punjab confirmed their importance and also the need for strengthening their ability to provide quality installations which provide safe water.

Currently, repair costs for handpumps are too high. This is primarily a result of deficient technology. Shallow well handpump designs need upgrading and standardizing. This could be carried out through a review of existing designs and incorporation of designs from outside the country. Consideration should be given to franchising improved technologies to accelerate and upgrade the calibre of handpump installations particularly in the sweet water zones.

Courses for private sector handpump installers should be offered at vocational training centers located at the Tehsil/subdivision headquarters. The courses should be designed to be practical and have strong input from local installers themselves. It should focus on the proper installation and development of wells.

Setting up credit facilities through banks, Union Councils or government departments for individual households wishing to purchase new, or rehabilitate their existing handpumps, will be considered. Various credit schemes should be tested in practice including an adapted version of the Grameen Bank model in Bangladesh.

5.2.4 Cost Recovery

Within this initiative, several options will be evaluated to develop financing or cost recovery schemes which assist in increasing the level of contribution, in cash or in kind, of the community for sector schemes.

Community Development Fund

In the sweet water zones where good quality drinking water is generally already available, a project will be prepared which will encourage development of water, drainage and sanitation projects through improved credit arrangements. Many parts of the irrigated plains, particularly near the larger cities, are also economically well developed with electric power and roads already in place. There are many people living in villages who are interested, willing and able to pay for services. Improved credit may permit a larger group to finance their own handpumps, latrines or improvements to existing water supply schemes. Credit may be directed at installers, CBO's or the Union Council.

Alternately a grant program may be more appropriate. Districts within the Punjab can be classified by relative levels of development (high, medium, low). For each economic region, site selection and cost recovery criteria, the portfolio of services and projects would be determined. For instance the government may decide that in the relatively developed areas it should be focusing its efforts and energies on promoting sanitation projects and would be interested in funding water supply schemes only if the community contributes say 50% of capital costs. The capital cost contribution from the community could be graduated on a scale of 0% for the least developed areas to 25% in areas of some growth potential. The balancing matching contribution, say 50% in the case of the more developed areas, would be

met from a Community Development Fund (CDF) set up for this purpose. Applications from communities would be submitted for evaluation by either the respective District Council or the LGRDD, which, after satisfying itself regarding the feasibility of the project, would approve the application, and release matching funds from the CDF.

This model could be tested in an investigative demonstration project and after evaluation and upgrading, be expanded to other Districts in the Punjab.

This initiative may result in projects which make it easier for individuals to fund replacement, or new handpumps, and also latrine installation in their home.

Mechanisms for Operating and Maintenance Cost Recovery

An initiative exploring the possibility of using direct or indirect mechanisms for cost recovery will be undertaken. In the study phase, the initiative will involve a field investigation of the rural fiscal structure of Union and District Councils, identify taxes (land tax, export tax) to assess where scope exists for levying surcharges. The nature of the tax collection machinery (Patwari, E&T Dept.) will also be studied to develop mechanisms for collection and transfer of revenues to Union Councils for maintaining water systems. In the implementation phase, this initiative will involve selection of one district for implementation of the findings of the field investigation.

A central monitoring unit will have to be established to assess the success of this experiment in mobilizing revenues over time.

This initiative would lead to new proposals for recovery of operating and maintenance costs for water supply schemes.

Note, there are at least 3 basic alternate methods of cost recovery. Costs can be recovered by the Union Council as is presently the case. A community based organization can perform this function on a fund raising or non-profit basis, or a private individual or contractor, preferably from the community, can assume this responsibility.

5.2.5 Human Resource Development

This initiative will support the others in the area of HRD as required. Once the initiatives begin to take shape and the specific HRD requirements needed to supplement each are defined, add-on type of projects will develop to support the major thrust of a given project. Alternately, the major thrust of a project may be training, however this will not be clear until further development of the other initiatives has been completed.

Sample projects to support initiatives presented here include the following:

Info +
Arant

- . prepare a program for orienting groups on the implications of incorporating community involvement in the planning process for new projects. This may involve preparation of training material based on case histories of successful community involvement schemes and presenting the course to each district council, to PHED and LGRDD district and central office staff, etc.;

- . prepare training material to develop existing government or new staff to fill the new positions arising of the incorporation of community involvement into the planning process. This may include community promoted facilitators, clerks, project administrators, etc.;

prepare and execute an upgrading course on rural water, sanitation and drainage to present to new engineering staff beginning work in this field. Use existing experienced consultants and incorporate field trips as required;

prepare a training course to provide existing and new water supply scheme operators in the theory and practical aspects of operation and maintenance. Develop the course to incorporate classroom and on the job training time. Incorporate final exams to verify the required material has been learnt. Integrate the course into the requirements for new water scheme operators and make it mandatory. Provide regular refresher courses. Base the course on new staff having no prior knowledge in this work;

train handpump operators in the marketing of their products. Integrate the hygiene message into this program;

train masons in the marketing of latrines and integrate the hygiene message;

provide refresher courses for female school teachers to teach hygiene education. Provide appropriate course material if required; and

upgrade community health worker training in rural hygiene. Provide motivational seminars to improve staff performance and utilization.

5.2.6 Hygiene Education

In addition to developing ways of incorporating the hygiene message into the various HRD activities, develop hygiene education initiatives to support the first four initiatives, presented. Direct the hygiene education message to specific focus groups where the demonstration principle can be applied effectively.

Potential projects include:

- . During the community participation process, when a new water supply scheme is being planned, designed and constructed, integrate the hygiene message to not only the key project people, but to the villagers as well. Incorporate women into the education program to ensure the women in the community will effectively receive the required information. Use the completed water scheme as a tool to aid in the education process. Effective training will make the new water scheme more valuable, thus improving the possibility of effective cost recovery;
- . Follow-up latrine installations with presentations on the principle of hygiene. Using the new latrine as a tool to begin dialogue on the health and cleanliness issues, continue education into the broader field of hygiene. Execute this training to individuals or to groups in a given community; and
- . Integrate a hygiene education program into a village when a new drainage scheme is installed. Use the opportunity to describe how the scheme can be used to improve health.

6. **WORKPLAN**

Project activities have been divided into categories as outlined in Section 2. Each category is discussed below and is supported by detailed lists of activities presented in Appendix IV.

The project time span has been divided into five phases. At the end of the discussion below, a schedule of the main tasks the team expects to accomplish in each phase is presented. The schedule is a guideline for the development of expanded plans being compiled during the first half of March.

6.1 Data Collection

Preliminary data collection began in December, 1988 and was completed February 15, 1989. It identified and collected readily available secondary data and formed the basis for:

- . the division of the sector into sub-segments to be studied;
- . the definition of data bases, outlining data to be collected during the detailed data collection phase; and
- . the focus of project activities during the coming months.

The detailed data collection activities began mid February and will continue until June 15. During this period:

- . secondary data will be collected to assess specific issues and needs;
 - . limited field studies will be undertaken to verify selected secondary data; and
- some primary data collection will be undertaken using sampling techniques where secondary data are not available.

The final phase of data collection will fill gaps in the data which become apparent as initiatives are formulated.

In the schedule at the end of this section, data collection will occur in:

- . Phase II activities 2 to 7, focused by the analysis carried out for the Inception Report; and
- . Phase III activities 11 and 13, focused further by discussions of the Inception Report.

6.2 Data Analysis

Analysis of the detailed data collected will take place in parallel with the collection from March 1 - June 21.

Key critical issues, identified in the analysis of the initial data will be reviewed as more detailed information is collected. They will be confirmed as stated, or refined to reflect the new data. Issues judged to have an effect on the other issues, i.e. to "drive" the rest, will be given the highest priority.

In-depth analysis of each issue will determine:

- . the root causes of each issue - why the issue is important;
- . strengths which can be built on and weaknesses which must be overcome; and
- . conclusions reflecting types of action which can be taken.

