

# N.W.F.P.

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

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### Inception Report

March 1989

Wardrop - Acres  
Cowater International  
NESPAK

822 - PK.No 89-5191

# N.W.F.P.

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

## Inception Report

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# INCEPTION REPORT

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## EXECUTIVE SUMMARY

As a result of a review of the water supply and sanitation sector presented by the World Bank in a report dated June 1988, agreement was reached with the Government of Pakistan to implement a project to prepare a strategic investment plan for the sector for all provinces. The plan is intended to engender projects which will contribute to the betterment of health and overall quality of life of the rural population through more cost-effective and sustainable water supply, sanitation and hygiene education initiatives while maximising community involvement.

A strategic planning approach has been adopted for this work to focus on key issues and linkages as a means to develop programmes and projects meeting the plan objectives as quickly as possible.

The project team was mobilized in early January 1989. This Inception Report presents the results of work completed to mid-February as a basis for discussion between the Government of Pakistan, Government of NWFP, the World Bank and the project team. Following such discussion, the issues presented in this report and conclusions reached will be elaborated and developed.

Major issues identified to date have centred around the need to secure meaningful community participation by enhancing people's knowledge and awareness of the health aspects related to water supply and sanitation. These issues are:

### Water Supply

- . criteria for, and design of, water supply systems;
- . cost of water supply systems;
- . operation and maintenance of systems;
- . knowledge and skills required to maintain systems and their availability in rural communities; and
- . willingness of users to pay for water.

### Sanitation

- . knowledge and awareness of the health hazard posed by human and animal waste;
- . household practices for disposal of human waste;
- . social perception of promotion of sanitary waste disposal;
- . criteria for, and design of, disposal systems;
- . costs of disposal systems;
- . operation and maintenance of disposal systems;
- . criteria for, and design of, street drainage systems;
- . costs of drainage systems; and
- . operation and maintenance of drainage systems.

### Role of Women

- . Rural women's knowledge and awareness of water-related health issues; and
- . the purdah system and its influence.

### Private Sector

- . capacity and capability to participate in the sector; and
- . potential for increased involvement.



### Institutions

- . the mandates of line departments and their capacity and capability;
- . knowledge and awareness of local elected officials in the issues of the sector;
- . resources available to local bodies; and
- . capacity and capability of Non-Governmental Organizations.

### Rural Community

- . knowledge and awareness of water-related health issues
- . leadership, both formal and informal; and
- . capacity and capability of community based organizations (CBO's).

NWFP has made significant progress in the provision of water supply with an estimated coverage of 52%. The target of 70% coverage by 1993 identified in the Seventh Five Year Plan is within reach. The burden of heavy expenditures on O+M and low cost recovery from beneficiaries remains as a major problem.

Good initial progress has also been made in the provision of latrines with a present estimated coverage of 1%. Spontaneous construction of latrines by individual families is now being observed although a major effort is still required to reach the Seventh Five Year Plan target of 20% coverage by 1993. The initiatives identified in this report are directed towards the achievement of the above targets while achieving lower net cost to government, higher community understanding of water-related health issues, greater community participation and an enlarged role for the private sector.

The following initiatives are put forward to indicate the direction being recommended for study and more detailed examination during subsequent stages of this project. They are, therefore, conceptual in nature and subject to modification or deletion during interactive discussion with the Steering Committee, Government of Pakistan, World Bank or other donor agencies. It is expected that some crystallization of options indicated will take place between the date of completion of this report and the date of review with the World Bank mission which is scheduled to visit Peshawar on March 21 and 22, 1989.

The major initiatives proposed are:

#### Water Supply

1. For smaller rural communities, reallocate responsibility for initiation and motivation of schemes to District and Union Councils. Provide additional technical support to District Council staff, augmented as necessary, to ensure that appropriate criteria, and design and construction standards are met. If necessary, technical support from PHED or LGRDD should be provided, perhaps on a hire charge basis.

An option on this initiative is to assign the motivational role to LGRDD with technical support from either LGRDD or PHED. In each case the Union Council would be the body responsible for implementation.

2. Focus attention of World Bank and other donor agencies on those Districts which presently have below average coverage (Mansehra, Kohistan, Swat and Dir).

3. Explore options for the contracting of operation and maintenance and associated billing, to the private sector. A variation of this initiative, for new schemes, would be to contract out groups of village water supply schemes on a turn-key basis including design, construction and operation. The contractors' costs would be totally recovered from user charges.
4. Encourage the wider use of handpumps, including pumps capable of operating at water depth of up to 50m, by supporting manufacturers and installers. Such support would encompass training to improve design, increased standardization of designs and establishment of credit facilities.

#### Sanitation

5. Promote the activity of the private sector in providing latrines to householders at their cost. Line departments would upgrade and standardize designs, provide training to entrepreneurial masons, assist in providing credit to householders, and undertake a supporting media campaign. The geographic focus would be those areas already supplied with water systems.
6. In conjunction with the initiative described above replicate the waste disposal initiative presently being executed by PHED with aid from KFW. This initiative focuses on latrine construction in rural schools (male and female) together with incentives to householders to become pioneer installers and demonstrators of private latrines.

7. Raise the level of knowledge and awareness among rural women on the role of water supply and waste disposal in promoting family health. This initiative requires the development of a hygiene education programme accompanied by a demonstration latrine programme with latrines constructed, with female involvement, in female community or education centres. Where no such center presently exists, promote the formation of one.
8. Establish criteria and designs for street drainage in rural settlements, culminating in the preparation of a simple design manual for use by LGRDD, District Councils and Union Councils.

#### Community Participation

9. Conduct a needs assessment survey in each area prior to the undertaking of water supply or waste disposal programmes. The survey will serve to raise the level of community awareness about such programmes, allow the community to express its view's, and provide basic data for other initiatives.

#### Human Resource Development

10. This initiative is directed to the support of other initiatives by undertaking a broad programme of improvement to the technical and entrepreneurial skills available to the rural population. This initiative involves the use of technical and vocational training institutes to train masons, carpenters, pipe-fitters,

plumbers, electricians, diesel mechanics etc. in skills needed for the sector. Training facilities will be needed at the Tehsil or Union Council level which indicates the use of mobile training units.

*Environment / Water courses.*

## 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.

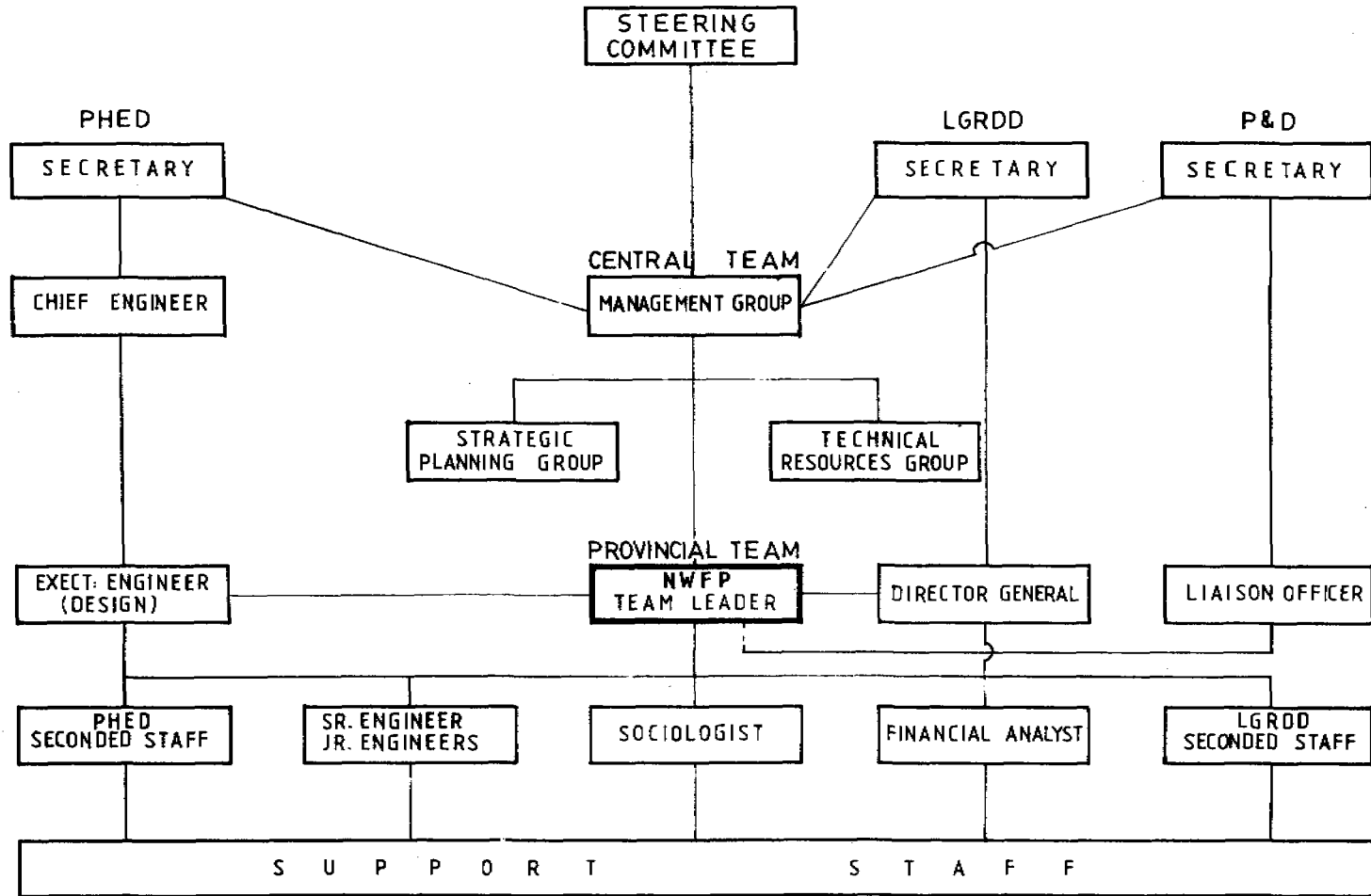
As a result of the Sector Review, the World Bank, initiated this Strategic Provincial Investment Planning and Project Preparation Process to assist the Provincial Government in the development of an investment strategy and identification of projects for implementation starting in 1990. The goal of the 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 NWF 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 - Chief Secretary,  
Planning and Development Department;
- . Member - Secretary,  
Public Health Engineering Department;
- . Member - Secretary,  
Local Government and Rural Development Dep't;
- . Member - Secretary,  
Health and Social Welfare Department.

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 I.

### 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.

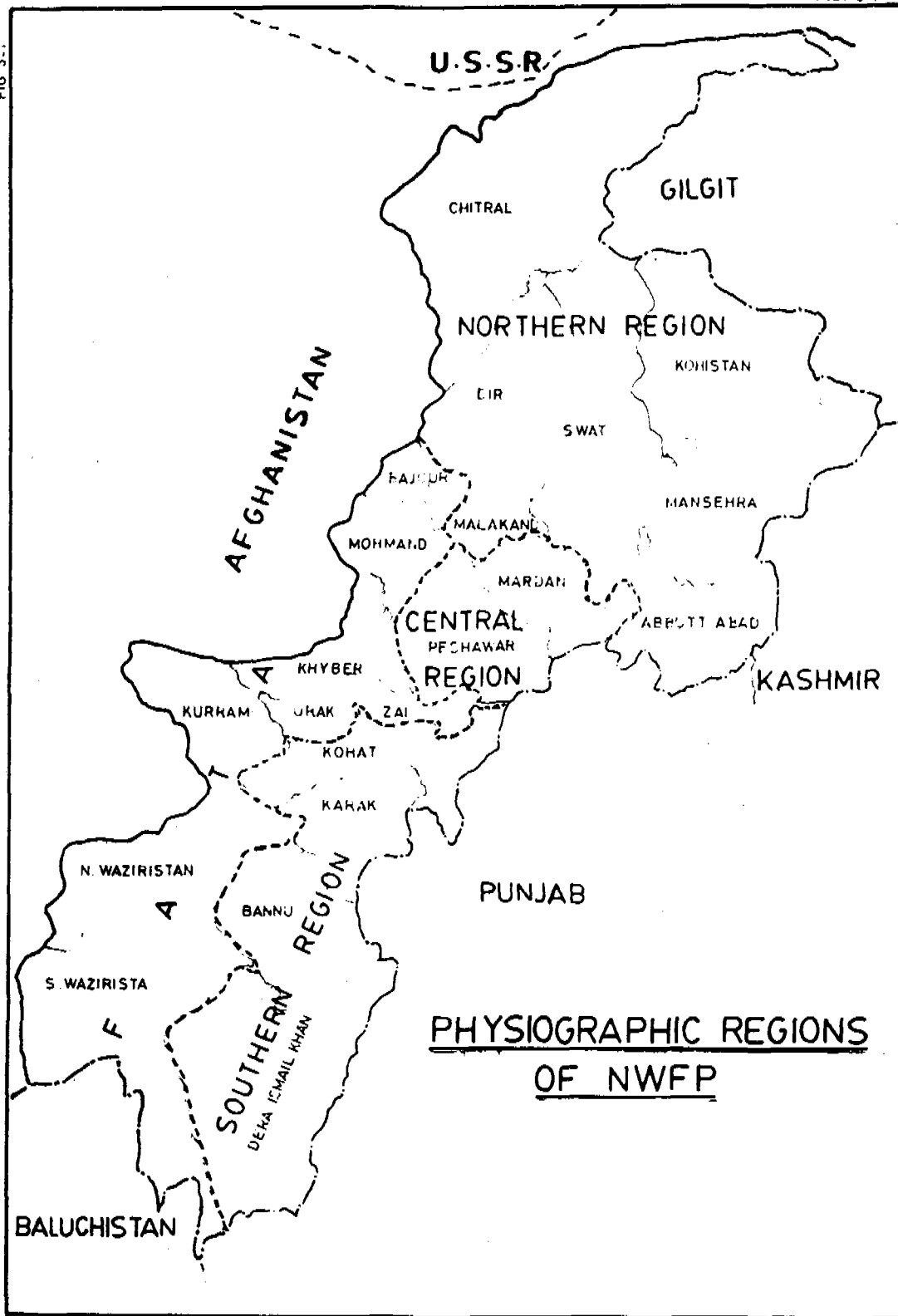
The output of the project will be recommended Strategic Provincial Investment Plans and Project Identification documents in both draft and final form and a National Summary Investment Plan according to the following schedule:

- . 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.

FIG. 3.1

FIG 3.1



### 3. RURAL WATER SUPPLY, SANITATION AND HEALTH SECTOR

#### 3.1 Overview of the Province

North West Frontier Province (NWFP) covers an areas of 39,287 sq miles (63,358 sq.km) and borders with Afghanistan to the north and north west, with Baluchistan to the south, Punjab to the south east and Kashmir and Gilgit Agency to the north east.

The physiography of NWFP is variable, ranging from snow covered mountains in the north to relatively dry and sandy land in the south.

Geographically the province can be divided into the following four regions: (Fig: 3.1)

- . Northern;
- . Central;
- . Southern; and
- . Western (Tribal areas - FATA)

##### 3.1.1 Northern Region

This region consists of high mountains in the extreme north (Chitral, upper Swat and Kohistan Districts) to relatively lower hilly terrain in the south (Lower Swat and Dir, Malakand, Mansehra and Abbottabad Districts). The elevation above mean sea level varies from 25,000 ft (7620 m) (Trichmir Peak in Chitral) to 2,000 - 4,000 ft (610m - 1220m) for Abbottabad District.

Parts of the region are forested, and characterized by natural springs and streams. The mean annual rainfall varies from 20" (510 mm) - 25" (635 mm) in the extreme north and northeast to 30" (760 mm) and above in the southeast.

The mean annual temperature varies from 16°C in the north to 18°C in the south.

### 3.1.2 Central Region

This region mainly includes the valley of Peshawar comprising Peshawar and Mardan Districts. The region mostly consists of fertile agricultural land irrigated by the upper Swat and lower Swat canal system and lies on both banks of the Kabul River which joins the Indus River at Attock where NWFP borders with Punjab.

The mean annual rainfall varies from 20" (510 mm) to 30" (760 mm) while the mean annual temperature is 20°C and the average elevation is 1000 ft (305 m) above mean sea level.

### 3.1.3 Southern Region

The southern region comprises arid, hilly terrain in Kohat and Karak area to the south of the central region and the flat land of D.I.Khan. The Indus River flowing from Attock to D.I.Khan separates this region from the Province of Punjab. Water resources in this area are generally scarce.

The mean annual rainfall for this region is less than 20" (510 mm) while the mean annual temperature is more than 20°C.

The Districts of Kohat, Karak, Bannu and D.I.Khan are included in the southern region. The natural surface levels range from 500 ft (150 m) to 3,000 ft (915 m) above mean sea level.

#### 3.1.4 Federally Administered Tribal Area (FATA)

The tribal belt which consists of 7 tribal agencies (Bajaur, Mohmand, Khyber, Orakzai, Kurram, North Waziristan and South Waziristan) extends from Bajaur in the north (adjoining Dir District) to South Waziristan in the south (adjoining D.I.Khan) and forms the N.W.F.P's western boundary with Afganistan.

This region's topography varies from some flat lands in Khyber Agency and Mohmand Agency to low hilly terrain in most parts of the remaining agencies.