The strengths and weaknesses will then be prioritized in order to identify actions of the greatest likelihood of success and areas in which the need is the greatest.

Through the analysis of the data, gaps will be identified. The process of data collection will start again, leading to more analysis using the methodology outlined above.

The conclusions reached will form the basis of the investment strategy. Projects will then be identified, and it may follow that needs for additional data will once again result in additional collection and analysis.

Analysis of data will take place in the schedule:

- . Phase II activities 2 to 6; and
- . Phase III activities 11 to 13.

6.3 Synthesis of Information

As data is being analyzed, the results are being evaluated for linkages. This synthesizing process will be carried out in parallel with data analysis, from March 15 until June 30. It will occur in Phase II activities 2 to 6, Phase III activity 11 as well as the subsequent phases.

Key interrelationships and constraints identified earlier will be verified by analyzing the conclusions reached in the analysis phase.

Strengths and weaknesses which overlap in several issues will be deemed to be of critical importance and will be given top emphasis.

6.4 Formulation of Initiatives

The formulation of initiatives is the last step in the process before identification of potential projects.

Goals will be developed for actions which will build on the available strengths and lessen the effects of the weaknesses.

For each goal, a set of specific objectives which are quantifiable and measurable will be established. The objectives will include a time element. They will be prioritized in terms of most pressing needs, having the broadest anticipated impact and short-term visible impacts and long-term benefits.

A set of strategies on how the goals and objectives are to be met will be set for each objective or set of objectives. Development of the strategies will be guided by the major issues and the overall project goal of developing projects which lead to affordable and sustainable water supply, sanitation, drainage and hygiene education projects while maximizing community participation. Criteria for evaluating the strategies will be defined and used to select ones which offer the appropriate impact, benefit, and likelihood of success. These strategies will be rolled into initiatives which will form the basis of the investment plan and from which projects will be identified.

Phase I activities concluded with a formulation process which produced a preliminary set of initiatives. These will be refined following the discussions of this report. Phase II activities 6 and 8 will narrow the refined initiatives to a specific set and Phase III activities 11 and 12 will lead to the selection of final initiatives for the investment plan and subsequent project identification.

6.5 Project Outputs

The project outputs include a Strategic Provincial Investment Plan, Project Identification Reports and a National Summary Investment Plan as discussed in Section 2.

**STRATEGIC PLANNING METHODOLOGY
PHASE I-JAN 6 TO FEB 25**

RWSSHE SECTOR OF PAKISTAN

SEGMENTATION OF SECTOR

SCANNING THE SECTOR
(BUILDING DATA BASES)

ANALYSIS OF DATA
(IDENTIFY BROAD TOPICS/TREND
ANALYSIS)

BROAD GOAL STATEMENT

IDENTIFICATION & SELECTION
OF CRITICAL ISSUES
"WHAT?"