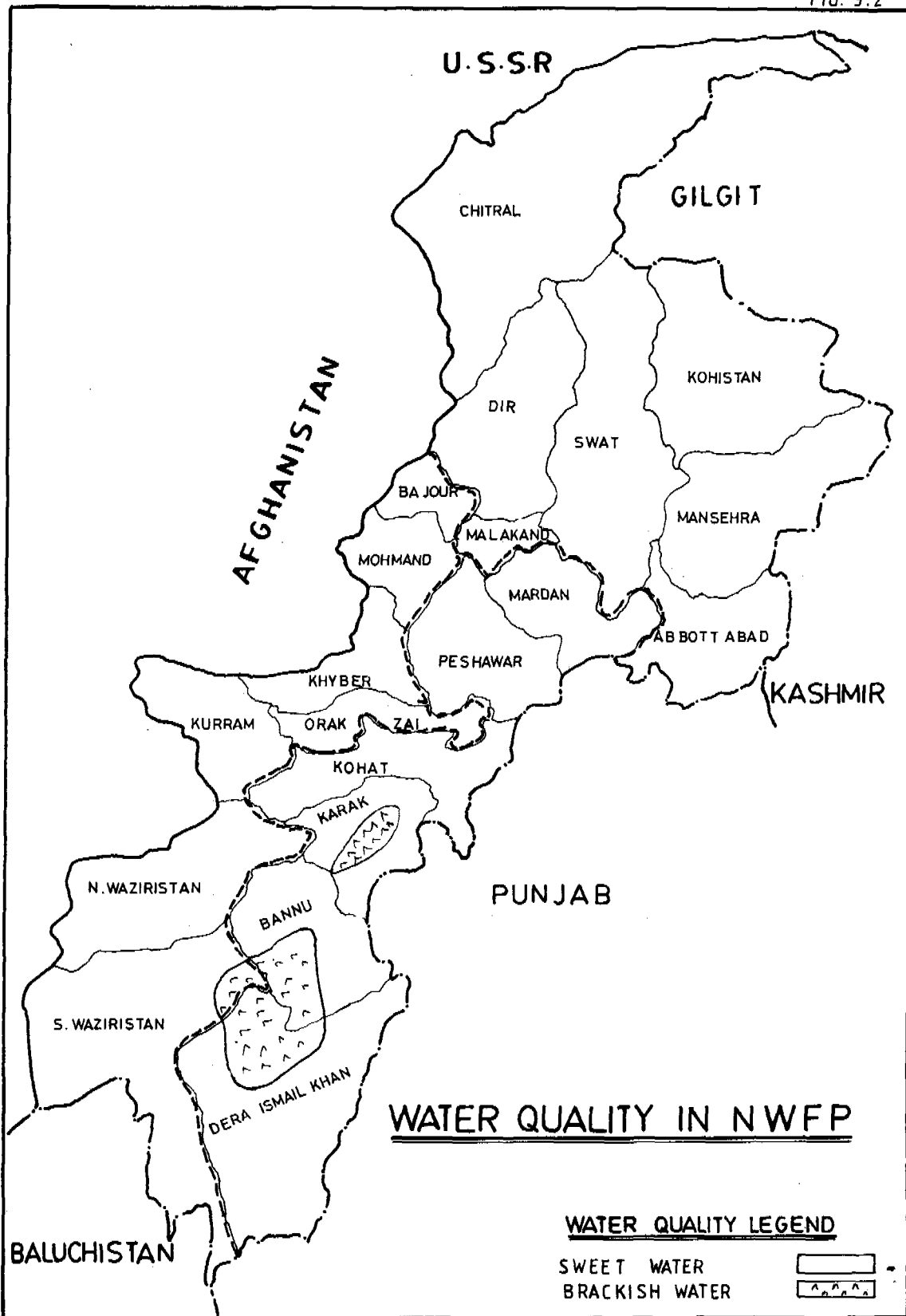
The natural surface level varies from 2000 ft (610 m) to 6500ft (1980 m) elevation. The mean annual rainfall is variable ranging from 20" (510 mm) in the north, 25" (635 mm) in the central area and 10" (250 mm) in the south. Parachinar in Kurram Agency and Razmak in South Waziristan are two hill stations with elevations of more than 5000 ft (1525 m).

Dry, sandy and stony ground characterize FATA with little vegetation, and scarce water resources.

#### 3.1.5 Population

The last census was conducted in 1981, at which time NWFP was divided into 12 districts. The population of the settled districts at that time was 9,395,675. An estimate of the population at June 1988 in both the settled districts and FATA is given by district or agency in Tables 3.3 and 3.6. The total population (June 1988) is NWFP - 11,530,050 and FATA - 2,681,720 a total of 14,211,700. The population growth rate approximates 3% per year.

FIG. 3.2



### 3.2 Water supply in NWFP

Most parts of the NWFP are fortunate to have abundant water resources, both surface as well as ground water. Water shortages are however observed in summer in many Southern districts (Bannu, Karak and D.I.Khan). Due to absence of proper water supply schemes residents in some northern districts (Swat and Kohistan etc) may have to travel long distances to obtain safe drinking water.

#### 3.2.1 Water Resources & Water Quality

NWFP is also fortunate from the point of view of water quality. With the exception of some local pockets in Karak, Bannu and D.I.Khan area where brackish zones are found, most of the surface and/or ground water available in NWFP can be classified as sweet water. Fig.3.2. indicates the brackish water zones in NWFP. Similarly some surface water from canals, utilized for drinking purposes, has to be pretreated in the form of sedimentation and/or slow sand filtration to make it potable. Table 3.1 provides a classification by district of water source for the rural water supply schemes in NWFP.

From this table it is evident that surface water is the source of drinking water for approximately 72% of the water supply schemes constructed by the Public Health Engineering Department in the northern districts of NWFP whereas ground water, on the average, accounts for only 28% of the schemes.

In the central Peshawar Valley (Peshawar and Mardan District) 89% of the rural water supply schemes draw on ground water and only 11% on surface water, mainly due to the availability of ground water at comparatively shallow depths. Surface water is usually available also, from rivers or canals, but to avoid the expense of water treatment, ground water, normally of

acceptable quality, is the preferred source and is tapped by means of tubewells.

TABLE: 3.1 RURAL WATER SUPPLY - PHED SCHEMES

DISTRICT	SURFACE WATER SOURCE % (Spring, infiltration galleries, canal)	GROUND WATER SOURCE % (Tubewells, percolation well)
ABBOTTABAD	70	30
MANSEHRA	87	13
KOHISTAN	93	7
SWAT	55	45
DIR	49	51
MALAKAND	69	31
CHITRAL	79	21
MARDAN	14	86
PESHAWAR	9	91
KOHAT	48	52
KARAK	43	57
BANNU	4	96
D. I. KHAN	25	75
NWFP		
Overall	47	53



In the southern region (Kohat, Karak, Bannu and D.I.Khan) surface water is used in approximately 30% of the water supply schemes while the remaining 70% are based on the utilization of ground water. There is some local variation even in the southern region where, in the Kohat District, the use of ground and surface water is almost equal while in Bannu 96% of the schemes draw on ground water.

Overall, in the NWFP settled Districts, water supply sources are evenly divided between ground water sources (46%) and surface water sources (53%).

### 3.2.2 Water Supply Agencies

Various Government as well as private and international agencies are carrying out water supply schemes for the rural population of NWFP, a brief description of which follows:

#### PHED Water Supply Schemes.

The Public Health Engineering Department (PHED) with its headquarters at Peshawar is the main Government agency responsible for carrying out water supply schemes in NWFP. The water supply schemes constructed by PHED are also maintained by them. So far (up to June 1988) the department has implemented 1438 rural water supply schemes and this number is expected to increase to 1545 by June 1989. At this time the rural water supply coverage based on PHED schemes is estimated to be 52%. Table 3.2 provides an abstract of PHED schemes completed up to June 1988. The projected population, for all the districts of NWFP, is listed in Table 3.3 which implies an annual growth rate of 3%.

The water supply design criteria utilized by PHED is based on the following considerations:

- . source;

- . population; and
- . distribution system.

TABLE 3.2 PHED SCHEMES COMPLETED TO JUNE 1986

DISTRICT	NO.OF SCHEMES COMPLETED	EXPENDITURE IN MILLION Rs.	POPULATION UP TO JUNE 1988 (THOUSANDS)	PER CAPITA COST Rs.
ABBOTTABAD	194	109.59	751.47	145.83
MANSEHRA	189	61.840	424.49	145.68
KOHISTAN	59	6.390	119.02	53.68
SWAT	143	77.046	475.72	162.20
DIR	103	49.876	218.95	227.79
MALAKAND	55	31.580	321.53	155.58
CHITRAL	44	28.224	88.86	317.62
MARDAN	102	91.046	890.46	101.77
PESHAWAR	166	132.731	1104.30	120.20
KOHAT	78	68.720	345.43	198.94
KARAK	82	83.576	179.85	464.67
BANNU	122	144.580	605.55	189.21
D. I. KHAN	101	105.609	415.49	254.17

*few districts?*

TABLE: 3.3 PROJECTED RURAL POPULATION IN NWFP

DISTRICT	PROJECTED POPULATION JUNE 1988 (THOUSANDS)	PROJECTED POPULATION JUNE 1989 (THOUSANDS)	PERCENTAGE INCREASE	PROJECTED JUNE 1993 (THOUSANDS)
ABBOTTABAD	1,254.48	1,292.11	3%	1,453.99
MANSEHRA	1,251.97	1,289.53	3%	1,451.03
KOHISTAN	580.31	597.72	3%	672.58
SWAT	1,426.18	1,468.97	3%	1,652.99
DIR*	962.41	991.28	3%	1,115.43
MALAKAND	321.53	331.18	3%	372.65
CHITRAL	260.29	268.10	3%	301.68
MARDAN	1,498.37	1,543.32	3%	1,736.61
PESHAWAR	1,762.02	1,814.88	3%	2,042.18
KOHAT	520.58	536.20	3%	603.35
KARAK	248.26	255.71	3%	287.73
BANNU	796.21	820.10	3%	922.81
D.I.KHAN	647.44	666.86	3%	750.38
	11,530.05	11,875.96		13,363.31

\* Dir population is indicated to be decreasing instead of increasing between the period 1988-89, however for consistency a 3% population increase throughout NWFP has been assumed.

The consumption criteria (in imperial gallons per capita per day) are:

5 g/c/d - for Public Standposts and community tanks to serve populations up to 5,000;

10 g/c/d - for Public Standposts and community tanks for communities in the population range of 5,000 - 10,000; and

15 g/c/d - for house connections, when the population exceeds 10,000.

The normal water storage criteria are:

- . 25% of average day demand; and
- . in cases where the water source is a perennial spring, the storage may be increased to 50% of the average day demand. (measurement of discharge is performed in November and July for estimation of dry weather flow).

The distance criteria for travel for Community Systems or Standposts are:

- . Maximum 400 ft, Minimum 200 ft;

#### Per Capita Cost

A review of Table 3.2 for comparative costs/capita in various districts indicates that in the north, the highest water supply cost/capita is in Chitral (Rs. 318) which can be attributed to the high cost of transportation of materials between this District and the Provincial headquarters and/or other parts of the country. This is in spite of the fact that in Chitral most of the schemes utilize gravity flow which is generally more economical than pumping.

The highest per capita cost in the south is in Karak District (Rs 465) which is also the highest in NWFP and is mainly caused by the necessity for drilling of deep tubewells to obtain good quality water.

In the Central Peshawar Valley the average per capita cost for District Peshawar and District Mardan is Rs. 120 and Rs. 102 respectively which is quite low due to the fact that although house connections and tubewells are utilized in most of the water supply schemes, the clustering of population in the villages lowers capital costs.

#### Water Supply Schemes Completed by UNICEF.

In NWFP the water supply schemes implemented by UNICEF have usually been for the Afghan Refugees. According to the Resident Programme Officer of UNICEF, in the initial stages assistance was given for the provision of machinery and equipment for the drilling of tubewells. UNICEF has however recently changed its strategy to implementation of low cost technology schemes which avoid the need for complex pumping machinery.

UNICEF completed water supply schemes in the following areas in NWFP:

- . Chitral - The water supply schemes in Chitral are mostly gravity flow schemes. According to UNICEF officials, as a result of these water supply schemes the rural population coverage in Chitral is now 70% instead of 36% (PHED coverage).

For water supply schemes in Chitral UNICEF provides the necessary piping and the District Council provides materials and masons for the construction of water tanks.

The community participates by doing the excavation work and providing labour. These schemes illustrate a good example of a community, local government and International agency working together for the common goal of community development.

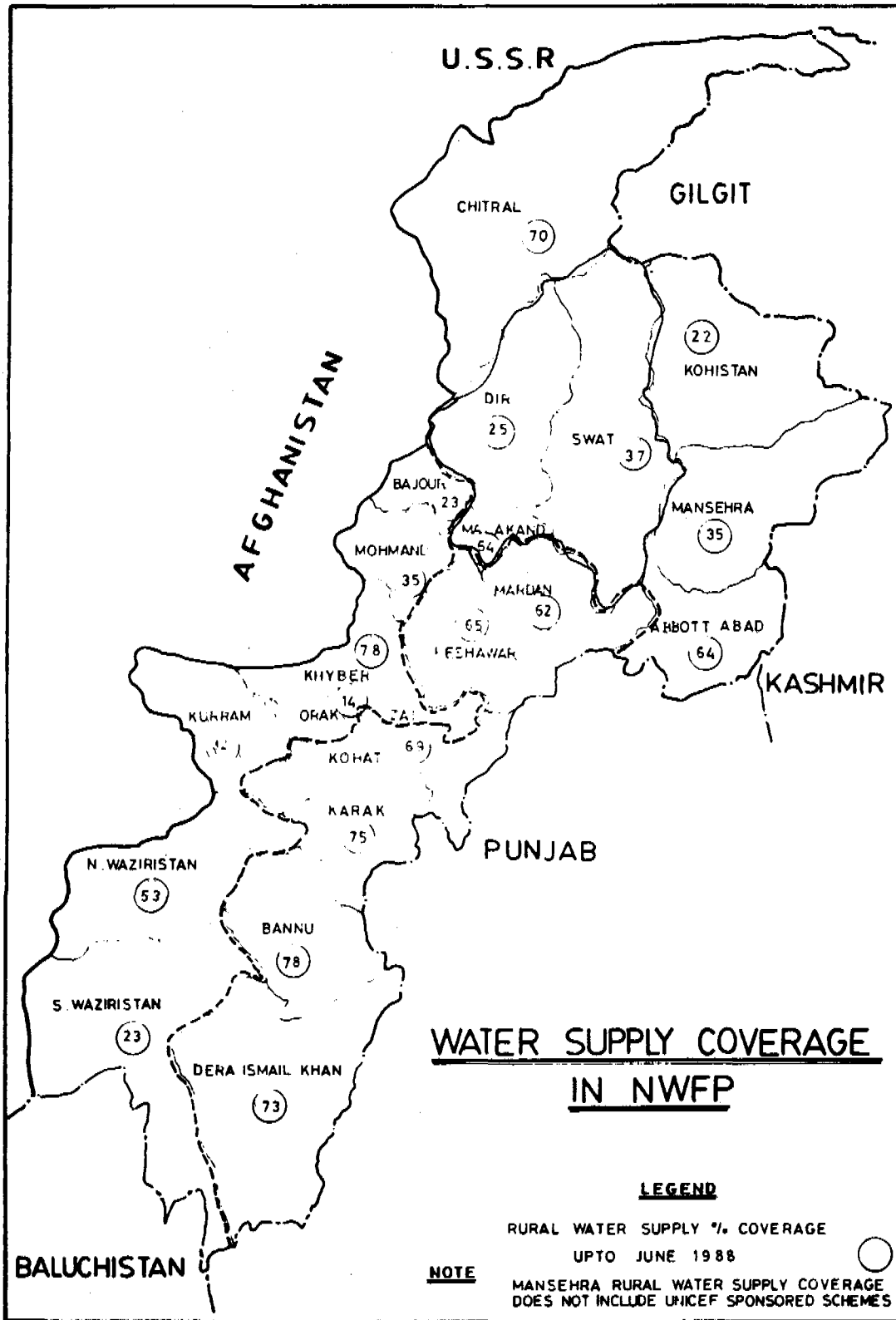
Bannu/D.I.Khan - UNICEF has allocated sums of Rs. 2,105,231 and Rs. 5,278,826 respectively for Bannu and D.I.Khan to be spent up to December 1989 for the extension of existing water supply schemes. These will be mostly gravity flow schemes and are planned to serve populations of 23,300 in Bannu and 30,500 in D.I.Khan.

UNICEF has also been working on some water supply schemes using rain water collecting tanks in D.I.Khan District. So far about 30 water tanks have been completed out of a total planned number of 42.

In addition, UNICEF has provided assistance in the installation of handpumps in D.I.Khan. Hand pumps are also being installed in FATA under the supervision of UNICEF and one is located near Peshawar as a demonstration. Details on population served with handpumps are not presently available.

Mansehra - Over 3,660 rural water supply schemes have been constructed in Mansehra District under the special Federal Funds Programme and District Council Programme. These are mostly gravity flow schemes utilizing natural springs as the water source. UNICEF provided pipe for most of these schemes and also provided assistance in other forms such as community development activities and training of staff. In spite of certain difficulties and O&M problems faced at site due to lack of proper technical skills and support, these water supply schemes are cited throughout Pakistan as examples of water supply

FIG. 3.3



systems completed with major community participation. No exact data on the population served by UNICEF in Mansehra is available.

### LGRDD Schemes

The Provincial Local Government and Rural Development Department (LGRDD) has carried out many water supply schemes throughout the various Districts of NWFP. These schemes were started as a result of the Prime Minister's five point programme through which the thirteen Districts of NWFP were allocated a total of 17 million rupees for rural water supply schemes. However, the expenditure up to December 1988 was only Rs. 6.83 million. Table 3.4 shows the number of schemes completed or in progress. (number of settlements?)

The slow rate of utilization of the allocated funds is probably due to the lack of the necessary technical resources to complete these schemes according to schedule.

### 3.2.3 Population Coverage

The actual population coverage for various Districts of NWFP is indicated in Table 3.5. This table also lists the target populations to be served for each district according to the seventh Five Year Plan which is aimed serving 70% of the rural population by 1993.

A review of Fig 3.3 indicates that presently the highest rural coverage is in the south in District Bannu Where it is as high as 78% of the total rural population.

In fact the overall percentage coverage in the four southern Districts (Kohat, Karak, Bannu, D.I.Khan) is 74% which is higher than the coverage in the central Peshawar valley (64%). In the north the highest rural coverage is in Chitral (70%)



essentially due to the UNICEF sponsored schemes. If the population coverage in Mansehra is assumed to be 60% (no exact figures are available on population served by UNICEF) the average rural population coverage in the northern zone is 49%. The lowest rural coverage is in the Districts of Kohistan 22%, Dir 25% and Swat 37%.