PRIORITIZATION
EMPHASISING THOSE CRITICAL
ISSUES WHICH DRIVE THE
OTHERS

LINKS

ROOT CAUSE ANALYSIS

LINKS

CONCLUSIONS

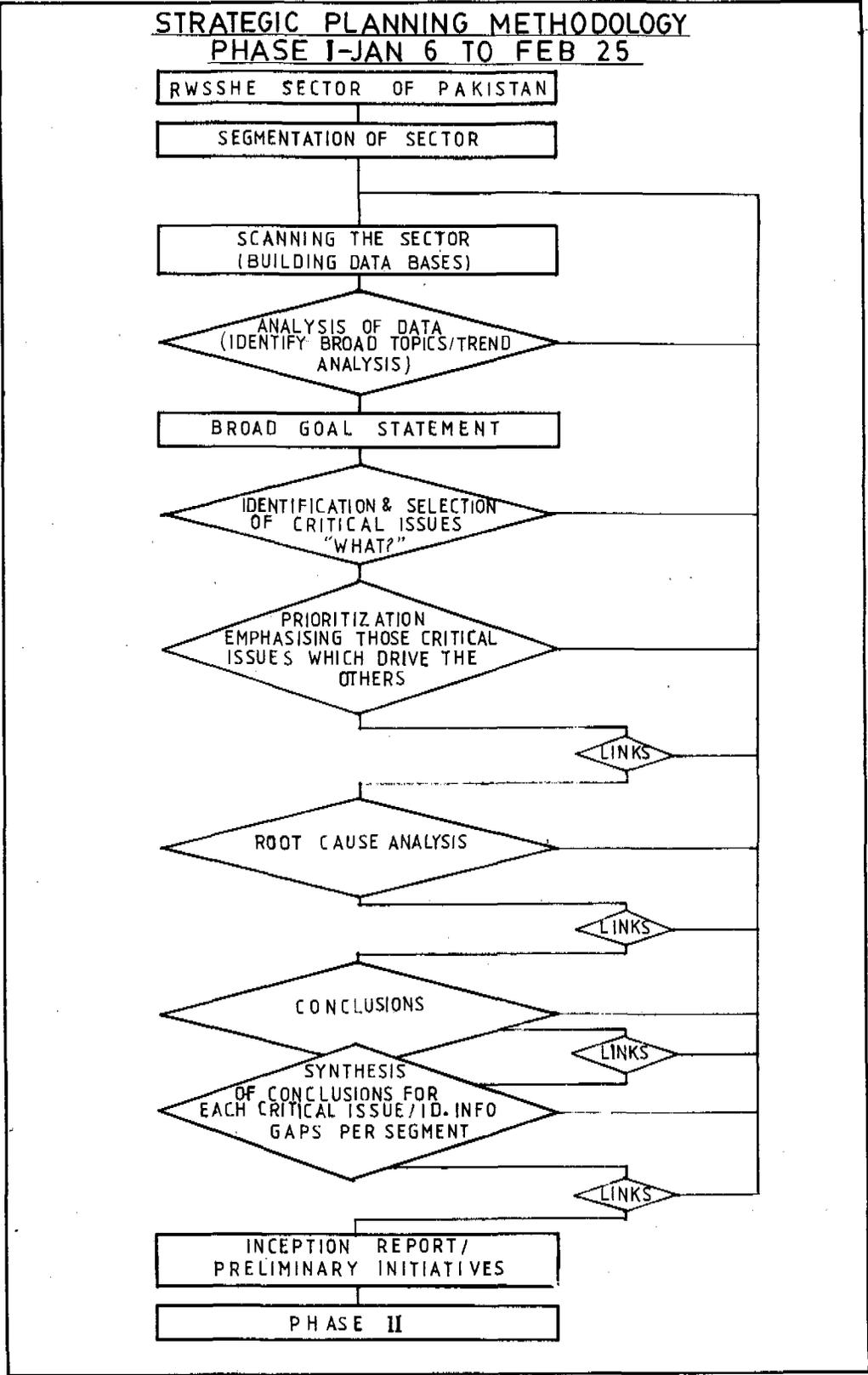
LINKS

SYNTHESIS
OF CONCLUSIONS FOR
EACH CRITICAL ISSUE/ID.INFO
GAPS PER SEGMENT

LINKS

INCEPTION REPORT/
PRELIMINARY INITIATIVES

PHASE II



WORKPLAN PHASE I - JAN 6 to FEB 28

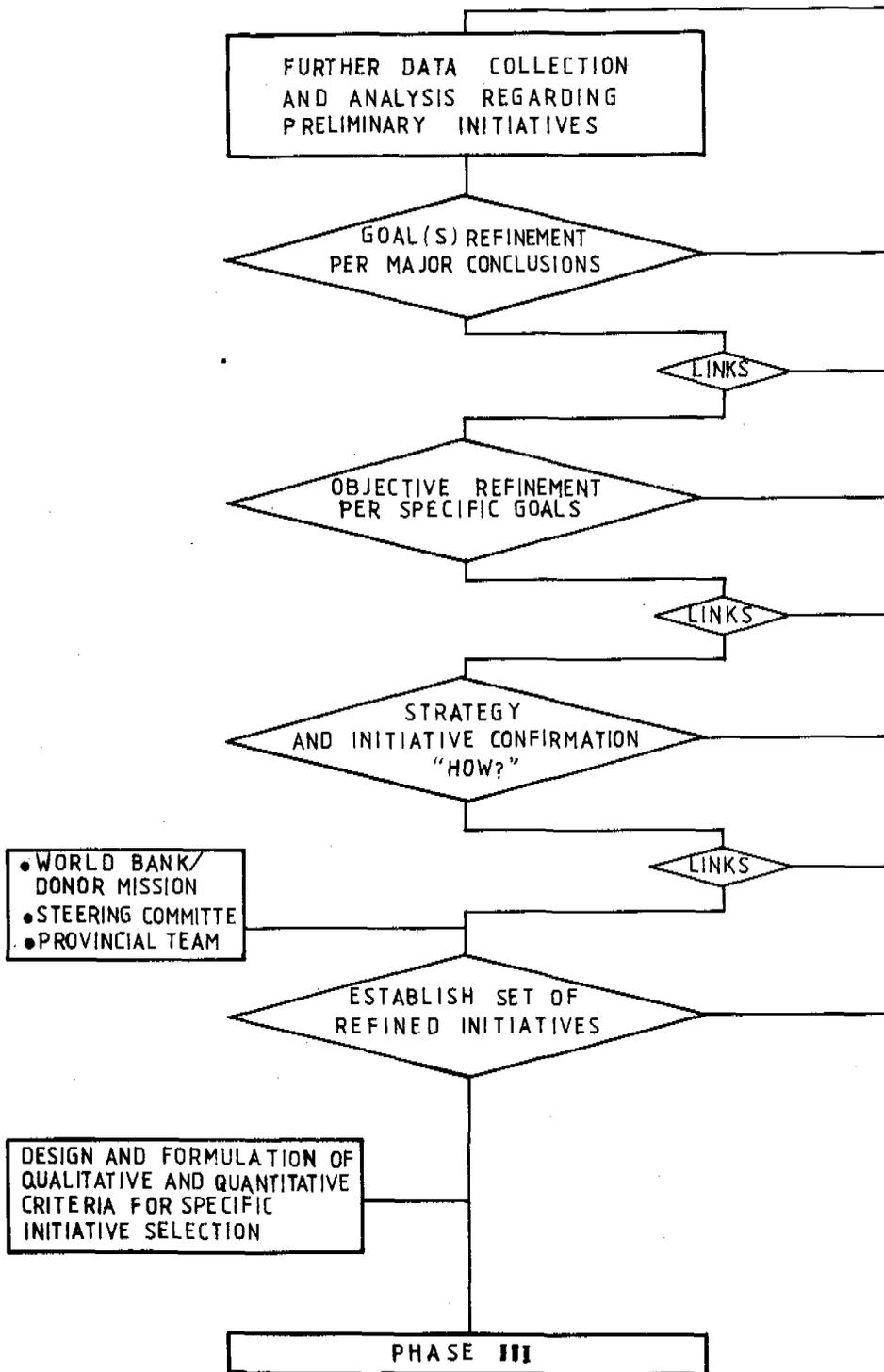
Initial reconnaissance of data and issues leading up to the Inception Report and a set of preliminary initiatives and indicative projects.

WORKPLAN PHASE II - MAR 1 to APR 1

Enhancement of data and refinement of preliminary initiatives identified in the Inception Report in order to establish the set of refined initiatives:

ACTIVITY	APPROX. TIME REQUIRED	COMPLETION DATE	RESPONS- IBILITY
<u>1. PREPARATION OF DETAILED WORKPLAN FOR PHASE II</u>			
Prepare detailed workplan for Phase III and review with MG	02 days	05/03/89	PT/CT
<u>2. REVIEW AND ENHANCEMENT OF STRATEGIC ANALYSIS BASED ON INCEPTION REPORT</u>			
		14/03/89	
2.1 Review conclusions of inception report and identify data gaps for each key issues of each subsegment	01 day		PT
2.2 Prioritise data gaps and collect highest priority data	10 days		PT
2.3 Analyse data and identify new trends	10 days		PT
2.4 Revise root causes and refine conclusions for each key issue	01 day		PT
<u>3. GOAL REFINEMENT</u>			
		15/03/89	
3.1 Refine goals and formulate new ones in light of new data and conclusions	01 day		PT
3.2 Review linkages between goals and synthesise into major goals for each subsegment	01 day		PT

STRATEGIC PLANNING METHODOLOGY
PHASE II - FEB 26 TO MAR 31



<u>4.Objective Refinement</u>		16/03/89	
4.1 Refine objectives and formulate new ones for each major goal	01 day		PT
4.2 Review linkages between objectives and synthesise into major objectives for each major goal within each subsegment	01 day		PT
<u>5.STRATEGY CONFIRMATION AND REFINEMENT</u>		26/03/89	
5.1 Confirm formulated strategies and establish new ones that will best achieve major objectives	02 days		PT
5.2 Review linkages between strategies and synthesise into major strategies for each subsegment	01 day		PT
5.3 Compare major strategies with strategic options in the Inception Report .	01 day		PT
<u>6.INITIATIVE CONFIRMATION AND REFINEMENT</u>		26/03/89	
6.1 Refine preliminary initiatives and if needed formulate new ones	03 days		PT
6.2 Review linkages between initiatives of each goal and synthesise for each subsegment	02 days		PT
<u>7.WB/DONOR MISSION</u>		12/03/89	
7.1 Meeting with Steering Committee, WB and prospective donors to review contents of Inception Report	02 days	to	PT/CT
7.2 Confirmation by WB of order of magnitude of expected foreign investment into the sector		26/03/89	
<u>8.ESTABLISH A REFINED SET OF INITIATIVES IN CONSIDERATION OF STEERING COMMITTEE/WB-DONOR MISSION RECOMMENDATIONS</u>		31/03/89	PT

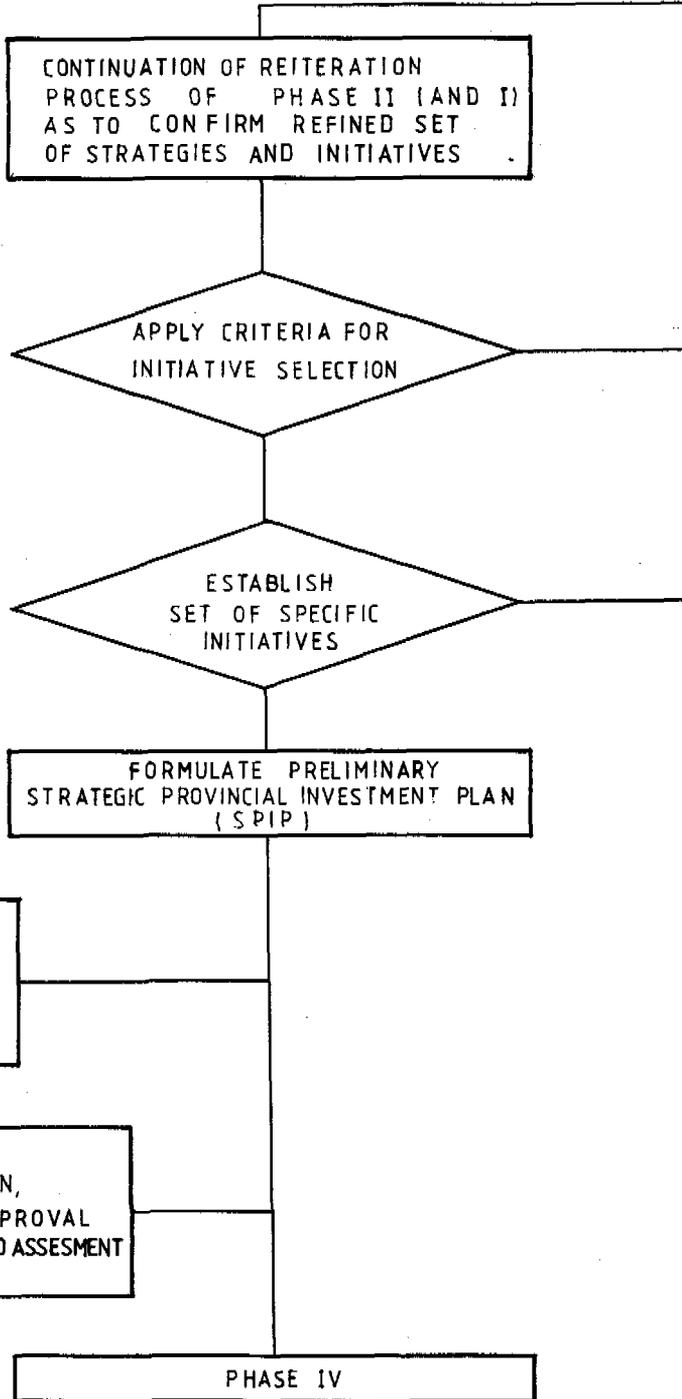
9. FORMULATION OF INITIATIVE SELECTION CRITERIA

Design qualitative and quantitative criteria for the selection of specific initiatives 07 days 31/03/89 CT

10. PREPARATION OF DETAILED WORKPLAN FOR PHASE III

Prepare detailed workplan for Phase III and review with MG 02 days 31/03/89 PT

STRATEGIC PLANNING METHODOLOGY
PHASE III APRIL - JUNE



WORKPLAN PHASE III - APRIL 2 to JUNE 11

Selection of most appropriate and feasible of the refined initiatives to be developed into a preliminary strategic provincial investment plan

ACTIVITY	APPROX. TIME REQUIRED	COMPLETION DATE	RESPONS- IBILITY
11. CONTINUATION OF STRATEGIC ANALYSIS			

11.1 Collect additional data in support of refined initiatives and to meet selection requirements	10 days		PT/CT
11.2 Refine strategic analysis, goals, objectives, strategies and initiatives in light of latest data	05 days		PT/CT
12. SPECIFIC INITIATIVE SELECTION		13/05/89	

12.1 Apply qualitative criteria to refined initiatives to select a short list of initiatives	02 days		PT/CT
12.2 Apply quantitative criteria to the short list of refined initiatives to select final set of specific initiatives	05 days		PT/CT
13. PRELIMINARY STRATEGIC INVESTMENT PLAN FORMULATION			

13.1 Group specific initiatives into programmes	01 day		PT
13.2 Assess resource requirements and time frames for each programme	04 days		PT/CT
13.3 Allocate resources for the '90-'93 and '94-'97 planning periods	10 days		PT/CT
13.4 Produce preliminary strategic provincial investment plan	15 days	20/05/89	PT/CT
13.5 Deliver Preliminary Strategic Investment Plan		11/06/89	PT
14. DRAFT METHODOLOGIES FOR PROJECT IDENTIFICATION, SELECTION, APPROVAL, IMPLEMENTATION AND ASSESSMENT FOR FUTURE USE BY LOCAL EXECUTING AGENCIES	10 days	11/06/89	CT

15. PREPARATION OF DETAILED WORKPLAN FOR PHASE IV AND REVIEW WITH MG	02 days	11/06/89	PT/CT

STRATEGIC PLANNING METHODOLOGY

PHASE IV JUNE - AUGUST 1989

FINALIZE SPIP FOLLOWING
RECOMMENDATIONS FROM
WB/DONOR MISSION II &
STEERING COMMITTEE + PT

FINALIZE PROJECT
IDENTIFICATION -
SELECTION - APPROVAL -
IMPLEMENTATION AND
ASSESSMENT METHODOLOGIES

FORMULATE PROJECTS IN
ACCORDANCE WITH STRATEGIC
PROVINCIAL INVESTMENT PLAN

PHASE V
SEP - NOV 1989

FINALIZE PROJECT DOCUMENT

PREPARE NATIONAL SUMMARY

WORKPLAN PHASE IV - JUNE 12 to SEPT 10

Finalisation of strategic provincial investment plan and preliminary project document preparation:

ACTIVITY	APPROX. TIME REQUIRED	COMPLETION DATE	RESPONS- IBILITY
16. REVIEW OF PRELIMINARY STRATEGIC INVESTMENT PLANS WITH WB AND STEERING COMMITTEE	02 days	25/06/89 to 09/07/89	PT/CT

17. FINALISATION OF STRATEGIC INVESTMENT PLAN			To be defined

18. FORMULATION OF RELATED PROJECTS WITHIN STRATEGIC INVESTMENT PLAN FRAMEWORK			

19. FINALISATION OF METHODOLOGIES FOR PROJECT IDENTIFICATION, SELECTION, APPROVAL, IMPLEMENTATION AND ASSESSMENT			

20. PREPARATION OF DETAILED WORKPLAN FOR PHASE V AND REVIEW WITH MG			

WORKPLAN PHASE V - SEPT 11 to NOV 05

Finalisation of projects and preparation of national summary report

ACTIVITY	APPROX. TIME REQUIRED	COMPLETION DATE	RESPONS- IBILITY
21. PREPARATION OF FINAL PROJECT DOCUMENTS			To be defined

22. PREPARATION OF NATIONAL SUMMARY REPORT			To be defined

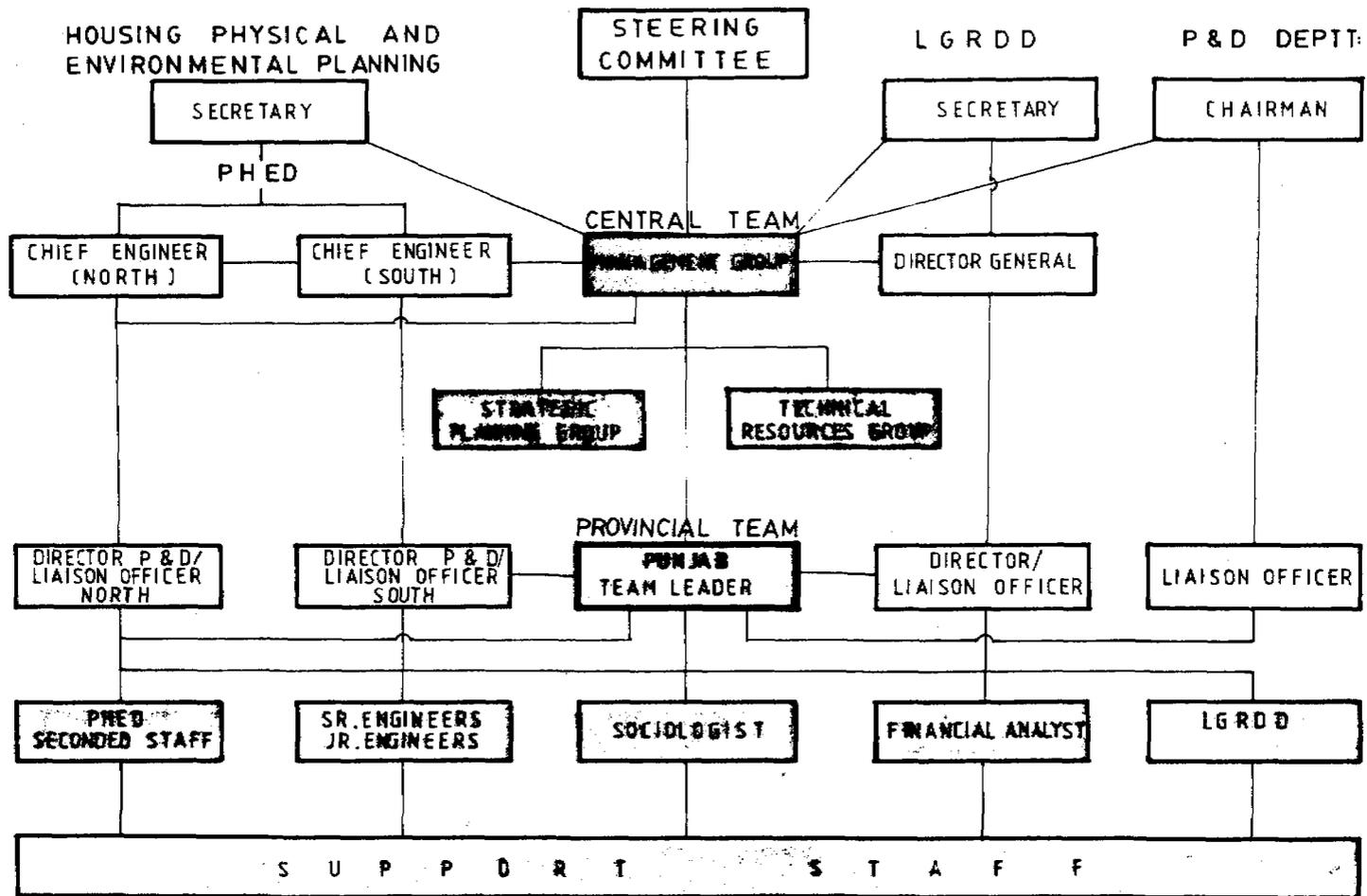
STRATEGIC PROVINCIAL INVESTMENT PLAN AND PROJECT PREPARATION
FOR RURAL WATER SUPPLY SANITATION AND HEALTH
OF PAKISTAN
WORK PLAN BAR CHART