TABLE: 3.4 NWFP WATER SUPPLY SCHEMES UNDER RWP (THROUGH MPAS)  
REPORT FOR THE PERIOD ENDING DECEMBER 1988

NAME OF DISTRICTS	SCHEMES COMPLETED	SCHEME IN PROGRESS	SCHEMES NOT YET STARTED	TOTAL NO. OF SCHEME	*POPULATION SERVED
PESHAWAR	-	46	15	61	24484
MARDAN	-	14	-	14	3116
KOHAT	1	23	1	25	2458
KARAK	-	2	-	2	777
ABBOTTABAD	3	13	12	28	8186
KOHISTAN	1	23	11	35	7798
MANSEHRA	-	15	-	15	4527
D.I.KHAN	4	3	4	11	2065
BANNU	6	28	17	51	3893
MALAKAND	3	4	-	7	1207
SWAT	-	27	47	74	8283
DIR	8	38	-	46	2235
CHITRAL	1	8	-	9	554
<b>TOTAL:</b>	<b>27</b>	<b>244</b>	<b>107</b>	<b>378</b>	<b>69583</b>

\* The UNICEF data does not include the population covered by UNICEF in Mansehra as no firm information is presently available.

Note. A water supply scheme may consist of gravity flow and/or installation of necessary pumping machinery depending upon the location of the water source, location of the distribution etc. Hand pumps are also sometimes installed.

TABLE: 3.5 TARGET POPULATION TO BE SERVED WITH WATER SUPPLY  
BY 1993 (THOUSANDS)

DISTRICT	PROJECTED POPULATION AT JUNE '93	70%OF THIS POPUL- ATION	POPULATION SERVED UP			7TH FIVE YR. TARGET POPULATION 1989-93.
			TO JUNE 1989	BY		
	(A)	(B)	PHED (C)	UNICEF (D)*	LGRDD (E)**	F=B-(C+D+E)
ABBOTTABAD	1453.94	1017.75	819.84		8.186	194.72
MANSEHRA	1451.03	1015.72	444.30		7.798	563.62 X
KOHISTAN	672.58	470.80	129.82		4.527	336.45
SWAT	1652.94	157.05	527.95		8.283	620.82
DIR	1115.43	780.80	240.88		2.235	537.69
MALAKAND	372.65	260.85	209.25		1.207	50.40 X
CHITRAL	301.68	211.17	97.43	90.24	0.554	22.40
MARDAN	1736.61	1215.20	954.26		3.116	257.83
PESHAWAR	2042.18	1429.40	1159.25		24.484	245.66
KOHAT	603.35	422.34	366.70		2.458	53.18
KARAK	287.37	201.16	189.83		0.777	10.55
BANNU	922.81	645.66	611.53	23.30	3.893	6.93
D.I.KHAN	750.38	525.27	455.19	30.50	2.065	37.24
TOTAL:	13,363.31	9,353.17	6206.23	144.04	69.583	2937.49

\* The UNICEF data does not include the population covered by UNICEF in Mansehra as no firm information is presently available.

\*\* No data by LGRDD on the population served is available. The indicated population is estimated from fund allocations using PHED per capita costs.

#### 3.2.4 Technologies Used

In the discussion on water sources, it was noted that 72% of the water supply schemes in the northern districts utilize surface water as the source. Consequently, most of the water supply schemes in this region utilize natural springs, infiltration galleries or canals for tapping the source. Out of the 787 water-supply schemes completed by PHED (up to June 1988) in the northern Districts, 429 used natural springs, 87 used infiltration galleries and 134 schemes were based on tube wells. Most of the tubewells (56) are in the Abbottabad valley where, compared with other mountainous areas, it is less difficult to drill tubewells, but yields are not always satisfactory. The maximum number of schemes based on canal water are located in Chitral (15) where surface water sources are in abundance.

The central Peshawar valley mainly utilizes ground water tapped by tubewells. In the south, tubewells predominate, especially where ground water is obtained from depths greater than 200 ft.

An overall 67% of water-supply schemes completed by PHED have house connections, whereas only 9% are based on standposts and 24% utilize community tanks for water distribution. Table 3.6 provides the classification of the means of water distribution by Districts.

#### 3.2.5 FATA Water Supply

The rural water supply coverage in FATA based on the PHED water supply schemes up to June 1988 is 35%. Table 3.6 provides an abstract of the PHED schemes constructed in FATA and indicates that the highest rural coverage is in the Khyber

Agency mainly due to the ready availability of ground water which can be tapped through tubewells. The lowest rural coverage (14%) is in Orakzai Agency.

Further information on FATA water supply schemes arranged by other agencies (eg. UNICEF) is very limited.

TABLE: 3.6 FATA WATER SUPPLY COVERAGE UP TO JUNE 1988

NAME OF AGENCY	PROJECTED POPULATION (THOUSAND)	POPULATION SERVED IN (THOUSAND)	NO.OF SCHEMES COMPLETED	EXPEN- DITURE RS. MILLION	% AGE COVE- RAGE
BAJOUR	353.86	71.256	29	14.506	20.14%
MOHMAND	198.50	49.04	19	11.50	24.70%
KHYBER	347.70	257.75	30	39.95	74.13%
KURRAM	356.33	111.947	33	25.372	31.41%
DRAKZAI	438.94	58.582	20	15.445	13.34%
N.WAZIR- ISTAN	289.75	158.698	49	31.781	54.77%
S.WAZIR- ISTAN	379.76	80.275	35	25.199	21.13%
F.R.D.I- KHAN	104.81	29.711	10	06.889	28.37%
F.R.BANNU	96.17	56.421	17	16.69	58.66%
F.R.KOHAT	70.28	49.045	13	15.076	69.78%
F.R.PESH- AWAR	45.62	24.967	7	5.144	54.72%
<b>TOTAL:</b>	<b>2681.72</b>	<b>947.892</b>	<b>262</b>	<b>207.249</b>	<b>35.34%</b>

### 3.2.6 Rural Sanitation in NWFP

Sanitary conditions in most villages of NWFP are considered to be unsatisfactory.

This situation arises from lack of proper human waste disposal arrangements, improper liquid and solid waste disposal

practices and accumulation of sullage in the form of village ponds. Although the rural water supply coverage in NWFP is as high as 52%, progress in the sanitation sector is negligible. However, the PHED played a pioneering role in 1986 by establishing a Sanitation Division. This division is headed by an Executive Engineer working under the administrative control of the Chief Engineer.

Initially, Sanitation projects were planned to have the following components:

- . information and motivation campaign;
- . extended hygiene education campaign;
- . human waste disposal at household level;
- . liquid and solid waste disposal; and
- . village storm and waste water disposal.

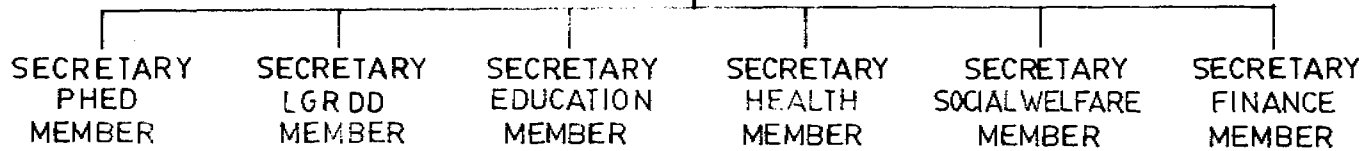
Fifteen projects were initiated in Peshawar, Mardan, Dir and Swat Districts with assistance from KFW (A West German Government Agency).

These projects primarily consist of the installation of double pit latrines in schools and ventilated pit latrines/pour flush latrines in dwellings. A major contribution is required from the beneficiary towards the capital cost. The construction of drainage systems is also being carried out in some projects and/or the provision of water supply where this is not presently available.

Most of the school sanitation work is 100% complete, because the cost is totally borne by the government. The installation

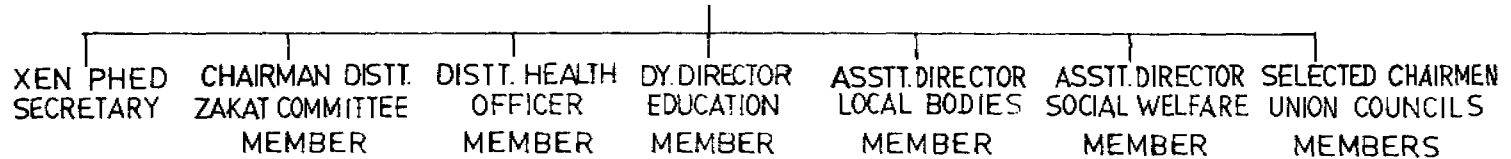
**PROVINCIAL STEERING COMMITTEE**

SECRETARY P&D (CHAIRMAN)



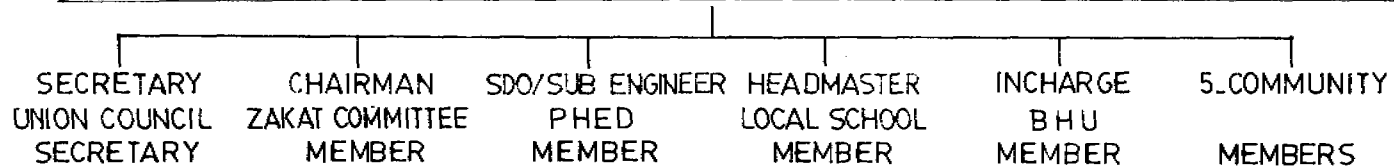
**DISTRICT SANITATION COMMITTEE**

CHAIRMAN DISTRICT COUNCIL (CHAIRMAN)



**VILLAGE DEVELOPMENT ORGANISATION**

CHAIRMAN UNION COUNCIL (CHAIRMAN) OR OTHER ELECTED MEMBER



COMPOSITION OF SANITATION COMMITTEE IN N.W.F.P.

of household latrines varies from 25% to 70% of the numerical target set for each community in the programme, due to the requirement that a major share (63% - 76%) of the installation cost be provided by the community.

### 3.2.7 Technologies Used and Unit Costs

A list of the various technologies utilized for different soil conditions and water table depths is given in Table 3.7.

Unit costs of various latrines including superstructure, are also indicated varying from Rs. 4,000 in the case of single ventilated pit latrines to Rs. 7200 in the case of surface ventilated latrines.

### 3.2.8 Provincial Financial Allocations

The annual development programme for NWFP for 1988-89 includes financial provision for 37 human waste disposal projects throughout NWFP. While implementing these projects great emphasis is given to community cost sharing and participation.

Accordingly a Provincial Steering Committee, District Sanitation Committees and Village Development Organizations are being established to carry out these projects. The emphasis on community participation implies that the community is involved in early project planning and is encouraged to play an active role in implementation, cost sharing and operation and maintenance of the completed facilities. An organizational chart for the proposed Provincial Steering Committee, District Sanitation Committee and Village Development Organisations is presented in Fig 3.4. This figure reveals that the organisational structure is intended to ensure substantial community as well as Government



participation to enhance sustainability of the project.

TABLE: 3.7 TECHNOLOGIES FOR HUMAN WASTE DISPOSAL FACILITIES

TYPE OF LATRINE	PROPOSED FOR AREAS WHERE	TOTAL COST WITH PUCCA SUPER STRUCTURE	GOVT.SHARE OF COST	COMMUNITY SHARE OF COST
SINGLE VENTILATED PIT LATRINE	People depend on open well water supply system. The soil is stable and does not need lining. The water tabel exceeds 30 feet depth	Rs.4000/-	Rs.1000/- (25%)	Rs.3000/- (75%)
DOUBLE VENTILATED PIT LATRINE	People depend on an open well water supply. The soil is unsta- ble and requires pit lining. The water table is shallow (10-15 feet depth)	Rs.5600/-	Rs.1500/- (27%)	Rs.4100/- (37%)
SURFACE VENTILATED LATRINE	People depend on an open well water supply. The area is water logged and water table exceeds 10 feet depth.	Rs.7200/-	Rs.2700/- (37%)	Rs.4500/- (63%)
POUR-FLUSH LATRINE WITH SOAKAGE PIT ARRANGE- MENT	People of open well depend on piped water supply,commun- ity tanks or other reliable source not liable to be affected by seepage from soakage pits.	Rs.5767/-	Rs.1372/- (24%)	Rs.4395/- (76%)

### 3.2.9 Programme by LGRDD and UNICEF

Various street drainage projects are being undertaken by the LGRDD. UNICEF has also been carrying out a number of projects especially in villages adjacent to Afghan Refugee Camps. Details of this work are not presently available.

### 3.2.10 Population Coverage

It is estimated that up to June 1989 only 1% of the population of NWFP will have sanitation coverage. This does not take into account any private latrines which the rural population may have self-installed and for which no exact data are presently available.

The Seventh Five Year Plan envisages a 20% sanitation coverage for the rural population of NWFP. Based on the above goal the target population for each district of NWFP to be served by 1993 is provided in Table 3.8.

TABLE: 3.8 TARGET POPULATION TO BE SERVED WITH  
HUMAN WASTE DISPOSAL FACILITIES BY 1993.  
(THOUSANDS)

DISTRICT	PROJECTED POPULATION UPTO JUNE 93	20%OF THIS POPULATION	PROJECTED POPULATION UPTO JUNE 89	POPULATION COVERED UPTO JUNE 89 (assumed to be 1% of June 89 Proj.popul- ation.	TARGET POPUL- ATION  E=(B-D)
	(A)	(B)	(C)	(D)	
ABBOTT- ABAD	1,453.94	290.79	1292.11	12.92	277.87
MANSEHRA	1,451.03	290.20	1289.53	12.89	277.31
KOHISTAN	672.58	134.52	597.72	5.97	128.55
SWAT	1,652.94	330.40	1468.97	14.68	315.72
DIR	1,115.43	223.10	991.28	9.91	213.19
MALAKAND	372.65	74.53	331.18	3.31	71.22
CHITRAL	301.68	60.34	268.10	2.68	57.66
MARDAN	1,736.61	347.32	1543.32	15.43	331.89
PESHAWAR	2,042.18	408.43	1814.88	18.15	390.28
KOHAT	603.35	120.67	536.20	5.36	115.31
KARAK	287.37	57.47	255.71	2.56	54.91
BANNU	922.81	184.56	820.10	8.20	176.36
D.I.KHAN	750.38	150.08	666.08	6.67	143.41
TOTAL:	13,3663.31			118.73	2553.68

### 3.3 Institutions

Government institutions with a role to play in the development of the rural water supply, health and sanitation sector are to be found at two levels in NWFP: provincial and local.

#### 3.3.1 Provincial Agencies Involved in the Sector

Execution of projects in the sector rests primarily with either the Public Health Engineering Department (PHED) or the Local Government and Rural Development Department (LGRDD). The former executes relatively large, sophisticated piped water supply projects in larger centres and the latter helps the Union Councils in the execution of small schemes in the villages.

##### Public Health Engineering Department

The PHED is primarily an engineering organization with a strong technical rather than community orientation. It has been actively involved in urban water supply projects but has more recently moved into the rural sector. The head of the PHED is a Secretary who is also Chief Engineer. In addition to the normal staff components it has a water quality testing laboratory, and a sanitation unit. It is the first Department in Pakistan to initiate such a Sanitation Division.

The PHED is primarily concerned with physical engineering and execution of projects, but, due to the inability of local bodies to maintain the systems, it has also been required to retain responsibility for O&M work. Generally, the PHED has

not involved communities directly in the planning, selection, execution and operation of schemes, but more recently, community participation has been strongly emphasized through international collaboration in workshops.

Local Government and Rural Development Department.

The LGRDD has essentially two wings. The local government wing is charged with the responsibility of providing assistance to the urban and rural local bodies whether in the form of grant-in-aid or by appointment of officers in such bodies to perform the functions of administration, taxation, finance, etc. The Rural Development wing is the field component and is staffed with engineers and project managers as well as the secretaries of Union Councils. It is responsible for executing the Rural Works Programme and providing technical assistance to the Union Councils.

The LGRDD does not possess the same level of technical expertise as the PHED. However, it has a stronger sense of its supporting role in fostering community participation and local management of projects. In the NWFP, the LGRDD's co-ordinating role has been strengthened and its Assistant Director, the official at the district level, acts as the Secretary of the District Development Advisory Committee, the body which selects projects for execution at the district level.

### Department of Health

The Department of Health has placed high emphasis upon improving its curative services in the rural areas through a rapid increase in health facilities and upgrading the professional level of staff attached to these facilities. It is planned that, by the end of the decade, every Union Council will have a Basic Health Unit (BHU), the majority of which will be staffed by a doctor. Preventive services have been limited but have been particularly successful in immunization and the distribution of oral rehydration salts.

### Department of Education

Relatively low investment in education has resulted in low enrollment in rural areas and a substantial proportion of under-equipped schools. Hygiene is not taught at the primary level. Moreover without water supply and latrines at most schools, good hygienic behaviour is difficult to put into practice.

### Financial Resources

The capital expenditure on water supply and sanitation (drainage) schemes by the PHED and the LGRDD is financed as part of the Annual Development Programme (ADP) of the Province while expenditure on staff salaries and allowances and on O&M of schemes being managed departmentally is met from the recurring Provincial Budget.

TABLE: 3.9 STATUS OF PUBLIC FINANCE OF THE PROVINCIAL GOVERNMENT OF NWFP

FINANCING OF RECURRING EXPENDITURES	SHARE IN FINANCING 1986/7 (%)	ANNUAL GROWTH RATE 1974/5 TO 1986/7 (%)
1. Federal Revenue		
Assignment of Divisible	35	22
2. Provincial Taxes	6	15
3. Provincial user charges and other sources	9	15
4. Federal Grants	50	29
TOTAL:	100	23

SOURCE: Public Finance Statistics, Ministry of Finance, GOP

Table 3.9 presents the sources of financing of the recurring expenditure of the Provincial Government of NWFP. Heavy dependence on the flow of funds from the Federal Government is indicated. Federal revenue assignments of divisible taxes (income and sales taxes) contributed 35 percent in 1986-87 while revenue generation by the province through taxes and user charges (largely the irrigation charge) accounted for only 15 percent. The deficit, 50 percent, in recurring expenditure has been met by Federal grants and subventions.



Therefore, altogether 85 percent of the Provincial recurring budget has been financed by the Federal government. Not only is this dependence high but it is growing rapidly as indicated by the fact that the Federal deficit grant has increased at the annual rate of 29 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 economise on their expenditures. It is likely, therefore, that in the medium term the ability of the provincial departments, like PHED and LGRDD, to recruit additional staff to enhance their implementation capacity, will be severely constrained. In addition, special efforts will have to be made to economise on outlay 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 such as 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 paucity 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.

### 3.3.2 Local Agencies Involved in the Sector

There are two tiers of local government in rural areas - District Councils and Union Councils. Both councils are composed of elected representatives supported by officers and staff from the Local Council Service (LCS). Primary responsibility within the rural water supply and sanitation sector rests with the Union Councils.

The Rural Works Programme (RWP) was implemented through DPDAC's (District Planning and Development Advisory Committee) and Union Councils in NWFP. Water supply schemes cover part of the utilisation of funds. The annual progress report of RWP for 1987-88 shows a District coverage of 40.23% for special water supply programmes through MPA's.

#### Union Councils (U.C.)

There are presently 655 U.C. in NWFP. The size of the electoral unit for each union councillor is approximately 1,000 inhabitants and the maximum number of councillors at the union level has been fixed at fifteen.

Local Government Ordinance assigns responsibility to the UCs for the provision and maintenance of water supply schemes, prevention of contamination of drinking water sources, and regulation of water use. For this purpose Union Councils are empowered to impose taxes on services such as water supply, drainage and lighting.

Separate representation has been provided for non-Mulsims, women, workers and peasants. The average size of a union council is about 15 villages in NWFP

#### District Councils. (D.C.)

District Councils have a responsibility to promote sanitation, public health and public health education, and are also empowered to impose taxes within their district. However, while the UCs collect significant revenues, the DCs have done little to exploit their tax and non-tax base.

#### 3.3.3 Elected Representative - MPAs, MNAs.

The MPAs (80 in NWFP plus representation of women and minorities), in their role as legislators, are responsible for approving the annual provincial budgets in the provincial assembly. This gives them an opportunity to influence the sectoral allocation of funds. A similar role is performed by the MNAs at the national level.

The previous (Junejo) government took a number of steps to enhance the role of the elected representatives in the process of development. These include, firstly, the constitution of District Development Advisory Committees (DiDac) charged with the responsibility of approving projects in different sectors, including water supply and sanitation, which are to form part of the Annual Development Programme (ADP) of a particular District and financed from the provincial ADP. MPAs from the District, and sometimes MNAs, sit in these committees and frequently chair them. Secondly, a special development

programme was started whereby each MNA/senator was given an annual bloc allocation of Rs. 5 million for projects in his/her constituency. This was subsequently expanded in some provinces to include MPAs, who were also given bloc allocations of Rs. 2 million each. Most of these funds were earmarked for development of social and physical infrastructure in rural areas like roads, schools, water supply and sanitation. This programme was abandoned by the caretaker government in June 1988.

The new government has announced in the revised budget for 1988-89, a new initiative called the Peoples' Development Programme. An initial allocation in the federal ADP for the

second half of 1988-89 of Rs. 2 billion has been made for this Programme. The operational details of this programme have not been revealed as yet. However, it is expected that, like the special programme mentioned above, most of the funds will be use for projects in the rural areas in social and physical infrastructure, including water supply and sanitation. However, the extent of involvement of elected representatives in the execution of this programme is not clear.

#### 3.3.4 Non-Governmental Organizations Involved in the Sector

Four kinds of Non-Governmental Organizations (NGOs) can be identified in NWFP:

- . approximately 20 foreign and international NGOs working with Afghan Refugees;

- . a few medium to large Pakistan organizations such as the Aga Khan Rural Support Programme, a private non-profit company, active in three Northern Districts;
- . approximately 300 "registered" NGOs most of whom are small and engaged in charitable support; and
- . thousands of unregistered community organizations concerned with the provision of selected services on a self-help basis; no data are available on these in rural areas.

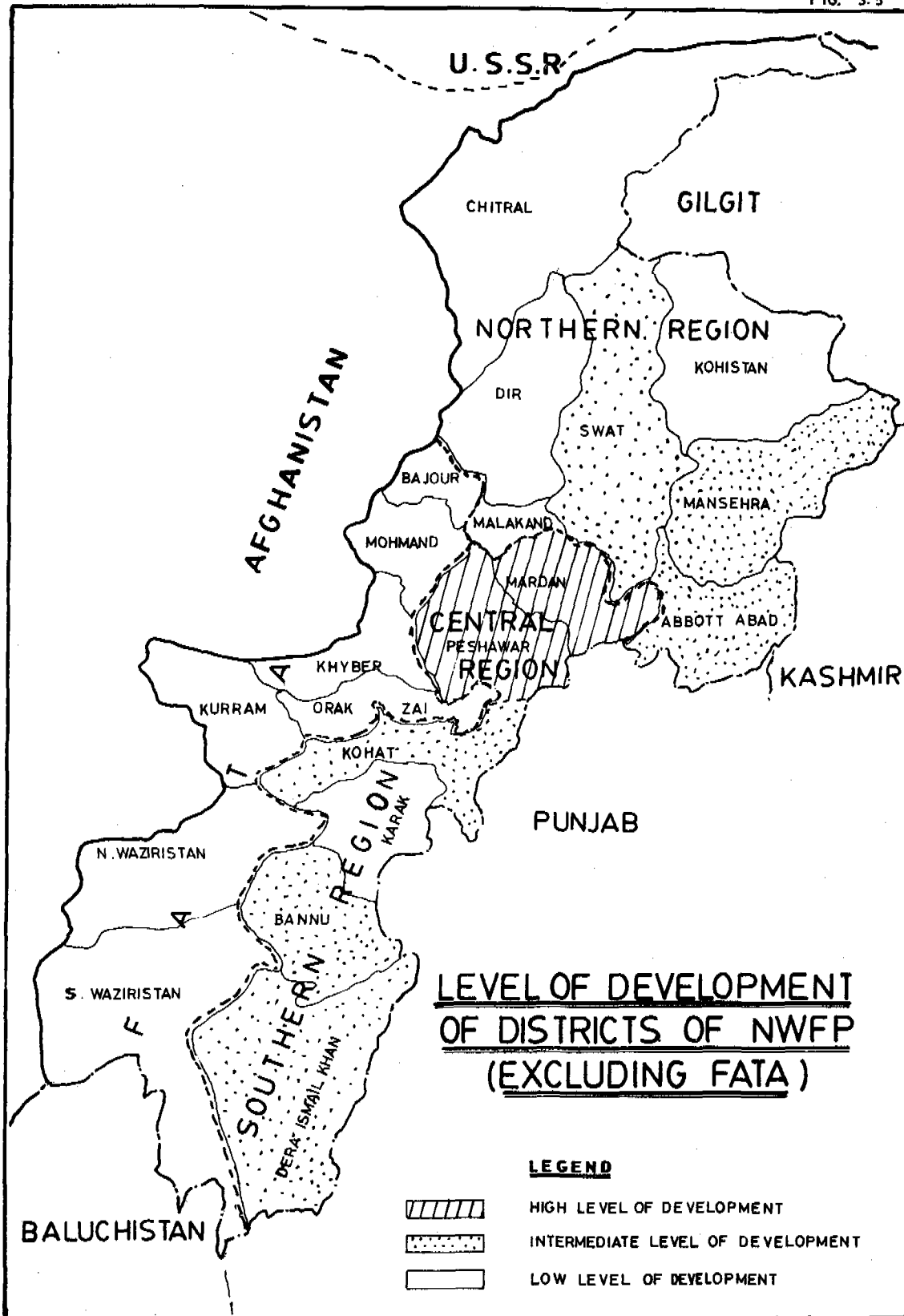
With the possible exception of UNICEF (see section 3.2.4) there is minimal NGO experience in water, health and sanitation in the rural areas of the Province.

#### Village Level Organizations

Rural development programmes, such as the Mansehra District Development Plan (MDDP) and the Aga Khan Rural Support Programme (AKRSP) have successfully utilized village organizations for the execution and management of schemes. Water supply projects were in fact the single most successful component within the MDDP. Adult Basic Education Services have organized fairly large scale programme of literacy around NWFP. For some new literates, additional training was provided so they could act as village health volunteers. Nai Roshnani schools show an average student enrollment of 26 in NWFP and 29 in FATA up to September 88.

With the exception of AKRSP, there are no mid to large-scale NGOs concerned with the strengthening of traditional village organizations to increase their capacity to work in rural water, health and sanitation. Government has begun to support NGO project proposals within some sectors and the International Rescue Committee has initiated a Health Education Development Programme (HEDP) for rural populations through NGO's.

FIG. 3.5



### 3.4 Economy

#### 3.4.1 Agriculture

NWFP is divided into two separate areas. The settled area, comprising 15 Districts, is administered by the Provincial Government. The Federally Administered Tribal Area (FATA) comprising 7 agencies is administered by the Federal Government. In 1988 two Districts were divided. There were only 13 Districts in the settled area prior to this date and the statistics which follow refer to this District configuration. Data relating to FATA are very limited and are cited where available.

The settled area of NWFP covers 5.5 million hectares of which 1.8 million hectares is cultivated, and 43% (0.8 million hectares) of the cultivated area is irrigated. Wheat is the major crop followed by maize and sugar cane, with cultivated areas of 800, 400 and 100 thousand hectares respectively. Table 3.10 indicates principal crop production by district in 1985-86.

Table: 3.10 DISTRICTS WITH SIGNIFICANT SHARE IN DIFFERENT CROPS GROWN IN NWFP. (% OF PROVINCIAL OUTPUT)

	Peshawar	Mardan	DIKha	Bannu	Swat	FATA
Wheat	17	11	10	10		
Maize	12	22			22	
Surgarcane	56	31				
Surgarbeet	39	61				
Tobacco	24	67				
Potatoes	21				28	
Apples						44



The share of NWFP in the national output of the crops shown in Table 3.10 is as follows:

. Wheat	-	7%;
. Maize	-	58%;
. Sugarcane	-	13%;
. Sugarbeet	-	100%;
. Tobacco	-	65%;
. Potatoes	-	44%; and
. Apples	-	44%;

#### 3.4.2 Level of Regional Development

It is evident from Table 3.10 that the districts of Peshawar and Mardan have the major share of rural income in the Province. This is detailed for all districts in Table 3.11.

Fig 3.5 identifies the relatively developed and underdeveloped districts of NWFP. The central region (Peshawar, Charsadda, Mardan, Swabi) is the most developed. The southern (DIKhan, Bannu) and North Eastern (Swat, Mansehra, Abbottabad) region are generally at an intermediate stage of development. The underdeveloped areas are either in the North (Malakand, Dir, Chitral, Kohistan) or in the south (Karak).

Table: 3.11 CATEGORISATION OF DISTRICTS OF NWFP BY LEVEL OF RURAL PER CAPITA INCOME AND DEVELOPMENT POTENTIAL.

DISTRICT	RURAL PER CAPITA INCOME*	RURAL DEVELOPMENT POTENTIAL **
1. Peshawar (incl.Charssada)	High	High
2. Mardan(incl.Swabe)	High	High
3. Kohat	Medium	Medium
4. Karak	Low	Low
5. Mansehra	Medium	Medium
6. Abbottabad	Medium	High
7. Kohistan	Low	Low
8. Malakand	Low	Low
9. Swat	Medium	Medium
10. Dir	Low	Low
11. Chitral	Low	Low
12. D.I.Khan	Medium	Medium
13. Bannu	Medium	High

SOURCES: Agricultural Census, 1980.

\* Crop Cash Value per capita

\*\* Availability of social and economic infrastructure

### 3.4.3 Income Level and Distribution

A comparison between rural income in NWFP and Pakistan as a whole appears in Table 3.12 on the survey date (1984-85) the NWFP enjoyed household income 15% above the national average and, as a consequence, had a smaller percentage of rural population below the poverty level.

TABLE: 3.12 INCOME DISTRIBUTION IN THE RURAL AREAS OF NWFP, 1984-85.

HOUSEHOLD MONTHLY INCOME (Rs)	NWFP	PAKISTAN
< 600	7	9
601 - 1500	28	35
1001 - 1500	55	64
1501 - 2000	74	81
2001 - 3000	90	93
3001 - 4500	96	97
> 4500	100	100
Average Monthly Income (Rs)	1770	1538
Index of Monthly Income (Pakistan =100)	115	100
% of Population below poverty line of Rs.1000 per month.	28	35

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

#### 3.4.4 Affordability of Water Charges

An assessment of the potential for recovery of water charges is given in Table 3.13 which highlights the fact that if water charges are not to exceed 2% of income, 72% of households could pay Rs. 20/month. This indicates that a large proportion of rural households in the NWFP potentially have the ability to pay for water chares at, more or less, existing levels. Any problems in recovery have therefore to be attributed either to lack of willingness to pay or to the ineffective operation

of cost recovery mechanisms.

TABLE: 3.13 ANALYSIS OF AFFORDABILITY OF WATER CHARGES IN NWFP. (% of Rural Households with Ability-to-Pay)

MONTHLY WATER TARIFF PER HOUSEHOLD (Rs)	<u>IF WATER CHARGES ARE NOT TO EXCEED</u>		
	1% of Income	1 1/2% of Income	2% of Income
5	94	96	97
10	72	90	94
15	45	72	85
20	27	54	72
25	15	39	59
30	10	27	45

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

#### 3.4.5 Private Sector

The private sector involvement in the execution of PHED schemes has generally been at the level of small contractors providing labour and manufacturers supplying pipe, cement and similar materials. Apart from this, the private sector in NWFP appears to have had a very limited role to date in the provision of water supply or sanitation services. This is indicated by the very low level of sanitation coverage (about 1%), the limited use of handpumps and the frequent use of open wells. However, the operations of the handpump manufacturing plant at Swabi, NWFP provides an interesting insight into possibilities for increasing the involvement of the modern private sector in relation to rural water supply and sanitation.

This plant was established several years ago by the Danish Committee for Aid to Afghan Refugees. It provides employment to refugees (two-thirds of the labour force of 130) and produces a product that is used for refugee camps and other rural water supply schemes (its customers are UNHCR and UNICEF).

Capacity was set at 2,000 pumps per year. Only 650 were produced in 1988; double that is hoped for in 1989. Operations are at a considerable loss, which is being met by contributions from Denmark. The manager is an expatriate but supervisors are Afghan or Pakistani. Labour capability is not a problem as the product (the Afridev pump) is not overly-sophisticated and does not need particularly high skills to manufacture.

The main problem areas have been in product, overdesign in certain respects and in operations logistics. While most material requirements are sourced in Pakistan, some parts and equipment have to be imported. Lengthy delays, up to a year, have been encountered in obtaining customs clearance, and manufacturing operations have been disrupted. Costs have risen to over Rs. 10,000 per pump, which is less than such pumps produced elsewhere but noticeably higher than locally-made pumps which are lower in quality and durability. Only one pump has been sold commercially, and there is no marketing and distribution network.

The difficulties encountered by this aid agency in attempting to run a sizeable hand-pump manufacturing operation along commercial lines, illustrate some of the requirements for success if such an operation were to be in private hands. The

private sector firm should be experienced in appropriate manufacturing techniques for efficiency and quality control, it should be thoroughly familiar with the local system for assuring uninterrupted supply of inputs to the operations, should have an established marketing and distribution network, and should have access to adequate capital and credit.

If the requirements could be met, there seems to be opportunity for involvement of the modern private sector in pump manufacture in Pakistan. That this has not happened by itself may be attributable to a range of factors: other interests, urban bias, lack of knowledge of the opportunity, lack of distribution system, difficulty of competing with lower priced local products, and others. Of these, lack of knowledge of the opportunity may be the most significant, although establishment of a competitive distribution system could also be a deterrent. However, effective distribution systems exist for other products (e.g. the bodies providing fertilizers and seed to farmers) and could be established for this sector also.

Possibly an outcome of the present project will be broader awareness of the scale of requirements of hand pumps, rehabilitation of existing inoperative schemes and for replacement of existing (though cheaper) supplies of locally-made, lower quality pumps.

Regarding this last point, there may be concern about the disruptive effects of introducing new technology through the replacement of existing pump designs or manufacturing processes. It is suggested, however, that such concern should be minimal. Total displacement will not occur because any replacement programme would be gradual and some local manufacture of handpumps will continue. Existing manufacture

is reported to be on a part-time, small-scale basis. Development of new schemes and of community involvement will create demand for local building and mechanical skills in system construction and O&M. This process of change and the introduction of new technology is an integral part of the process of upgrading and developing economic activity, and of providing greater employment opportunities generally.

### 3.5 Social/Cultural and Community Organizational Pakistan

#### 3.5.1 Social Groupings of NWFP.

The geographical position of NWFP has a direct effect on the history and way of life of the people. Two sections of NWFP can be identified and broadly classified (see Fig 3.1) into:

Federal Administered Tribal Areas (FATA) comprising 7 agencies; and

the 15 settled districts.

The Pathan (or Pukhtun) society within each of the two sections is highly homogeneous but distinct from each other. The rigid tribal social structure is within a social and internal political organization. Nevertheless the common Pathan culture and language makes for a common identity.

Within the settled districts, three non-Pathan cultural sub-groups can be distinguished. The Hazara Division (Abbottabad and Mansehra Districts) has a separate identity from the tribal and Pushtu-speaking settled areas of NWFP. The language spoken is not Pushto but is more closely related to Punjabi and Hindko and the tribal structure of FATA is not reflected in Hazara. Another distinct cultural minority exists in Chitral where the languages are Chitrali and Urdu. Most people are Muslim but a small proportion are people (Kafirs) from Kafiristan in the northern areas. The third cultural sub-group is found in D.I.Khan. The principal distinguishing feature is the use of the Sariki language. In summary, the character of the Pathan society features a common



culture and language which makes for a common identity which in rural society features:

- . religious influence;
- . love of freedom/hospitality and Honour;
- . poverty;
- . purdah system (Socio-cultural segregation of women who may not be seen by men unveiled); and
- . illiteracy.