ACTIVITY TITLE	ACTIVITY DESCRIPTION	COMPLETION DATE	MARCH 1989				
			WK.1	WK.2	WK.3	WK.4	WK.5
1. PREPARATION OF DETAILED WORK PLAN FOR PHASE II	Prepare work plan and review with central team	05/03/89	#####				
2. REVIEW AND ENHANCEMENT OF STRATEGIC ANALYSIS BASED ON INCEPTION REPORT	2.1 Identify data gaps 2.2 Collect additional data 2.3 Analyse new data 2.4 Refine conclusions	14/03/89	#####	#####	#####		
3. GOAL REFINEMENT	3.1 Refine goals and formulate new ones 3.2 Review links and synthesise	15/03/89	#####	#####	#####		
4. OBJECTIVE REFINEMENT	4.1 Refine objectives and formulate new ones 4.2 Review links and synthesise	16/03/89	#####	#####	#####		
5. STRATEGY CONFIRMATION AND REFINEMENT	5.1 Confirm strategies and establish new ones 5.2 Review links and synthesise 5.3 Compare strategies with Inception Report and refine	26/03/89	#####	#####	#####	#####	#####
6. INITIATIVE CONFIRMATION AND REFINEMENT	6.1 Refine preliminary initiatives, Formulate new ones 6.2 Review links and synthesise	26/03/89	#####	#####	#####	#####	#####
7. WORLD BANK/DONOR MISSION and STEERING COMMITTEE MEETINGS	7.1 Meetings to review Inception Report 7.2 Confirmation of order of investment	12/03/89 to 26/03/89				#####	#####
8. ESTABLISH REFINED SET OF INITIATIVES		31/03/89				#####	#####

HUMAN RESOURCES SCHEDULE

POSITION	NAME	MONTHS REMAINING	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	
			REVIEW	PRELIM SPIP	FINAL SPIP+PRELIM PP	FINAL PP+NS						
MANAGEMENT GROUP												
PROJECT DIRECTOR	MC GINNIS		▬		▬				▬			
PROJECT CODIRECTOR	MC GARRY		▬	- - - -	▬	▬	▬	▬				
PROJECT MANAGER	FOY		▬									
DEPUTY PROJECT MANAGER	ABID		▬									
DEPUTY PROJECT MANAGER	BAKHTIARI		▬									
MANAGEMENT ADVISOR	ASHWORTH				▬			▬				
STRATEGIC PLANNING GROUP												
STRATEGIC PLANNER	RATHIER		▬									
ADVISOR PLANNING	WEBSTER				▬			▬				
ECONOMIST	PASHA		▬	▬	▬	▬		▬	▬	▬	▬	
FINANCIAL ANALYST	KARDAR		▬	▬	▬	▬	▬	▬	▬	▬	▬	
SOCIOLOGIST	BAKTHEARI			A S	A B O V E							
DEMOGRAPHER	KHAN		▬									

PROJECT ORGANISATION FOR PUNJAB PROVINCE



Appendix

PROJECT ORGANIZATION AND MANAGEMENT

Project Staff are organized into the Provincial Teams and the support group made up of the Management, Strategic Planning and Technical Resources staff as illustrated in Figure I-1. The Provincial Teams are based in the respective Public Health Engineering Department offices and the support staff is based in Islamabad.

Provincial Teams are charged with developing the investment plan and identifying projects for implementation. Team Leaders are responsible for day to day operations and take the lead in liaising with the Provincial Government. All staff assigned to the team, including short-term members of the Technical Resources Group when they work in the province, are directed by the Team Leader.

The Provincial Teams are integrated with P and D, PHED, and LGRDD. The latter two departments have nominated staff to work on a full time basis as members of the Team and all three have nominated additional staff to work in liaison positions.

The Provincial Team reports to, and is guided by, a Provincial Steering Committee as outlined in Section 2 of this Report. At the National level, the Project is overseen by a Federal Steering Committee made up of:

Chairman - Secretary,
Ministry of Local Government and Rural
Development;

Member - Joint Secretary,

APPENDIX I

Ministry of Local Government and Rural
Development;

- . Member - Joint Secretary, R.D.L.P. Section,
Planning Commission;
- . Member - Physical Planning and Housing Section,
Planning Commission;
- . Member - Joint Secretary, Ministry of Education;
- . Member - Joint Secretary, Ministry of Health;
- . Member - Joint Secretary,
Ministry of States and Frontier Region;
- . Member - Joint Secretary,
Ministry of Kashmir Affairs and Northern
Areas;
- . Member - Director (Technical), WAPDA;
- . Member - Chief, Health and Nutrition Section,
Planning and Development Division; and
- . Member - Deputy Secretary,
Ministry of Local Government and Rural
Development.

The Islamabad based staff are responsible for the overall direction of the project and provide support to all four Provincial Teams. The Management Group monitors the day to day management process and its extension to the Provincial level, ensures goals are reached on time and provides liaison with the Federal Government and the World Bank. The

APPENDIX I

Project Director and Co-Director are based in Canada and visit the project from time to time to ensure it operates within contractual guidelines and to provide management and technical advice. The Project Manager has overall operational responsibility for the project and all staff report to him. He is supported by two Deputy Project Managers who provide guidance and technical support to the Sociologists and Engineers on the Provincial Teams and by an Advisor - Management/Engineering on short-term assignments.

The Strategic Planning Group takes the lead in developing methodologies and criteria and works with the Provincial team to apply and to modify them as necessary to meet local conditions. All of the staff in this group are on long term assignments.

The Technical Resources Group is comprised mainly of short-term staff who provide technical inputs in their area of expertise to both the Islamabad and Provincial Teams.

**Appendix
II**

Auto Study

METHODOLOGY

The project uses a Strategic Planning approach to the work. Strategic Planning differs from Comprehensive Planning in that it focuses on key issues and interrelationships in order to quickly arrive at appropriate programmes for implementation while the latter is much more broad based and attempts to identify all components of a specific subject. For example it is necessary to review the economy of the province. Using a strategic approach, only those items of the economy which have a direct bearing on the water supply, sanitation and health sector will be considered - eg. income levels, ability to pay for services, income generating activities which affect the way water is used. In a comprehensive study, all aspects of the economy would be studied.