The NWFP settled and FATA societies comprise the following tribes:

. Mohammad Zai	-	Kundi	-	Jadoon
. Tanooli	-	Yusafzai	-	Shinwaries
. Orakzai	-	Bangash	-	Wazir
. Bajuri	-	Mohmands	-	Afridis
. Mahsuds	-	Bhihanis	-	Dauris
. Tarin	-	Zaimukh	-	Khalil
. Khattak	-	Marwat		

The settled tribes (Bannuchi, Khattaks, Peshawaris) have been merged into the more cosmopolitan population of Peshawar District together with the Peshawaris who are mostly confined to the environs of Peshawar and speak Pushto, Hindko and Urdu.

### 3.5.2 Cultural Aspects

The Pathan traditional and social background is broadly followed throughout NWFP. Pukhtunwali constitutes a complete code of conduct controlling general behaviour and includes a well-developed sense of honour. Pukhtunwali also incorporates a strict adherence to Islamic ways especially the concept of

badal, which calls for revenge for intrusion upon individual honour.

Pathan culture also features the Jirga which is a conciliatory organization (non-formal socio-cultural) designed to arbitrate differences or disputes. Representation is on the basis of age, reliability and equality of distribution among parties. It is tribal in essence and provides a means for liaison between tribes and government.

### 3.5.3 Involvement of Communities

In the tribal areas, the Malik (leader who is respected and acknowledged in the traditional family and socio-cultural structure) is dominant.

In settled areas, the local leadership has lost its traditional influence with the political leadership due to changes in the social structure, education and increasing affluence.

The Imam (the person who leads the prayer congregation in the Mosque) is influential. He teaches Islamic injunctions to the pupils. Other persons with influence within rural society are the Pirs (spiritual leaders) and Syeds (descendants of the Holy Prophet).

The Hujra is the community centre (for men only) of each village, maintained by the Khan (traditional leader due to affluence, family influence, education or political power) of the village, where community discussions and meetings take place. Usually the Hujra is located in an affluent home where it may be equipped with TV, radio and refrigerator. The wives of Khans are the influential women of rural area. These women

have the highest level of sanitation and hygiene facilities in their village homes, because both are linked with economic status and the courtyard of such a home will be pucca (cement or concrete). Latrines and water supply will be inside the house. Others who exert influence are the aged wives of Imams, Pirs, Syeds and notably the educated.

#### 3.5.4 Role of Women

##### Village level

In tribal areas the purdah system reaches an extreme situation in which women hardly ever leave the home. Women exert significant influence over the use of guns, arrangement of marriages and have full responsibility for the running of the home. In the settled areas, women exert influence in family health, education and income generation as well as maintaining responsibility for the home. The "Chaddar" a sheet, often white in color, that women wear to cover themselves from head to foot including part of their faces, or the "Burqa", an overall body cover with head covering and veil covering the face completely, are commonly used in the settled areas.

The women from poor families of tribal areas do the cooking, fetch water, grass, and fuel, prepare dung cakes, wash clothing and take part in agricultural activities. In general women, together with girls and young boys, are responsible for water collection and for maintaining the domestic establishment as well as the health of all household members.

The involvement of women in the sector in small communities, is through their domestic conversation with male family members and with wives of influential men. The role of women

can be enhanced with female extension workers. This is vital, keeping in view their purdah-bound traditions.

### Water Use

Women's water use and sanitation is influenced by the following factors:

- . Purdah is restricting and hence it is valuable to have house connections and latrines, to maintain privacy for women; and
- . rural poverty preempts the use of individual handpumps in poor rural homes, therefore water from communal facilities is collected at times and along routes where there are fewer men.

In certain circumstances, water use by women and children is restricted:

- . 40 days after delivering a child;
- . during menstruation;
- . during illness, fever, etc;
- . when children defecate in lanes, streets, open spaces with no washing afterwards;
- . in areas with the problem of water availability. multiple pregnancies can prevent accessibility to sources; and
- . girls are restricted because:
  - if they are below the age of puberty then physically their ability to carry pitchers is limited; and

- the school drop-out rate of rural girls is a clear indication of their being purdah-bound. Thus mobility is restricted for water collection.

In Rural NWFP emphasis is placed on the ritual of five times prayers hence women's use of water for personal hygiene is increased when the religious duty to maintain cleanliness before prayer is performed.

### 3.5.5 Perceptions, Beliefs, Taboos and Behaviour Related to Water and Sanitation.

Although ethnic and geographical variations exist within the province, some preliminary observations are possible regarding the socio-cultural aspects of some health-determining behavioural norms.

#### Perceptions related to human waster

Adult human waste is considered to be polluting and a taboo mainly due to its bad smell. Although in some areas it may be linked to disease, most people do not know which particular disease it may cause. There are no sweepers in rural areas for excreta disposal, and women or tenants remove it from the house to the fields. Children is excreta is supposed to be harmless and no efforts to avoid it are made; and it may be thrown into the drains with sullage. Cow-dung is also generally considered to be harmless and it is commonly used as fuel for cooking, and in many areas it is also used as a fertilizer.

### Defecation Practices, Anal Cleansing:

In general, most men and women use the fields for defecation purposes, although in the Valley Regions and amongst the relatively well-to-do families there are some types of latrine arrangements existing for women and girls, often a shallow pit in a special corner of the house compound (Deran).

In mountains, people use dry river beds for this purpose, while young children may defecate anywhere between the house compound and the fields.

However, among all socio-economic strata a generalized segregation of women is manifested in a strict separation. A distinct domestic space is set aside for use by women at any time. For out-of-home defecation by women, open areas are as over used in the early morning or late evening.

As earth is considered to be purifying, it is generally used for anal cleansing in areas with a problem of inadequate water supply.

### Water Uses, Distinctions and Perceptions

Water, like earth, has an important role in cleaning. Women, for instance, take a special purifying bath after their menstrual period, but they are not supposed to wash themselves during the period. Similarly, women take a purifying bath 40 days after the delivery of a child but are not supposed to bath during this period.

Water from various sources may be distinguished, e.g. running water is supposed to be pure. Similarly, distinction is made between water for drinking or cooking and water which is used for washing.

In spite of high emphasis on Purdah and segregation of women inside a village, women may fetch water from the source or wash clothes, take cattle to and wash themselves at the source. In the fields women take care of animals and collect fuel amongst other things and most of them leave the house usually more than once daily.

Water is carried in earthen pots, metal or leather containers from the source to the house. At home, water for drinking may be transferred to a different container and these containers may not be regularly cleaned. Everyone in the house may drink from the same glass or bowl without washing them every time after use.

No relationship is perceived between water use and health.

#### Perceptions About Causes of Diarrhoea:

Diarrhoea is perceived to be caused by "hot" or "cold" diet, or over eating among adults. Young children catch the disease when their mothers consume "hot" or "cold" food which makes their milk unsuitable for the child. Healthy baby boys and girls may catch the disease due to the "evil eye" No relationship is perceived between disease and faeces or bad water.

### Preferences and Willingness to Pay:

In large villages, especially in valley regions, if women are asked, they will probably state a preference for household water supply and latrine facilities. Villagers in these areas, and where urban influence is greater due to overseas migration, urban jobs or greater education, would be willing to pay. In other areas, though people may be willing to pay for water in one way or another, they would still need to be sensitized to the need for sanitation through hygiene education before inquiring about their willingness to pay for latrines.

Another factor favouring improved willingness to pay for water supply is the increase in use of house connections for some or all of the following reasons:

- . the flow of money from overseas earnings to rural areas permits realization of the desire for greater convenience;
- . men seek employment away from home and find house connections a means to have women revolve their activities around the homes (while they are away);
- . Politicians tend toward piped schemes and house connections; and
- . The effect of urbanisation on the thinking of rural population.

Hygiene education material in rural areas has only become available recently in Pushto, the local language. Rural women have little exposure to the Urdu language and consequently



have little understanding of it. They are, however, responsible for family health which indicates a need for the development of a hygiene education programme for the rural masses and the propagation of the programme in Pushto.

### 3.5.6 Community Based Organisations (CBO's)

As already stated, the informal community-based organizational system has always been an integral part of Pathan society. Its roots can be linked to the traditional tribal society, which is now being taken over by the formal community-based institutions such as Union Councils, social welfare organizations and more recent ones being involved within the VDO (village development organization) structure.

However, a general external perception towards the rural community, especially towards the CBO's, is that they are primarily useful for income generation activities, multipurpose child welfare activities, recreational activities and as pressure groups.

From these perceptions, the CBO's themselves and people outside the rural areas do not regard water supply, sanitation and hygiene education as an activity suited to CBO's because:

- . water supply is seen to be a government responsibility;
- . hygiene education is not propagated as a systematic provincial programme;
- . although PHED established its Sanitation Division in Oct. 1986, initiation of activities has been time - consuming and significant motivation of rural communities has not yet developed due to shortage of motivational staff; and

hygiene education is not perceived as a critical need by the rural community.

Due to the CBO's own perception of themselves the local elected representatives are frequently chosen as patrons or office bearers in CBO's to articulate the CBO's needs and demands. This pattern is increasing in NWFP.

On looking a little deeper on the role of CBO's in the sector, it becomes obvious that if a project is community based and the community is involved at all levels of planning, implementation, monitoring the construction and is responsible for O&M, the role of CBO's can become a basic foundation of rural water supply, sanitation and hygiene education programmes.

The following examples demonstrate the capacity and capability of CBO's in the sector:

in the Mansehra water supply project, UNICEF assisted LGRDD in Mansehra district to form 2000 community-based self-help water supply schemes. Presently most of them are being maintained and operated by the community through their informal water supply committees; and

International Rescue Committee has recently initiated a programme in Peshawar Division with CBO's. The programme is based on child development, health education and income generation with a component of adult literacy.

The projects cited above indicate that, in a traditional rural society such as NWFP, where family ties and tribal linkages provide the basic social fabric, it is not possible for CBO's to implement such projects by

themselves. The experiments demonstrate that although the perceptions about CBO's, and within CBO's do not support their active role in sector, in reality they can play a major role. It is noteworthy that all of the above projects had their origin in the community at the grass roots level and not at the Union Council level only. Also the CBO's provided an informal community-based system which aided the cost effective implementation of projects and provided a built-in community based O+M system.

There appears to be considerable merit in enhancing the role and responsibilities of CBO's, and integrating their involvement into all sector projects or Programmes. The CBO's role in the sector can be as follows:

- . assisting in social/cultural, physical and technical surveys;
- . motivation and orientation of the communities/families on sector components;
- . identification of local materials and human resources (e.g. for latrines);
- . providing linkages between government, communities and families;
- . involvement of women at the community/family level for health education;
- . organization and monitoring of construction;
- . monitoring the quantity and quality of water supplied;
- . organizing financing and operating a community based O+M system; and
- . facilitating cost recovery.

## 4. CONSIDERATION OF ISSUES

### 4.1 Identification of Issues

For evaluation purposes, the rural water supply, sanitation and hygiene education sector of NWFP was divided into segments. For each segment a set of issues, seen as having bearing, or impact on the achievement of the overall project goal, were identified and analysed. The following sections present a broad overview of the major causes and conclusions of the first two key critical issues indentified as having the most bearing or force on the rest of the critical issues identified in each segment.

### 4.2 Water Resources

#### 4.2.1 Critical Issues

The water resource segment is centered around the abundance (or scarcity) of the resource to the local communities. Water is not seen as a problem per se, it is more the access to it or the delivery of it which is problematic and these issues are discussed below in the supply segment.

The key critical issues surrounding water resources are:

- . the value attributed to water by the communities and the consequences stemming from that value;
- . the usage of water;
- . the management of the water resource;
- . the availability of water; and
- . the excess of water.

The two issues considered to be the driving force behind all the others are value and usage. The value attributed to water for instance will determine social behavior towards the resource, will foster better management, will influence usage and will most certainly affect willingness to contribute and even to pay for water. Usage was considered in the context of allocating the resource at a community level and conflicts arising from arbitrary changes brought to the usage of the resource.

#### 4.2.2 Conclusions

The conclusions reached regarding the two critical issues are:

- . scarcity of water and distance to the source are the two main factors guiding the attribution of value to water. Once the quantity needs are met, and quality meets socially acceptable criteria, value drops and the resource is taken for granted;
- . because of recent involvement of government in the supply of water, water has become viewed at the community level as being free with the government absorbing the cost;
- . the only cost factor that comes into play in the community's assessment of the value of the resource is that of means of supply or provision;
- . negligible value is attributed to time invested in collecting water for individual or household needs because it is not seen as an input into an income generating activity;

- . water in NWFP is primarily used for domestic purposes, although some areas use it for economic reasons (irrigation, transportation, fisheries); and
- . problems arise with privately managed sources when changes in usage (or distribution) are arbitrarily made. Community usage is permanently and potentially threatened because the source of supply never becomes public.

#### 4.3 Water Supply

##### 4.3.1 Critical Issues

Supply is a central and major issue in NWFP. It centers on providing water to the rural communities and brings into focus the quality issue and an array of technical topics ranging from criteria for designing of distribution systems to quality of construction.

The key critical issues surrounding water supply are:

- . criteria and design of water supply systems;
- . cost of water supply systems;
- . operation and maintenance of systems;
- . acceptance of present systems by the users;
- . knowledge/skills required and available in the communities to implement, operate and maintain systems;
- . sharing of the supply within and between communities.

The criteria used to design systems and their resulting costs were found to be the driving force behind all the other issues. Criteria used and the design of systems is fundamental to an effective delivery of water to the community and costs are a measure of how efficiently it is accomplished. Criteria

and design also have a direct impact on recurring costs.

#### 4.3.2 Conclusions

Conclusions reached as a result of the analysis of these two critical issues are:

- . design criteria for water supply schemes have developed through time and experience and seem to lie principally with PHED, although other sources of design are possible (LGRDD, Private);
- . application of design is generally standardized in public schemes but custom tailored in the more than 30% of all delivery schemes which were provided by the private sector;
- . there are no real incentives in place to maximise use of local inputs when implementing a scheme or for selecting an appropriate technology;
- . costs of schemes are driven by basic factors such as population dispersement, distance from source, conditions of terrain and soil, choice of technology;
- . the present management system and project selection process are not deemed to be cost efficient nor necessarily effective (on a project basis, over 75% of schemes are selected outside PHED's technical influence);  
and

. the selection process for suppliers (goods and services) would benefit through introduction of selected auditing practices and competitive bidding to include use of local inputs (not just labour) and lower O+M estimates.

#### 4.4 Disposal of Human and Animal Waste

##### 4.4.1 Critical Issues

Disposal of human waste is getting specific attention from the government in NWFP and the Province is viewed as a pioneer in this field in Pakistan. Because of the newness of this issue it was deemed necessary to tackle the segment from two approaches: the non-technical key critical issues and the technical key critical issues.

The non-technical key critical issues identified are:

- . knowledge and awareness that human and animal waste (excreta) is a health hazard;
- . value attached to animal waste;
- . practices regarding household disposal of wastes in rural communities;
- . private vs public responsibility for disposal of wastes; and
- . social perception of sanitation promotion;



The technical issues are similar to those of water supply and include:

- . criteria and design of disposal systems;
- . costs of disposal systems;
- . operation and maintenance of disposal systems;
- . quality of construction; and
- . social acceptance.

The key critical nontechnical and technical issues that have the greatest impact and influence on the understanding of waste disposal and that drive the other critical issues are the knowledge and awareness of waste disposal and the value that people attribute to waste. These two are likely to set the basis for social behavior towards new practices and new technology and offer better understanding of potential resistance to the introduction of these new practices. A third issue, the cost of disposal systems, is also deemed to be fundamental in facilitating or inhibiting the introduction or implementation of household or communal systems in NWFP.

#### 4.4.2 Conclusions

Through analysis and discussion of these issues it was concluded that:

- . human and animal waste is generally not linked to health nor is it seen as a potential health hazard.
- . awareness of health is stimulated only during illness but the concern centres around curative means only and not preventive measures;

- . animal waste is known to be useful and is used for fuel, fertilizer, and as a construction material;
- . human excreta is seen as waste and has a negative value for the nuisance it can create. It is more often dealt with and disposed of like other household garbage. Religious injunctions foster a degree of awareness of human waste which confine it to offensive and unclean notions rather than health related ones; and
- . criteria for, and design of, disposal systems are presently focused on individual means of disposal.

Existing criteria do not promote the development of new or adapted designs, but are geared to adapt standardized designs to local conditions of soil, terrain and water (depth of water table). Available design information refers only to public initiatives and no information is currently available about private undertakings. Costs are judged to be high mainly because of the materials used. Although physical constraints influence costs no incentives are in place to substitute less costly local materials where feasible. Expanded latrine programmes are still in the experimental stage so much more thought and analysis must be given to design criteria.

#### 4.5 Sanitation and Drainage

##### 4.5.1 Critical Issues

Sanitation and drainage refers to the means by which sullage or waste water and storm water are disposed of in rural NWFP. With the advent of increased coverage of water supply, drainage takes on a higher level of importance.

The critical issues that have been analyzed for the impact they can have on achieving the broad goal or mission are:

- . coverage and usage of the present rural drainage systems;
- o understanding the links with water supply;
- . criteria and design of drainage systems;
- . costs of drainage systems;
- . operation and maintenance of systems;
- . quality of construction; and
- . social acceptance.

Of these seven issues, the key ones are usage of the present drainage systems in rural NWFP and links with the water supply system. It is of primary importance to measure and understand to what extent sanitation and drainage is an issue and how people in rural NWFP view it. It is also important to appreciate if drainage is associated at least in the minds of the people, with water and the supply of water.

#### 4.5.2 Conclusions

Conclusions reached after analysing the root causes of these two issues are:

- . current drainage systems are used for many purposes other than disposal of sullage water for which they are generally designed. Garbage disposal, defecation, and children's recreation are other common uses;
- . Lack of alternatives for garbage disposal is an incentive to use drains for this purpose. The perception is current in the rural community that maintenance is someone else's responsibility;

- . at the community level, there is little understanding of the workings of drainage systems. The level of technical sophistication is slightly above knowledge and awareness of issues; and
- . Implementation of drainage works does not fully take into consideration the basic rule that most of household water consumption comes out as waste water.

#### 4.6 Line Departments

Government Departments involved in rural water supply, sanitation and hygiene education include Planning and Development (P+D), Public Health Engineering (PHED), Local Government and Rural Development (LGRDD), Health and Social Welfare (HSWD) and Education (ED).

##### 4.6.1 Critical Issues

The key issues relating to the line departments are:

- . the mandate of each department;
- . capacity and capability of each;
- . credibility of government departments in rural communities;
- . role of women in the departments;
- . the department's links with communities;
- . support and resources;
- . interdepartmental coordination; and
- . social perceptions.

#### 4.6.2 Conclusions

Conclusions reached from this analysis are:

- . because of the emphasis on technical issues of supply, PHED is deemed to be the only department with a clear mandate for water supply and sanitation;
- . LGRDD's attempt at drainage and other water schemes is rooted in past government initiatives which stimulated the department's involvement in the sector. The department is now seen to have a foothold in supply and sanitation as well as in community development;
- . the Education Department is not seen as an involved player on these issues and does not have a mandate which presently supports initiatives to that effect;
- . Health and Social Welfare is seen as having a mandate for hygiene education but pressures stemming from its scarcity of resources and the size of the needs that it must face bring the department to focus more intensively on curative activities;
- . when the interlinked issues of water supply, sanitation and hygiene are brought into focus, no government body has a clear hand at dealing simultoneously with all of the issues. Overlapping does seem to exist (particularly with respect to PHED and LGRDD), but the extent of it is not well defined;
- . PHED has the technical capability to implement water supply projects but has little experience cooperating with communities and community organisations, in spite of efforts at very senior levels to maintain good community relations; and

in NWFP, PHED now includes a Sanitation Division which is still at a very early stage of development. It's existence represents a pioneering line of thinking.

#### 4.7 Union and District Councils -

##### 4.7.1 Critical Issues

The study of the role of Union and District Councils resulted in the identification of the following critical issues:

- . knowledge and awareness of local elected officials in the issues of the sector;
- . capacity and capability of the councils;
- . resources available;
- . involvement of the councils in the sector;
- . structure of local government;
- . mandates of the councils;
- . women's representation on the councils; and
- . employment of women.

The strengths and weaknesses of the councils in their involvement in the sector is deeply rooted in the degree of knowledge and awareness members have of the issues and the attitudes and perceptions they generally develop from it. The success the councils have in implementing schemes of this nature also lies with the resources and the capacity and capability available to implement them.

##### 4.7.2 Conclusion

Analysis of these two key critical issues lead to the following conclusions:

- . local elected officials seem to possess a limited technical knowledge and awareness of water supply, sanitation and drainage (storm, surface) but little knowledge of disposal of human waste;

Weak

- 9
- . the maximum understanding of issues that one can find in the community is deemed to be in the person of councillors. But given the noncritical nature of waste disposal and hygiene education, these are not seen as popular political issues;
  - . the low level of knowledge and awareness of water related issues of rural communities does not encourage political representatives to move too far ahead of their constituents;
  - . although District Councils can rely on funds and staff and do get involved in water supply schemes, their willingness to extend their involvement to disposal of waste and hygiene education is impeded by their own limited knowledge, the unpopularity of the issues, an incapacity to implement and manage more complex schemes and a lack of community participation due to lack of awareness of the value of involvement and of the issues;
  - . Union Councils have little capacity and capability to implement water schemes of relative importance. They do not have an opportunity to gather experience and develop expertise; and
  - . District Council resources rest on provisions arising from national and provincial policies and from their own revenue generating capabilities. Union Councils receive some funding from the provincial level (to implement services and projects under their mandates) but basically survive on low resources and volunteer work by councillors; however, they do not fully exploit their revenue levy capabilities.



#### 4.8 MPA's, MNA's and Senators

In the past, elected representatives at the Provincial and National level had a direct impact on the system through the Special Development Programme and through direct interaction with line departments. The Special Development Programme has been cancelled and the details of the new People's Development Programme are not yet clear. The future impact of the elected representatives on the line departments will likely continue as in the past by largely determining where new systems are constructed. When the details of the new People's Development Programme are clarified, the role of the representatives will be studied in more detail.

#### 4.9 Non-Governmental Organizations

##### 4.9.1 Critical Issues

The key critical issues concerning NGO's are identified as:

- . perceptions of NGO's in the community;
- . capacity and capability of NGO's to become involved effectively in the sector;
- . resources available to carry out programmes;
- . roles NGO's could play in the sector;
- . involvement of women in NGO's;
- . links with the rural communities; and
- . inter-NGO coordination.

To better assess the involvement of national and international NGO's in the sector it was deemed central to measure the

perception they create of themselves at the rural community level. With respect to what they are presently accomplishing an appreciation of their capacity to be involved in activities of the sector and their capability to do so was also needed.

## 9.2 Conclusions

The analysis and discussion on these key topics lead to the following conclusions:

- . national NGO's are not well established in rural NWFP. They are seen to be too urban based and have not put in sufficient resources to develop links with the rural leadership. Access to resources and the difficulty in penetrating the rural fabric are seen as causes for this situation;
- . perception of international NGO's is of course limited to where they are working. As a rule, international NGO's tend to associate themselves with the local power structure and this affiliation coupled with the fact that they do meaningful work, results in them being perceived in a positive light by the rural community;
- . the Afghan refugee situation has also enhanced awareness of the existence of international NGO's. Perception is very positive because they are seen as working on needs and as being fully committed to the betterment of the community;
- . given the newness and nature of an integrated rural water supply, sanitation and hygiene education programme, experience and expertise in this area is naturally lacking with national NGO's;

- . understanding the organisational practices of NGO's fosters the notion that mandates are formulated and implemented according to their capability. The fundamental nature of an NGO brings it to work within the confines of scarce resources; and
- . organisational skills of NGO's can be taken as an indication that they possess the intellectual capability of tackling water related issues.

#### 4.10 Cost Recovery

##### 4.10.1 Critical Issues

Cost recovery includes the following critical issues:

- . Affordability of the service to be consumed;
- . Willingness of the users to pay for the service;
- . Criteria used for cost recovery; and
- . Mechanisms for collection.

Affordability and willingness to pay are the two key critical issues.

##### 4.10.2 Conclusions

Following analysis of these two issues the following conclusions were reached:

- . NWFP's rural community's ability to contribute is hindered by their weak economic resource base, high unemployment, low organizational skills and general lack of knowledge and awareness of alternative opportunity;

- . absence of basic physical infrastructures calls for the funneling of resources into provisions for roads, communications, employment schemes and water supply;
- . there is potential for communities to contribute cash or kind towards the cost of systems. The degree of contribution will be driven by the choice of technology, the availability of communal income, the availability of materials, and organizational and leadership skills to effectively and efficiently channel local resources;
- . in spite of the difficulty at the community level of contributing to the cost of water supply schemes, availability of water can be a motivating factor influencing the willingness to contribute;
- . conversely if water is already provided free of charge, willingness to support the services can be hindered. The inadequacy or unreliability of that service can also become an impediment; and
- . willingness is enhanced if the community leadership is seen supporting the initiative and if the community has the feeling that its contributions are accounted for and are kept in the community to better serve it's needs.

#### 4.11 Private Sector

##### 4.11.1 Critical Issues

The private sector has been studied to determine the bearing it already has on the provision of supply and services, the

extent it presently implements new water supply and sanitation schemes and the potential for it to do so.

The following critical issues have been identified.

- . quality of products and services;
- . capacity and capability of the private sector to participate in rural water supply and sanitation;
- . potential for increased involvement;
- . regulatory environment affecting the ability of the private sector to deliver goods and services in the water sector; and
- . credit requirements and availability of it to the private sector.

Quality of products and services and availability of capital at the community level, are considered to be the key issue.

#### 4.11.2 Conclusions

Conclusions resulting from the analysis of these issues are:

- . private consumers of water-related products and services are very willing to compromise on quality. Capital constraints, non-availability of credit and high initial cash contributions are strong incentives to do so;
- . the influx of low quality products and services on the NWFP market, stems from a mix of high demand, lack of quality control and standards which are not enforced;
- . choice of higher quality is inversely proportional to constraints on capital; and

- . rejection at the community level of a product or service based on quality-related reasons comes through trial and error.

#### 4.12 The Rural Community

##### 4.12.1 Critical Issues

The key critical issues relating to the community are:

- . knowledge and awareness of water-related health issues;
- . leadership, both formal and informal, of the community;
- . ethnic segmentation within the community;
- . opportunities and experience of communities to be involved in water, sanitation and health activities; and
- . role of women.

All issues were examined and analysed for their links with the water sector. The first two issues were considered as being most likely to drive the others.

##### 4.12.2 Conclusions

Conclusions reached were:

- . there is a small knowledge base present within the rural community that does link certain health dispositions (digestion, hair loss, ...) to water but this awareness does not reach a level high enough to tackle water related health issues;

availability of water is not an impediment to rural communities linking water with health. Lack of literacy contributes to keeping the level of sophistication (and

of knowledge and awareness) at a point where communities are not able to associate source or cause to water related health issues;

- . fatalistic attitudes inbred or fostered by cultural and religious beliefs drive social behaviour in rural areas and impede the growth of knowledge of water related health issues;
- . leadership in rural NWFP is clearly demarcated along the lines of tribal segmentation (Maliks of FATA), political leadership, education and affluence. It is male dominated and evolves around formal (UC) or informal (Jirga) structures;
- . the water supply situation in NWFP dominates the spectrum of water related issues. Absence of knowledge of other sector related issues hinders any form of related development which may be initiated by community leaders;
- . leadership tends to focus on curative activities with respect to health issues (facilities) because it is more politically beneficial to do so;
- . political leaders on local councils are seen as fair representatives of their constituents and are not necessarily driven to express their awareness of water related health issues.

#### 4.13 Community Based Organizations (CBO's)

Because of the particular nature of community based organizations and their present distribution across rural NWFP, their credibility and the type of relationships they

have come to develop with the rural community were studied. An organizations relative success is based on its resources and its capability to implement initiatives, especially with respect to water related issues.

#### 4.13.1 Critical Issues

The key critical issues regarding CBO's are:

- . relationships between CEO's and the community;
- . resources capacity and capability of CBO's;
- . perceptions that CBO's have of themselves; and
- . knowledge and awareness which CBO's have of sectoral issues.

#### 4.13.2 Conclusions

Conclusions reached from the analysis are:

- . Community Based Organizations are not seen as threats to the established power structure because of interlinkages of CBO's with it. A CBO chairman will very often be a member of the local leadership;
- . the very nature of CBO's activities calls for them to develop links and good relationships with the local bodies that manage the grant programmes needed to implement their agendas;
- . the credibility of the village or local organization is key for them to pursue their goals. Although there have been some cases of mismanagement that have tainted the credibility of community organizations, they are viewed overall as representing the community they serve;



*Perceptions*

- . from a financial standpoint, CBO resources range from membership fees to grants, self income generating projects and other internal and external funding. In most cases the knowledge they have of their community is often very precious and in some instances links with international bodies are also highly valued. On the other hand the human resource/technical capability to implement projects is lacking;
- . the increase of locally available and managed funds has stimulated a blossoming of community based organizations involved in an array of economic, social and recreational activities; and
- . although resources are small and efforts are volunteer driven, CBO's have managed to successfully organize and run mother and child centers, population planning centers and other health (curative) related programmes. There have been very few community based organizations that have had any involvement in water related issues. In spite of this lack of experience CBO's do possess a community focus that can serve as a foundation for sanitation or hygiene education initiatives.

4.14 Perceptions, Beliefs and Behaviours

Perceptions, beliefs and behaviour were studied to give an understanding of the knowledge base of villagers and to identify gaps between knowledge and behaviour.

#### 4.14.1 Critical Issues

The key critical issues analysed were:

- . knowledge and awareness of linkages between water and health;
- . defecation practices and perceptions of human waste;
- . provision of water; and
- . other perceptions.

These basic issues have been analysed through their emergence in the fundamental social fabric of the rural communities and the rural population of NWFP. They are deemed critical because they directly influence social behaviour towards water related issues and decisions that are made with regard to these issues.

#### 4.14.2 Conclusions

Conclusions reached as a result of the analysis and discussion of the issues are:

- . in rural communities of NWFP people do not link health and water. Awareness is stimulated only in times of illness. Given poverty and low education levels and other basic preoccupations, focus is naturally on curative means rather than preventive measures;
- . the low degree of awareness of health and water related health issues stems from the overriding nature of basic needs to be met. Hygiene and hygiene education are limited to social and religious rituals (washing for prayer, for socialization, for school);

- . hygiene practices compete with other daily functions in the attribution of workloads and are not viewed as inputs to income generation;
- . although the natural tendency is to satisfy needs with the first available means, hygiene practices in rural NWFP also follow social, religious and cultural indicators and guidelines. Hygiene practices take into consideration proximity of place of worship, source of water, presence of people and distance of neighbouring residences;
- . seeking of privacy is taught to children at a later stage. It becomes very important for very young females but much less so for young males. Domestic facilities are preferred by females at an early age; and
- . perception of waste as a health hazard is not well defined. Animal waste is valued and useful for fuel and fertilizer so the probability of hazard is totally dismissed. Human waste is seen as a nuisance and is dealt with as other garbage. Basic perceptions are rooted in traditional social or religious beliefs but are not health driven.

#### 4.15 Health

##### 4.15.1 Critical Issues

The key critical issues addressed in this segment are:

- . knowledge and awareness of health related issues in the community; and

- . allocation of resources by the Health Department;

Because the Health issues are very predominant and discussed in other segments analysed, only two key critical issues have been identified here. They relate to status of health and existing health services and serve as a basis for the related activities discussed elsewhere in this report.

#### 4.15.2 Conclusions

Conclusions reached through analysis of these key topics, are:

- . the general level of knowledge and awareness of health and hygiene issues in rural communities of NWFP is deemed to be very low;
- . the overall ability to learn can be stimulated through the meeting of basic needs. One of these needs, the supply of water, is viewed to be of such importance that it overrides all other issues that are linked to it (water quality, health, hygiene and related diseases) and it never creates the opportunity to gain new knowledge and awareness of the issues and how they all could relate;
- . There are no built-in means to communicate with and reach the rural communities other than through formal social and cultural structures; culture and tradition (and related beliefs) impede the penetration of knowledge and awareness on health and water related issues and reinforces resistance to accept new practices;
- . some knowledge and awareness of very rudimentary health and hygiene related issues does lie with a few members

of the rural community, most notably with TBA's;

health education activities in the community are seen as nonproductive and are thus not deemed important. Health education is also seen as competing with functions and activities that are esteemed to be productive and income generating;

- . resource allocation in the health sector is driven by national policy the formulation of which does not include mechanisms by which communities could have a direct input; and
- . the allocation of resources is guided by the most urgent needs to attend to curative activities, leaving only negligible, if any, attention to health education issues.

#### 4.16 Critical Issues

Women of the rural areas of NWFP play a major role in water related issues. Because of the responsibilities that are given to them in the family unit with respect to procurement of the daily water supply, sanitation and health, it is important to rightly assess the community's perception of the role of women as related to the water sector. Secondly, because of that pivotal role in the family unit and the community it is necessary to appreciate the level of knowledge and awareness that women have with respect to water related issues.

# Role of women

## 4.16.1 Critical Issues

The key critical issues analyzed in this segment are:

- . perceptions of women in the rural areas;
- . knowledge and awareness of issues held by women;
- . the purdah system;
- . access to economic means;
- . involvement in the sector; and
- . basic skills and training/opportunities.

The issues of the perceptions of women and their knowledge and awareness of sector issues are considered as being the most important.

## 4.16.2 Conclusions

Conclusions reached through analysis and discussion of these issues are:

- . in rural NWFP, women's perception of themselves is first seen through the needs of their families and then their communities.
- . from birth to motherhood and finally right up to death, a women's role in the rural community is mapped out but opportunity to deviate from this pre-determined role is on the increase. Modernisation, migration and media are creating pressures within the community nucleus with respect to women's role in these communities;
- . water supply (in terms of provision or procurement), sanitation and health have been traditionally assigned to women and are seen by men and by the community as becoming increasingly important;

- . the "socially accepted" dominance of men in the rural community, stemming from their economic power, is such that women seem to satisfy themselves with asserting themselves in the community through their husbands. This is particularly so with water related issues;
- . the opportunity for women to acquire knowledge lessens as they grow older. Poor economic conditions of the rural family and social restrictions drive the female out of primary schooling at quite a young age although religious teaching are pursued for a short period afterwards; and
- . knowledge and awareness of health and hygiene is acquired through teachings stemming from religious practices and social beliefs.

#### 4.17 Human Resource Development (HRD)

Human Resource Development (HRD) was analysed by studying two components. The education system (from primary to university) and the training system (adult education, extension programmes, in-house training, skill enhancement).

##### 4.17.1 Critical Issues

The key critical issues examined were:

- . local perceptions;
- . needs in training and education;
- . existing training programmes;
- . responsibilities;
- . mechanisms for improving basic skills;
- . quality of existing programmes; and

. retention of rural skills.

Analysis of these key critical issues has focussed on the fundamental causes related to the strengths and weaknesses of each issues. The first two were viewed as being fundamental in addressing the other issues. Perceptions of the local community towards education and training is key in tackling needs and responsibilities. Identification of needs in turn will set forth a better appreciation of gaps between existing activities and those to be implemented to meet the rural community's requirements.

#### 4.17.2 Conclusions

- . basic education is valued in the rural community. Perceptions, especially for young men, are improved if motivating factors for education and training are readily associated with short term benefits: increased advantage of income generation (i.e. training of rural mechanics), increased potential for gainful employment, competitive advantage in the rural society (for status and wealth) and as a means for migration;
- . training and skill enhancement with respect to sanitation and hygiene are not seen as contributory or supportive of income generating needs and are thus not viewed as being useful;
- . from the community standpoint, although needs for training and education can be readily assessed, the needs are not felt by the rural society because the usefulness of education has not been demonstrated, or perceived. There is little knowledge or awareness of the issues and thus little real impetus for training;



at the community level better understanding of training and education would be found with people having migrated and returned to the village. Better than average knowledge and understanding would also lie with educated people.