The methodology is comprised of six categories of activities:

- . Project Initiation - Series 100 activities;
- . Data Collection - Series 200 activities;
- . Data Analysis - Series 300 activities;
- . Synthesis of Information - Series 400 activities;
- . Initiatives Formulation - Series 500 activities;
- . Outputs - Series 600 activities.

Since the project initiation activities related only to project start up and this phase is now complete, they are not discussed in this report.

Maybe : Comparison / consultation

1. Data Collection

Data collection activities are divided into three categories. The preliminary data collection began in December before the project was formally initiated and was completed by February 15, 1989. This work identified the availability of secondary data, collected what was readily available and formed the basis for:

the division of the sector into sub-segments to be studied:

- water resources;
- water supply;
- sanitation and drainage (disposal of sullage and storm water);
- disposal of human waste;
- institutions subdivided into:
 - . government departments;
 - . District and Union Councils;
 - . Elected Representatives; and
 - . Non-Governmental Organizations (NGOs);
- economy;
- financial resources;
- cost recovery;
- private sector;
- social/cultural subdivided into:
 - . communities;
 - . role of women;
 - . practices, beliefs, and behaviours; and
 - . community organizations;
- population;
- health; and
- human resources development;

APPENDIX II

- . the definition of data bases, outlining data to be collected; and
- . the focus of project activities in the coming months.

Further detailed data collection began mid February and will continue until June 15. Activities are aimed at collecting the information defined by the data bases. Selected secondary data will be verified by independent field studies and some primary data collection will be undertaken using sampling techniques where secondary data are not available. It is anticipated that investigation may be needed to gain an understanding of the rural communities - the beliefs and behaviours of the populace, the availability and strength of village organizations which could be involved in project implementation, and the ability and willingness of people to pay for services.

During the period July 1 - September 30, data collection will be focused on project identification. Analysis of the data collected and identification of potential initiatives will both highlight data gaps to be filled, resulting in the final phase of data collection.

2. Data Analysis

Analysis of the data collected will also be an ongoing activity.

The preliminary analysis phase ended February 15, 1989 and provided:

- . preliminary identification of issues to be studied in each subsegment;

APPENDIX II

- . preliminary selection and prioritization of the key critical issues (those which drive the rest) for each subsegment;
- . preliminary analysis of the key critical issues, including their root causes and identification of data gaps; and
- . conclusions reached.

Analysis of the detailed data collected will continue in parallel with the collection activities and will end June 30, 1989. During this phase the following activities will be carried out:

- . review of the preliminary identification of key critical issues in the light of the additional data collected;
- . prioritization of key critical issues and an in depth analysis of them identify:
 - factors which are the basis of the issue being of critical importance (root causes);
 - strengths which can be built on and weaknesses which must be addressed; and
 - conclusions reached;
- . prioritization of strengths and weaknesses; and
- . identification of data gaps, collection of the data and analysis of it using the same methodology outlined above.

In the final phase, July 1 - September 30, additional data collected for project identification will be analyzed in the same way.

3. Synthesis of Information

As a result of the analysis of data, conclusions will be reached based on quantitative and qualitative assessment of root causes. These conclusions will then be studied or synthesized to identify the key interrelationships and constraints. Strengths and weaknesses which overlap in several issues will be given top emphasis.

Synthesis is an ongoing activity, tied into the collection and analysis of data. The major effort will end June 30, but conclusions reached as the result of the more focused project identification data collection will also be checked for interrelationships with other conclusions.

4. Formulation of Initiatives

In order to formulate initiatives which will lead to projects, specific objectives and strategies must be devised and criteria to select the most appropriate ones developed.

Within the overall goals of the project, specific objectives will be set based on the interrelationships identified among the conclusions. The objectives will define in broad terms initiatives which will build on existing strengths and opportunities and lessen the effects of weaknesses.

For each goal, a series of objectives will be set which are quantifiable, measurable, and include a time element. The objectives will then be prioritized in terms of:

- . most pressing needs;
- . broadest anticipated impacts; and
- . short-term visible impacts and long-term benefits.

The objectives serve to further quantify the goals.

A set of strategies for meeting each objective or set of objectives will then be formulated. The overall project goal of developing projects to improve the health and quality of life of the rural population through more cost effective and sustainable water supply, sanitation and hygiene education initiatives while maximising community involvement, will focus the development of the strategies as it did in the analysis of issues.

Criteria to evaluate the different strategies will be developed. Criteria which could be used include:

- . likelihood of success;
- . potential for community involvement;
- . potential for the involvement of women; and
- . coverage to be achieved and impact expected.

Using the criteria, the best strategies will be selected and result in recommended projects.

5. Project Outputs

The outputs of the project include this Inception Report, a Strategic Provincial Investment Plan, National Summary Investment Plan and Project Identification Reports.

The Inception Report is being submitted March 4, 1989, two months after the project was initiated.

The Strategic Provincial Investment Plan will be presented to the Government in draft form three months later, June 10, 1989, and in final form, September 9, 1989.

5.1 Report Format for Strategic Provincial Investment Plan

The formulation of objectives outlined in the previous section will form the basis of the investment strategy. The contents of the report defining the strategy will be finalised in the coming months, but the initial outline is:

- . Rural Water Supply, Sanitation and Health Sector
 - current situation;
 - Government priorities and targets for increased coverage (Seventh Five Year Plan, 1988 - 1993 and Perspective Plan, 1993 - 1998; and
 - sector issues.

- . Population and Demand
 - overall and rural population projections;
 - present and future demand for services;
 - population to be served; and
 - proposed service levels.

- . Investment Strategy
 - objectives;
 - analysis of alternative strategies; and
 - investment criteria.

- . The Investment Plan

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- size and components of investment plan by sub-sector (based on order of magnitude cost estimates);
- Provincial Investment Plan;
- types of investments - 1990 - 1993; and
- types of investments - 1994 - 1997.

Financing

- prospects of overall macro resource availability;
- projections of Government allocations to the sector;
- involvement of donor agencies;
- future operations and maintenance cost requirements;
- affordability and willingness to pay of beneficiaries;
- mechanisms for cost recovery; and
- overall financing plan.

Project Management and Implementation

- institutional arrangements;
- organization and management;
- involvement of communities;
- operation and maintenance; and
- personnel/training requirements.

5.2 Outline of Identification Reports for Projects to be Implemented 1990-93

Draft project identification reports will be submitted September 9, 1989 and in final form, November 4, 1989. The format of the reports will also be developed during the coming months, but the initial outline for a water/sanitation project to be implemented in the period 1990 - 1993 includes:

. The Water Supply, Sanitation and Health Sector

- provincial background;
- economic and health indicators;
- water resources and control;
- present service coverage and standards;
- sector goals;
- staffing requirements and training needs;
- financial implications; and
- involvement of international agencies.

. The Project Area and the Need for a Project

- planning horizon;
- project area;
- population patterns;
- economic and social conditions;
- regional development prospects;
- existing and future land use patterns;
- sector institutions;
- available water resources;
- existing water supply systems and population served;
- existing sanitation systems and population served;

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- existing drainage and solid wastes removal systems and population served; and
- need for a project.

Strategic Plan for Water Supply, Sanitation and Hygiene Education

- objectives;
- water supply service standards;
- sanitation and drainage service standards;
- community preferences and affordability;
- capital availability;
- future demands for water services;
- future demands for sanitation services;
- future demands for drainage services; and
- strategic plan for water supply, sanitation and drainage, and hygiene education.

Proposed Project

- project definition;
- institutional responsibilities; and
- financial aspects.