## 5. DEVELOPMENT OF INITIATIVES

As noted in Section 3.2, NWFP has made significant progress in bringing water supply to its rural population through the efforts of the Public Health Engineering Department (PHED), the Local Government and Rural Development Department (LGRDD), and international agencies. Nevertheless, some 48% of the rural population is without an assured supply of adequate quality.

Similarly, although a significant pioneering effort is now in progress to bring adequate human waste disposal facilities to the rural population some 99% of that population is without such facilities.

In addition to the need to ensure improved water supply and sanitation, there is also the necessity to reduce funding requirements to a level which the Provincial and National governments can reasonably provide. The potential initiatives which follow stem from the analyses made and conclusions drawn in Section 4 of this report and are designed to provide maximum levels of community involvement in the conception, selection, construction and operation of rural schemes. An enhanced role for the private sector is seen as a major step in this direction, as are new initiatives in augmenting the level of knowledge and awareness of key information necessary for the community to make informed decisions on their needs and the means of satisfying them.

The following initiatives are put forward to indicate the direction being recommended for study, and more for detailed examination during subsequent stages of this project. They are, therefore, conceptual in nature and subject to modification or deletion during interactive discussion with

the Steering Committee Government of Pakistan, World Bank or other donor agencies.. It is expected that some crystallization of options will take place between the date of completion of this report and the date of review with the World Bank mission which is scheduled to visit Peshawar on March 21 and 22, 1989.

#### 5.1 Water supply

Both PHED and LGRDD have made substantial progress towards the water supply target of 70% population coverage by 1993 and the target is achievable with slightly enhanced capabilities in each department. However, considerable uncertainty exists on the future level of funding from the Government of Pakistan for water supply which leads to the suggestion that the World Bank and other donors will wish to undertake funding and execution of some projects or schemes which would otherwise be funded by the Government of Pakistan. In doing so it would be advantageous to focus on districts which presently suffer from low coverage of water supply. Reference to Table 3.5 shows that the four districts of Mansehra, Kohistan, Swat and Dir all show a significant population to be served if the Seventh Five Year Plan target of 70% coverage is to be met. It is logical therefore for the World Bank to focus attention of these districts, which have a population to be served by 1993 of 2.06 million. Insufficient data is presently available to permit a similar recommendation for FATA. Further delineation of a suitable integrated water supply initiative will be pursued between the time of completion of this report and the World Bank mission visit to Peshawar on March 21 and 22, 1989.

Integration of health education, community development and human waste disposal initiatives together with water supply is a main theme of this project and will require expenditures

on these components as well as for water supply per se to achieve cost effective implementation. A budget estimate of Rs. 500 per capita is probably reasonable and would indicate a total cost of Rs. 1 billion (US\$ 50 million). Selection of portions of this initiative by individual agencies will clearly permit donors to tailor schemes to particular funding constraints.

It must also be recognized that the cost of O+M which PHED incurs for schemes which it undertakes is a major, and increasing, burden. The following initiatives are designed to explore the possibility of more cost effective implementation techniques and practices and to offer a means of transferring all, or a substantial part, of the recurring O+M cost to the beneficiaries.

#### 5.1.1 Privatization of O+M

It is proposed that in the following instances, the function of O+M as well as billing and collection of tariffs be contracted out to the private sector:

- . in the case of large settlements that lack homogeneity and are faction ridden, and where the communities would prefer that Union Councils take over the O+M responsibilities and contract them out to the private sector;
- . in circumstances in which two or more communities are being served from the same water source; and
- . where the installed technology is too complex for the community to handle.

The Union Council (under supervision of the District Council) should invite bids from private firms to take over O+M and billing and collection functions. The lowest rate obtained from a reliable firm would be accepted and the Union Council would be responsible for monitoring the firm to ensure that it continually meets its contractual obligations.

The initiative would be to:

- . conduct a survey to establish cost recovery criteria; and
- . select relevant communities through District Councils which already have existing water supply schemes but are having difficulty maintaining them. Tender bids from private firms and contract out O+M responsibilities. Establish a monitoring unit in LGRDD or District Councils to monitor the performance of the privatized schemes over a 2 - 3 year period to evaluate performance and make improvements in this privatization model.

#### 5.1.2 Private Sector Turn-key option

Another option which should be examined is using the private sector to plan, design, develop and operate water supply schemes. In effect this is a turn-key option. Firms should be invited to offer turn-key solutions on the condition that they would supply water to identified communities at controlled rates established by an independent consultant to be fair and reasonable and to be approved by the District and Union Councils. The agreed tariff structure would specify different rates for those with house connections and, for those obtaining their water supply from standpipes.

In this initiative two or three sites would be identified and private developers invited to tender on a turn-key basis. A unit would be set up in the District Councils and LGRDD to monitor and evaluate such schemes over a 2 - 3 year period. After the initial phase of investigation and evaluation the scheme, would be adapted and extended to other Districts in the Province.

### 5.1.3 Support to Hand-pump Installers and Manufacturers.

Although the use of private handpumps is not widespread in NWFP, ground water is available over much of the province and can be used in smaller communities. The development and production of a handpump able to draw water from a depth of 50 metres and the installation of such pumps by UNICEF and UNHCR demonstrates the potential.

Currently, repair of hand-pumps costs the owner as much as the original installation. This is a result of deficient technology and installation technique. Shallow well hand-pump designs need upgrading and standardizing. This could be carried out by means of a thorough investigation of existing designs and incorporation of designs from outside the country. Standardization would be more difficult but could be accomplished through licensing or franchise arrangements.

Courses for private sector handpump installers should be offered at a rural academy in NWFP. The courses should be designed to be practical and should have major input from local installers themselves. It should focus on the proper installation and development of wells.

Investigations should be made into setting up credit facilities through banks, Union Councils or government departments for individual households wishing to purchase new, or rehabilitate existing, handpumps. Various credit schemes should be tried out in practise including an adapted version of the Grameen Bank model in Bangladesh.

Serious consideration should be given to franchising to accelerate and upgrade the calibre of handpump installations in the sweet water zones.

#### 5.1.4 Mechanisms for Cost Recovery

This initiative explores the possibility of using indirect mechanisms in areas where willingness to pay user charges to recover O+M costs is low. In the study phase the initiative will involve a field investigation of the rural fiscal structure of Union Councils and District Councils to identify taxes (land tax, export tax) to assess where scope exists for levying surcharges. The nature of the tax collection machinery (Potwari, 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 in each province 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.

#### 5.2 Disposal of Human Waste and Sanitation

##### 5.2.1 Latrine Dissemination for Human Disposal Initiative

NWFP has made significant progress in establishing a programme for building latrines. The level of awareness in a few communities has now reached the level where private

installation of latrines is taking place. This trend can be reinforced by the following initiative which describes a method of latrine sanitation delivery and the creation of incentives behind that delivery to motivate potential users.

The dissemination of latrines is a household and private sector matter. The promotion, sale and installation of a

latrine requires marketing and delivery which only the private sector can muster. With very few exceptions the private sector has been exclusively responsible for the dissemination of latrines (and septic tanks) in the rural areas. It should continue to do so. Latrines are a marketable commodity so it is logical that government should establish programmes in support of the private sector.

The private sector in the form of masons (mystrics) should promote and market latrines and make reasonable profits on their successful installation. The mason should be the prime mover and motivator for the household. In essence, the mason should market latrines and his services to the household. He should install the latrines under inspection and final approval of the householder. He should inform the family as to its use, maintenance and repair. He should be the intermediary between the householder and the credit-giving institution and act to simplify procedures, the filling of forms, acquiring guarantors, short circuiting red tape and generally assisting the householder in his applying for any necessary outside credit.

The householder should own the latrine outright and be totally responsible for its upkeep, maintenance and repair like any other household commodity. Where necessary s/he should undertake a soft loan to pay the full capital costs. During and after construction s/he should ensure that the installation is entirely satisfactory.



Government (such as PHED, LGRDD or District Council) should upgrade and standardize technology, inspect and certify manufacturers of latrine pans (whether dry pit or pour flush type), conduct promotion campaigns, train masons and assist in arranging credit for households.

LGRDD in collaboration with the PHED Sanitation Division should establish a sanitation (latrine) cell in Peshawar.

This cell should be responsible for executing the support program in the form of investigating appropriate technologies and refining designs already available within the province. It should set up a training and licensing programme through an appropriate institution for (hundreds of) masons throughout the province interested in becoming latrine installers. The sanitation (latrine) cell should establish a promotion campaign using the mass media such as radio and television promoting the installation and use of latrines and particularly informing the householder of his/her opportunities. The geographic focus within the province should be those areas which are involved in water supply programmes. Every attempt should be made to integrate this sanitation programme with water supply and hygiene education programmes. By having the private sector as the prime mover in the community, requirements for inter-departmental co-ordination and government funding will be minimized.

#### 5.2.2 Replication of PHED Sanitation Programme.

As noted in section 3.2.9., NWFP has initiated a rural sanitation programme for disposal of human waste in cooperation with KFW. This programme is now meeting with significant success. Although the above initiative (5.2.1) makes a strong recommendation that latrine provision be a private sector matter, the construction of latrines in

schools will remain as a public responsibility. Replication of the existing programme in many more communities is therefore recommended with the modification of reducing the number of latrines provided at subsidized cost in private dwellings.

### 5.2.3 Hygiene Education among Women and Children

*h. Permodity*

The objective of this initiative is to raise the level of knowledge among rural women on the role of water and sanitation in promoting family health. Some or all of the following options may be selected:

- develop a demonstration latrine programme for rural women in a female community centre where water is readily available. This centre will preferably be an existing one already providing services for some other programme. For this case, integrate the hygiene and sanitation education components into the existing programme to sensitize the women first on the importance of these components to family health.

At the conclusion of this stage install a latrine, involving women in construction, and instructing them on the need for regular cleaning with emphasis on their responsibility for this role; or

*not digging themselves  
auxiliary  
role.*

where no such community centre exists promote the establishment of a widely-based women's centre perhaps with assistance from a CBO or NGO. Integrate the hygiene and sanitation programmes as in the previous situation.

Alternatively, the house of a widowed woman may be used for installing a demonstration latrine, and this house may also be designated as a community centre for

continued hygiene education of rural women.

This option precludes the choice of the house of an affluent family since poor women may not be allowed access. A further possibility is to develop a demonstration latrine programme for rural schools for males and females provided that water is already available. This option will include the need to:

- . train teachers on hygienic utilization of water and sanitation;
- . sensitize children and involve them in the actual construction process;
- . inform children on the necessity of keeping latrines clean; and
- . integrate this programme in hygiene education into the school curriculum.

#### 5.2.4 Drainage Criteria and Design Standards.

The discussion of sanitation (drainage) in section 4.5 revealed a clear need to establish appropriate criteria and designs for use in rural settlements. This initiative is to meet this need and involves a survey of present practices by Union Councils, District Councils, LGRDD, PHED, and others. The development of appropriate design criteria to meet the requirements of NWFP is a second stage. The third stage requires the review and discussion of the criteria and standardized designs with the line departments and local councils to incorporate their views and ensure acceptance of the proposals. The final stage will be the preparation of a simple design manual and the conduct of workshops to ensure that all those responsible for the initiation or authorization of drainage channels in rural settlements are fully conversant with the criteria and standard designs.

### 5.3 Community Participation

NWFP setting up a  
by NGO effort.

The need has been clearly established for a much higher level of community knowledge and awareness on all matters pertaining to the sector. The following initiatives are directed to meet this need.

#### 5.3.1 Needs Assessment Survey

Assessment of village communities needs is an essential first step in the overall planning of rural water supply and sanitation schemes. This was well proven in the Mansehra District Council Programme. In that case a survey was carried out throughout the District which not only raised awareness among the villages about the future programme but also allowed 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 social-cultural, environmental and physical conditions.

District wide Needs Assessment Surveys should be carried out in all Districts intending to undertake community based water and sanitation programmes. The surveys should be carried out by District Councils through Union Councils and executed by consultants to ensure quality control. The District Council should provide most of the personnel but the consultants should be responsible for establishing procedures, organizing survey teams, data collection and analysis, and the preparation of reports.

#### 5.3.2 Community Promotion

With the ultimate objective of reaching the vast rural population with services and having the community take over

O+M responsibilities, a community promotional project is proposed. The community has to be prepared and properly oriented for its role before undertaking projects in this sector. A new cadre of staff needs to be added to the implementing agency which may be LGRDD, PHED or a District Council. The new staff would work at the front line as a liaison between the community and the government agency. S/he would be responsible for promoting the project at the village level and would therefore have to be conversant

with the technical and social/communications aspects of project delivery. This cadre of personnel would be attached to a community development cell within the implementing agency.

There should be one promoter for every two Union Councils. The promoters will provide the community with details of the water and sanitation programme such as guidelines, ways of working with the government departments, and the roles and responsibilities of all parties in the water supply and sanitation project.

The promoter will have access to a variety of informational tools including videos and pamphlets. S/he will be responsible for supervising social surveys, holding planning meetings, contributing to feasibility studies and detailed design, educating and training members of the community, upgrading community management and organizational systems, assisting the community during construction as well as being the key link to the line agency after project completion by providing technical support where cost recovery, maintenance and monitoring are necessary.

The establishment of such a unit within the implementing agency will require the provision of training facilities, technical assistance during set-up, vehicles and support

services, and promotional and demonstration material.

### 5.3.3 Orientation for Community Participation Programmes

The underlying theme of involving the community is that the community itself should take a stronger role in the provision of its services. It can hardly do so without first knowing what its options are. A program of village orientation and motivation is therefore recommended which will provide the communities with adequate and accurate information on the

various sources of assistance and how to go about approaching them. This programme should be based at the District level.

First however, it will be necessary to inform and convince officials at the District level of the validity and viability of approaches being taken. All District staff should therefore undergo a familiarization programme using specifically designed audio-visuals. It is important that the politicians are also included in the orientation. Those who are actually involved in the programme should have the opportunity of reviewing the various community based projects in the Province first hand to become better convinced and confident of the approached which they will be expected to promote.

The village orientation programme should have a strong motivational element. Mobile promotional personnel from the District offices should work at the Union Council level with audio-visuals and written material. Although literacy is very low in the target areas, people can and do arrange for literates to read material when it is important to them. The news media and radio should be used as well as word of mouth. It is important that the information set down is consistent

and accurate. It should include details on what programmes are being offered, how assistance can be sought by the village and what its roles and responsibilities will be. Only then will villages be in an informed position to take rational decisions.

#### 5.3.4 Informational Programms for Elected Representatives

Elected councillors of District and Union Councils generally attend training and orientation sessions soon after being inducted into office at the National Centre for Rural Development of the MLGRD, Islamabad, and the Pakistan Academy for Rural Development, Peshawar. These institutions could be used for disseminating the orientation materials (mentioned above) on community participation and project management. This initiative would require development of such promotional material, audio-visual aids and expansion of the faculty and other related inputs at the centre/academies to reach out to a higher proportion of elected Councillors.

#### 5.4 Human Resource Development

*Training of representatives*

##### 5.4.1 Skills Development and Technical Training

As support for the above initiatives, support to handpump installers and manufacturers (5.1.3) and latrine dissemination for human waste disposal (5.2.1), it is necessary to undertake a broad improvement to the technical and entrepreneurial skills available in the rural population. Hence this initiative is directed to use the technical and vocational training institutes available in or near NWFP.

These institutes have the capability of imparting training in middle level skills to masons, carpenters, pipe-fitters, plumbers, electricians, diesel mechanics etc. However, the outreach is currently limited to the urban labour force down to the Tehsil level. This initiative would involve the extension of the training programmes to cover the rural areas through establishment of smaller training facilities at the Tehsil level or through mobile training units at the Union Council level.

In addition, the initiative would require modification of course contents to suit sector needs, modest upgrading of teaching staff, audio-visual aids, equipment and vehicles. The scope for involvement of the private sector in skill training programmes could also be tested through this

initiative by a training vouchers system run through the Union Councils. These vouchers would be encashed as effective payment of fees following the completion of training of workers from the rural private sector.

#### 5.5 Institutional Adjustments

At present the line institutions (LGRDD, PHED, District Councils) do not adhere strictly to prescribed mandates but rather accept assignments from the government or elected representatives. As noted earlier PHED has a strong technical capability while LGRDD has capability to deal with the non-technical aspects of community development but has limited capability to deal with the technical considerations. The District Councils have a community development capability and some technical capability but the latter is weak with respect to development of water supply and human waste disposal. The Union Councils are closest to the communities but have little capability to deliver community development services. For macro-planning the recognized entity is the



services. For macro-planning the recognized entity is the Planning and Development Department. The Private Sector consulting firms have had little input in the Sector to date and at this time has limited capability to offer.

In view of the above findings some reallocation of responsibility among existing departments and entities is viewed as a cost effective means of improving the delivery capability of water supply. About 82% of rural villages in the NWFP settled areas have a population of less than 2000 and the sum of these village populations approximates 39% of the provincial population (excluding FATA). These villages are prime targets for the continued expansion of water supply and will require innovative approaches if the need is to meet efficiently. The following options are put forward to meet this need, and could be integrated with initiatives 5.3.2 and 5.3.3 described above.

#### 5.5.1 District Council Option

The District Council would be assigned the role of mobilizing the community through the Union Council and providing any

technical assistance needed by the community. A cadre of sociologists would be fielded by the District Council to promote the benefits of clean water and sanitation/drainage to assist the community in the formation of Village Development Organizations. Where the community does not have the technical capability to plan or implement a project it would call on the technical wing of the District Council. The technical wing of the District Council would have to be strengthened to meet this demand.

For small communities the works are likely to be within the capability of the Union Council or Village Development Organisation. This would generally occur in communities below 1000. The Union Council would act as a facilitator in this case.

For larger communities where more complex system components may be needed, the community will need outside technical support. In this option that support would come from the technical wing of the District Council.