Conclusions and Recommendations

- conclusions;
- issues; and
- recommended actions.

5.3 Outline of Identification Reports for Projects to be Implemented 1994-98

The outline of water supply projects which could be considered for the subsequent period, 1994 - 1998 is:

- . a map showing the project area and definition of the intended beneficiaries;
- . explanation of how the project complies with the strategic investment plan;
- . description of the present services in the project area with an outline of the deficiencies of the services;
- . summary of the main objectives of the project, indicating the number of people to be served, anticipated standards of service and expected conditions in the project area after the project is completed;
- . outline of the proposed project components in terms of physical facilities and supporting activities - e.g. hygiene education, training;
- . estimate of the local and foreign costs of implementing the projects and proposals for cost recovery;
- . description of the institutional responsibilities for the future project feasibility study, detailed design and implementation; and
- . recommendations for future actions regarding the project.

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Both project identification report outlines suggested above are for integrated water supply, sanitation and hygiene education projects. They will be modified as needed for other types of projects - human resource development, community development.

**Appendix
III**

APPENDIX III

REPRESENTATIVE CAPITAL COST ESTIMATES
FOR WATER SUPPLY SCHEMES

District	Population served (million)	Cost estimate (Rs. in million)	Cost per Capita (Rs.)
Rawalpindi	0.42	390	440-450
Jhelum	0.43	310	435-450
Attock & Chakwal	0.50	300	440-450
Gujranwala	0.22	510	300-315
Sialkot	0.14	1020	415-420
Lahore	0.12	170	320-330
Kasur	0.09	520	350-450
Sheikhupura	0.20	570	310-315
Sargodha, Bhakkar & Khushab	0.60	620	300-460
Mianwali	0.50	370	440-450
Gujrat	0.18	870	445-450
Faisalabad	0.32	1130	250-400
Jhang & Toba	0.22	510	250-400
Tek Singh D. G. Khan & Rajanpur	0.53	540	250-600 (sweet water) 500-750 (brackish)
Muzzafargarh	0.08	330	100-200
Multan & Khanewal	0.44	1430	200-350 (sweet water) 450-750 (brackish)
Vehari	0.09	400	250-400
Bahawalnagar	0.18	370	200-450
Bahawalpur	0.11	450	300-450
R. Y. Khan	0.17	900	450-650
Sahiwal & Okara	0.34	1040	200-450
Total:	5.88	12750	---

**Appendix
IV**

DETAILED LIST OF PROJECT ACTIVITIES

200 Data Collection

210 Water Resources, Rural Water Supply, Sanitation and Drainage

211 Compile data on the physical environment including sources of ground water and surface water, and rainfall.

212 Using secondary data, determine coverage in terms of the number of villages with water supply, sanitation and drainage services, grouped by District and population.

213 Identify the technologies used:

- . water supplies - ground water or surface water sources;
 - hand pump or mechanized pumps;
 - treatment and distribution facilities;
 - public or private ownership, operation and maintenance;

. sanitation; and

. drainage.

214 Using sampling techniques, examine arrangements for operation and maintenance and analyze existing data to gain an appreciation of system status:

- . number operating;
- . number operating but needing repair; and
- . number not operating.

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215 Identify present criteria for design, project prioritization and selection and special criteria for underdeveloped areas.

220 Institutional Assessment

221 Identify institutions involved in the province and each district and their mandates including responsibilities for the planning, design, implementation, operation and maintenance of water supply, sanitation and drainage systems or the provision of related services:

Government Departments:

- PHED;
- LGRDD;
- Department of Education (including schools);
- Health Department (including Traditional Birth Attendants and Lady Health Visitors);
- WAPDA; and
- Social Welfare;

. District and Union Councils;

. Elected Representatives;

. Non Governmental Organizations;

. Private Sector; and

. special projects with particular attention to the methodology and relationship between agencies, private sector and donor agencies.

222 Determine institutions' organizational structure:
. organization chart;

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- . basis for making promotional appointments; and
 - . scheme of service.
- 223 Examine the institutions' management philosophy, policy and guidelines.
- 224 Examine funding mechanisms:
- . 'source of the funds, financial year, and operating budget (salaries, expenses and revenues);
 - . method of establishing operating budgets and justifications used; and
 - . review of funds transfer mechanisms in the province vis-a-vis urban and rural.
- 225 Examine training institutions and determine:
- . class timetable, class size, and ages and gender of students;
 - . curricula, facilities, learning materials and text books;
 - . attendance policies and achievement; and
 - . educational level classification system.
- 226 Identify the Provincial/National linkages:
- . composition of the coordinating body and frequency of meeting;
 - . guidelines, mandate, and authority/approval levels of staff;
 - . how staff are appointed to the coordinating body; and
 - . appraise the effectiveness of the linkages.

227 Examine staff development/training:

- . training policy;
- . scope of development - i.e. is it limited to specific groups;
- . performance appraisal procedures;
- . assessment and licensing of teachers in schools and training institutions;
- . job opportunities after graduation and promotion policy;
- . incentives for staff to take training and opportunities available - training courses, seminars, workshops, study tours, fellowships, scholarships or training of trainers;
- . facilities;
- . instruction level and quality, equipment and training aids;
- . locations; and
- . hostel/accommodations and allowances, and costs involved.

228 Assess the capacity to undertake an accelerated development programme.

230 Economy

231 Examine the rural economy, focusing on level of prosperity and ability to pay for services.

232 Identify regional development at the district level:

- . income levels and affordability;
- . demand for water supply, sanitation, and drainage;
- . production indicators - number of tube wells, tractors; and

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- service indicators - number of roads, banks, schools.
- 232 Review sources of funds for provincial departments and recent government statements leading to a forecast of the likely future funding.
- 233 Review cost recovery experience in this and other service sectors.
- 234 Determine the magnitude of capital costs of civil, mechanical and electrical components of water supply, sanitation and drainage facilities, and operation and maintenance costs.
- 235 Study the Private Sector in terms of:
- . technologies, designs, and standards used by the private sector; and
 - . the sector's role as:
 - a consultant;
 - a contractor;
 - a supplier of hand and mechanized pumps and construction materials;
 - a manufacturer of pumps, drill rigs and supplies, and construction materials;
 - a participant in operation and maintenance activities;
 - a financier for hand pumps; and
 - an owner or operator of a community water supply system.

240 Social/Cultural

- 241 Study communities in terms of:

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- . community leadership and its relationship with water related issues;
- . ethnic segmentation in the community;
- . level of experience with water and sanitation issues; and
- . knowledge and awareness of water, sanitation and health.

242 Review the role of women in the community:

- . perceptions regarding women which are held by the women themselves and by others;
- . general levels of knowledge women possess;
- . restrictions placed on women by the purdah system;
- . women's access to independent economic means;
- . their role in water issues; and
- . skills available to women and the opportunity to gain new skills.

243 Determine local practices and attitudes:

- . allocation of responsibility with respect to waste and sullage collection and disposal;
- . defecation practices;
- . solid waste disposal;
- . hygiene including care of children and preparation of food;
- . understanding of linkages between hygiene and health;
- . responsibility for the maintenance of rural water supply and sanitation facilities and health education delivery; and
- . perceptions of how well their needs are being met.

244 Review the existence, activity level and experience of community based organizations:

- . number of formal and informal groups;
- . level of activity;
- . past involvement with water supply, sanitation, drainage and hygiene education;
- . numbers of people involved; and
- . the quality of the groups.

245 Define community involvement:

- . current situation; and
- . what villagers want and are capable of with respect to planning, construction, management, operation, maintenance and financing of water supply, sanitation and drainage facilities.

250 Population

251 Estimate the population and population growth rate from existing data in terms of:

- . village size - number of people living in mauzas of the following size categories on a district basis:
 - 200 - 500 people;
 - 500 - 1000 people;
 - 1000 - 2000 people;
 - 2000 - 5000 people; and
 - 5000 - 10000 people; and
- . population densities.

252 Identify the physical pattern of rural settlements and numbers in different population.

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260 Health

261 Obtain health indicators, especially the incidence of water related diseases.

262 Review existing health services and allocation of resources.

263 Assess past experience in hygiene education indicating the goals of the programme and coverage achieved.

270 Human Resources Development

271 Inventory all training organizations and efforts:

- . school system, including mosque, primary, secondary, polytechnical and universities - numbers, number of students and teachers, number of lady teachers and curricula;
- . institutional or job related training at the Union and District Council, line department and private sector level; and
- . village level training in project management, community organization and operations and maintenance.

272 Identify recipients of present human resource development programmes:

- . staff in institutions;
- . local government officials; and
- . villagers.

280 Government Policy

281 Identify government priorities and sector objectives on a national and provincial basis.

282 Define cost recovery policies:

- . tariffs and collection mechanisms for public utility managed schemes;
- . community financing mechanisms for user-managed schemes; and
- . recurrent expenditure shortfalls and their impact on operation and maintenance.

283 Identify present investment criteria.

290 Data Collection Associated with Assessment of Past Investments

291 Assemble data on recent investments in the sector, criteria for selection of project investment priorities, and present plans.

300 Data Analysis

310 Analysis Process

311 Assess the reliability of data being collected.

312 Review the preliminary identification of the Key Critical Issues in light of more data collected. Priorize the Key Critical Issues.

313 Analyze the Key Critical Issues:

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- . identification of root causes;
 - . identification of strengths and weaknesses; and
 - . conclusions.
- 314 Priorize strengths and weaknesses.
- 320 Water Supply, Sanitation and Hygiene Education
- 321 Assess the implications of the physical pattern of rural settlements for the design of systems.
- 322 Establish the causes of present systems being inoperative.
- 323 Evaluate current technologies being used from the point of view of appropriateness, sustainability, acceptability, affordability, ease of operation and maintenance, and potential for community participation.
- 324 Establish design criteria:
- . service levels and technology options to be used for each socio-economic module; and
 - . daily production requirements per capita of each water supply technology type.
- 325 Determine the number of communities by population category who need:
- . no change to the existing system;
 - . repair/rehabilitation of existing system;
 - . expansion of existing system; or
 - . a new water supply, sanitation or drainage system.

330 Institutional Development

331 Establish the commonality of mandates among PHED, LGRDD, DH, DE, WAPDA, and the private sector.

332 Propose an allocation of responsibility within the agencies, identifying which agency has:

- . sole responsibility; or
- . joint responsibility - prime or sub.

333 Assess where strengthening would be desirable for each organization.

344 Establish what data WAPDA possesses which could be made available to other institutions.

340 Economy

341 Assess the likely magnitude of future funding for the sector.

342 Establish affordable and acceptable tariff structures.

342 Assess the technologies being used by the private sector for construction, operation and maintenance, and capital and recurrent cost recovery.

343 Evaluate construction materials available and needed and their costs.

344 Establish the availability of water supply system equipment, costs, local manufacturing, quality control and distribution mechanism.

345 Assess the financial needs of the private sector.

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350 Social/Cultural

- 351 Evaluate communities' desire and ability to participate in planning, design, construction, management, operations and maintenance, and financing capital and recurrent costs.
- 352 Assess the need for external community motivation and mobilization.
- 353 Evaluate the special needs of low income areas and develop relevant mechanisms.
- 354 Establish the presence of community organizations which may be used in project implementation.
- 355 Evaluate the need for hygiene education.

360 Human Resources Development

- 361 Assess the status of water resources knowledge affecting the choice of technology, competing demands, and water system management and control methods, and their adequacy.
- 362 Evaluate technical and financial training needs in institutions, the private sector, the community and local politicians.
- 363 Assess the role of schools, TBA's, and other health workers.
- 364 Establish staff shortages by institution and category.

- 370 Government Policy
- 371 Assess the impact of recurrent expenditure shortfalls on water supply, sanitation, drainage and determine its financial needs.
- 380 Review Sector Investments
- 381 Compare the past rate of investments made in rural water, sanitation and hygiene systems to the targets set.
- 382 Identify reasons for variances.
- 400 Synthesis of Information
- 410 Identify Key Inter-relationships and Constraints
- 411 Assessment of the relationships and constraints by the Provincial team.
- 412 Review with the Project Central Support Group.
- 413 Review with the Provincial Government.
- 420 Define Initiatives
- 421 Assessment by the Provincial Team.
- 422 Input from the Project Central Support Group.
- 423 Preparation of proposals.
- 424 Review with government staff to reach concensus.

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- 430 Establish Community, Private Sector, and Institutional Roles
- 431 Examine issues in provincial meetings with inputs from community groups, private sector representatives, line departments and project central support staff.
- 432 Prepare proposals.
- 433 Achieve concensus to provide guidelines for the formulation of projects.
- 440 Determine Human Resources Development Approach
- 441 Identify alternative training approaches.
- 442 Prepare proposals for method of delivery.
- 443 Review with government staff and obtain concensus.
- 500 Formulation of Initiatives
- 510 The Planning Process
- 511 Strategic Planning Group develops seminars for Provincial Planning Teams.
- 512 Strategic Planning Group monitors and evaluates the process in each province to achieve consistency in its application.
- 520 Provincial Investment Plans
- 521 Strategic Planning Group establish levels of investment in conjunction with GOP authorities and discusses them with Provincial Teams.

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522 Provincial Teams prepare a draft investment plan based on the conclusions reached.

523 Finalize the investment plan.

530 Initiative Identification and Selection

531 Establish goals, objectives and evaluation criteria:

- . formulate potential goals, objectives and criteria through meetings with Provincial Teams;

- . Provincial Teams present proposed goals, objectives and criteria to GOP authorities for approval;

- . Provincial Teams identify high priority geographic areas and target groups and ensure initiatives being considered are representative of the views and wishes of the communities.

532 Identify potential initiatives and prioritize in a workshop format through advocacy bargaining approach.

533 Select initiatives through goals achievement process.

540 Provincial Project Documentation

541 Strategic Planning Group develops format and methodology for project documentation.

542 Strategic Planning Group holds a seminar to familiarize Provincial Planning Teams with the documentation preparation process.

543 Provincial Teams prepare project documentation.

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- 544 Economic and financial analysis of proposed projects.
- 550 National Summary Investment Plan
- 551 Review of Provincial Investment Plans by Strategic Planning Group
- 552 Feedback of national level analysis to Provincial Teams.
- 553 Preparation of National Investment Plan by Strategic Planning Group.
- 600 Project Outputs
- 610 Inception Report
- 611 Write Inception Reports based on preliminary analysis of data gathered and identifying:
- . present situation;
 - . objectives;
 - . options to be considered; and
 - . methodology for the study duration.
- 612 Review the report with GOP officials and refine.
- 613 Prepare the final report.
- 620 Strategic Provincial Investment Plans
- 621 Prepare a preliminary first draft of one provincial investment plan.
- 622 Review the report with appropriate Government and World Bank personnel and refine having had this additional input.

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- 623 Prepare draft provincial investment plans based on the format of the approved preliminary report.
- 624 Review the report with appropriate Government and World Bank personnel and refine as appropriate.
- 625 Submit the final investment report.
- 630 Project Identification Reports
- 631 Prepare draft project identification reports and discuss with Government and World Bank staff and refine as appropriate.
- 632 Submit final reports.
- 640 National Summary Investment Plan
- 641 Prepare and submit a national summary of the provincial investment plans.
- 642 Develop proposed implementation programmes identifying local, Provincial, National and foreign components.

Marion,

I would appreciate if you
could mention my presence (Pastor
in biblical aid) in the mission during
the meetings with officials/steering
committee.