#### 5.5.2 LGRDD Option

The LGRDD staff would be assigned the role of mobilizing the community using the Union Council as a facilitator and also providing any technical assistance needed by the community. A cadre of sociologists would be fielded by LGRDD. These community mobilizers would be attached to the Union Councils to promote the benefits of clean water and sanitation/drainage and to assist the community in the formation of Village Development Organizations or the strengthening of existing organizations.

Where the Union Council does not have the technical capability to plan or implement a project it would call on the technical wing of the LGRDD which would have to be strengthened to meet this demand.

For small communities the works are likely to be within the capability of the Union Council or Village Development Organization. This would generally occur in communities below 1000. The Union Council would act as a facilitator in this case.

For larger communities where more complex system components are likely to be needed the community will need outside technical support. In this option that support would come from the technical wing of LGRDD.

#### 5.5.3 PHED/LGRDD Option

This option would have the LGRDD assume the role of community mobilizer with the Union Council acting as a facilitator. For simple systems (usually meaning smaller communities) LGRDD would provide the technical support to the community through the Union Council. The PHED would be called upon for technical input in those cases where the community cannot act on its own. In general this would occur for larger communities.

#### 5.5.4 Competitive Option

This option requires LGRDD to assume the role of community mobilizer and to provide technical support for simple schemes and to act as a technical advisor to the communities. For

design and implementation of larger systems and for technically demanding problems on small schemes the community would call on the services of either the PHED, District Council or the Private Sector.

The services of the PHED and District Council technical wings would be on a hire charge basis. A special cell could be created in both the PHED and in the District Council to meet this demand. This option would require strengthening the capability of PHED, District Councils and Private Sector firms in appropriate technology and in working with communities.

5.5.5 Private Sector Turn Key Option

This option is a variation of Option 5.5.4 wherein the community through the Union Council would hire a private sector firm to plan, design and implement a water supply or sanitation/drainage scheme. Selection of the firm and the monitoring of the performance would be the responsibility of the Union Council and could be assigned to either PHED or LGRDD.

The first three of the above options are depicted in chart form in Table 5.1. Option 5.4.4 and 5.5.5 are variations on the first three options.

Table 5.1 PROVISION OF WATER SUPPLY OF SMALL RURAL COMMUNITIES.

ACTIVITY	DISTRICT COUNCIL OPTION 5.5.1	LGRDD OPTION 5.5.2	PHED/LGRDD OPTION 5.5.3
1.Motivation	District	LGRDD	LGRDD
2.Implementation	Union Council	Union Council	Union Council
3.Technical	District	LGRDD	PHED/LGRDD

## 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 III.

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

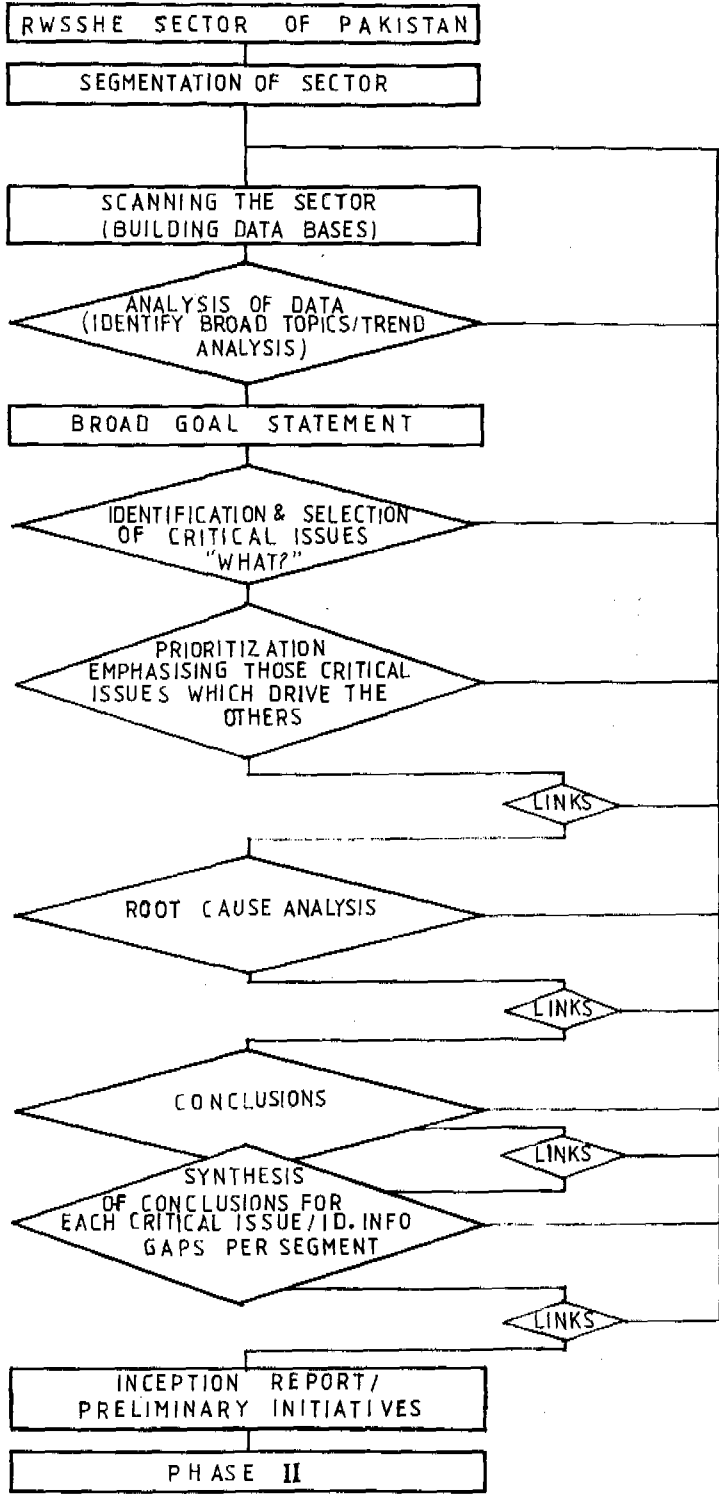


II activities 6 and 8 will narrow the refined initiatives to a specific set and Phase III activities 11 and 12 will lead to the selection of final initiatives for the investment plan and subsequent project identification.

#### 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



## WORKPLAN PHASE I - JAN 6 to FEB 28

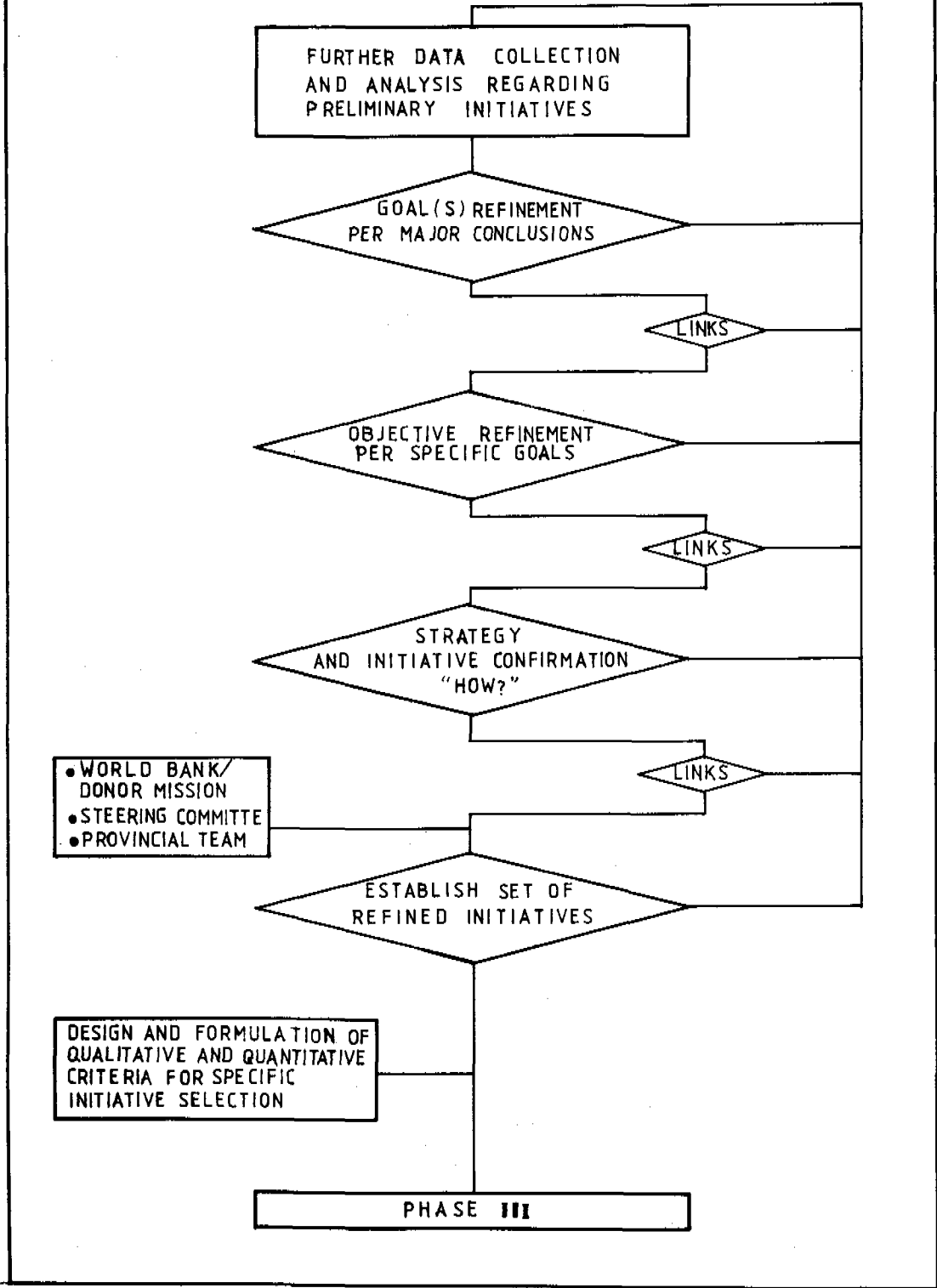
Initial reconnaissance of data and issues leading up to the Inception Report and a set of preliminary initiatives and indicative projects.

## 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>		05/03/89	
Prepare detailed workplan for Phase III and review with MG	02 days		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**



4.Objective Refinement		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
5.STRATEGY CONFIRMATION AND REFINEMENT		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
6.INITIATIVE CONFIRMATION AND REFINEMENT		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
7.WB/DONOR MISSION		12/03/89	
-----			
7.1	Meeting with Steering Committee, WB and prospective donors to review contents of Inception Report	02 days	PT/CT
		to	
7.2	Confirmation by WB of order of magnitude of expected foreign investment into the sector		26/03/89
8. ESTABLISH A REFINED SET OF INITIATIVES IN CONSIDERATION OF STEERING COMMITTEE/ WB-DONOR MISSION RECOMMENDATIONS		02 days	31/03/89 PT
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9. FORMULATION OF INITIATIVE SELECTION CRITERIA

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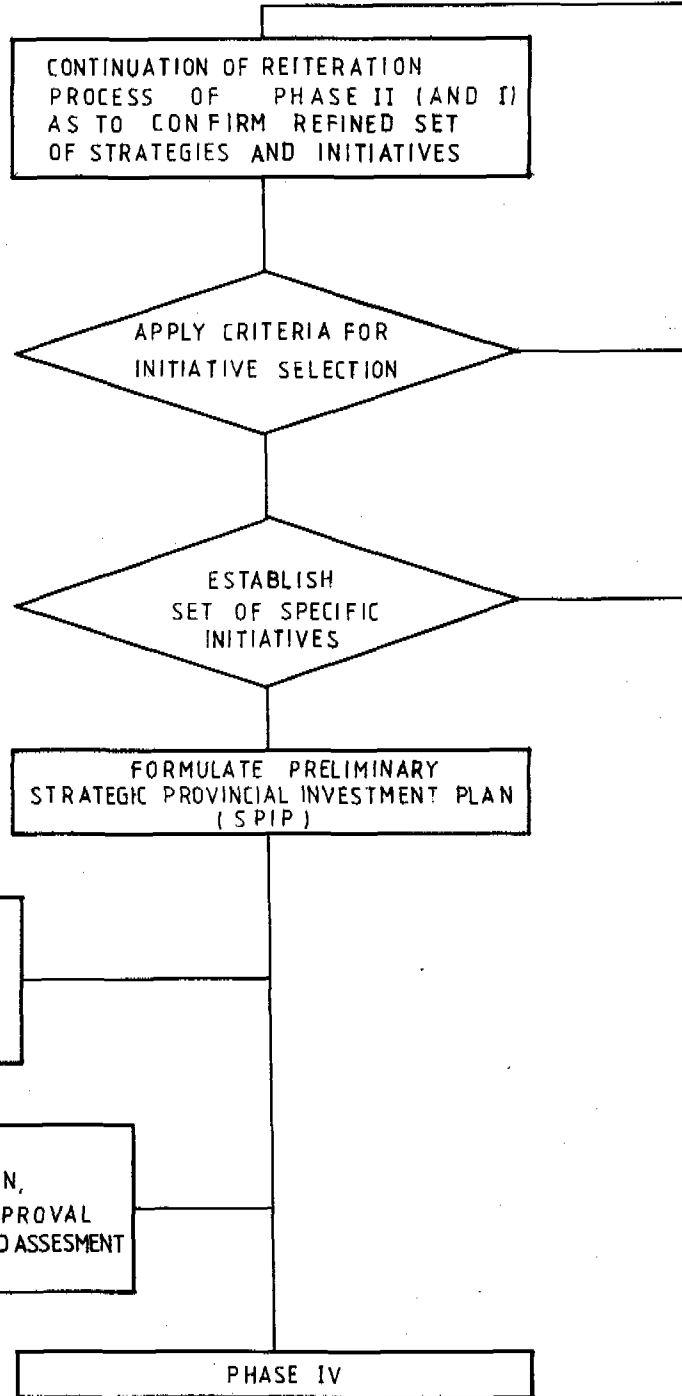
Design qualitative and quantitative criteria for the selection of specific initiatives 07 days 31/03/89 CT

10. PREPARATION OF DETAILED WORKPLAN FOR PHASE III

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

STRATEGIC PLANNING METHODOLOGY  
PHASE III APRIL - JUNE



- WB\_DONOR MISSION\_ II
- STEERING COMMITTEE
- PT

DRAFT PROJECT IDENTIFICATION, SELECTION, APPROVAL IMPLEMENTATION AND ASSESMENT METHODOLOGIES

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
<hr/>			
11. CONTINUATION OF STRATEGIC ANALYSIS		24/04/89	
<hr/>			
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
<hr/>			
12. SPECIFIC INITIATIVE SELECTION		13/05/89	
<hr/>			
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
<hr/>			
13. PRELIMINARY STRATEGIC INVESTMENT PLAN FORMULATION			
<hr/>			
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
<hr/>			
14. DRAFT METHODOLOGIES FOR PROJECT IDENTIFICATION, SELECTION, APPROVAL, IMPLEMENTATION AND ASSESSMENT FOR FUTURE USE BY LOCAL EXECUTING AGENCIES	10 days	11/06/89	CT
<hr/>			
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

Strategic plan - drafts

initiative/projects  
hardware/software  
+ software

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

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

pre-identification  
identification  
disposition

~~FORULATE~~ PROJECTS IN  
ACCORDANCE WITH STRATEGIC  
PROVINCIAL INVESTMENT PLAN

+ documents  
- models  
d'exécution  
- capacités

PHASE V  
SEP - NOV 1989

FINALIZE PROJECT DOCUMENT

PROJECT BANK 8

PREPARE NATIONAL SUMMARY

APPROVAL

Confirmation  
mission de formation

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

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17. FINALISATION OF STRATEGIC INVESTMENT PLAN			To be defined
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18. FORMULATION OF RELATED PROJECTS WITHIN STRATEGIC INVESTMENT PLAN FRAMEWORK			
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19. FINALISATION OF METHODOLOGIES FOR PROJECT IDENTIFICATION, SELECTION, APPROVAL, IMPLEMENTATION AND ASSESSMENT			
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20. PREPARATION OF DETAILED WORKPLAN FOR PHASE V AND REVIEW WITH MG			
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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

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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						#####

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
9. PREPARATION OF INITIATIVE SELECTION CRITERIA	Design qualitative and quantitative criteria	31/03/89			#####	#####	#####
10. PREPARATION OF DETAILED WORKPLAN FOR PHASE II	10.1 Prepare work plan 10.2 Review with Central team	31/03/89					####

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	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER												
			1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2
11. CONTINUATION OF STRATEGIC ANALYSIS	11.1 Collect additional data 11.2 Refine analysis/initiatives	24/04/89	1	2	3	4	5																						
12. SPECIFIC INITIATIVE SELECTION	12.1 Apply qualitative criteria 12.2 and quantitative criteria for initiative selection	13/05/89	1	2	3	4	5	1	2	3	4	5																	
13. PRELIMINARY STRATEGIC INVESTMENT PLAN FORMULATION	13.1 Group initiatives in programs 13.2 Assess resource requirements 13.3 Allocate resources 90-93/98 13.4 Produce preliminary SPIP 13.5 Review and deliver SPIP	20/05/89 11/06/89						1	2	3	4	5																	
14. DRAFT METHODOLOGIES FOR PROJECT IDENTIFICATION, SELECTION, APPROVAL, IMPLEMENTATION AND ASSESSMENT	Draft methodologies for future use by local executing agencies	11/06/89						1	2	3	4	5																	
15. PREPARATION OF DETAILED WORK PLAN FOR PHASE IV	Prepare work plan and review with Central Team	11/06/89																											
16. REVIEW OF PRELIMINARY STRATEGIC INVESTMENT PLAN (SPIP) W.M.D/ STEERING COMMITTEE		25/06/89 to 09/07/89																											
17. FINNALISE STRATEGIC PROVINCIAL INVESTMENT PLAN		10/09/89																											
18. FORMULATION OF RELATED PROJECTS WITHIN THE SPIP		05/11/89																											



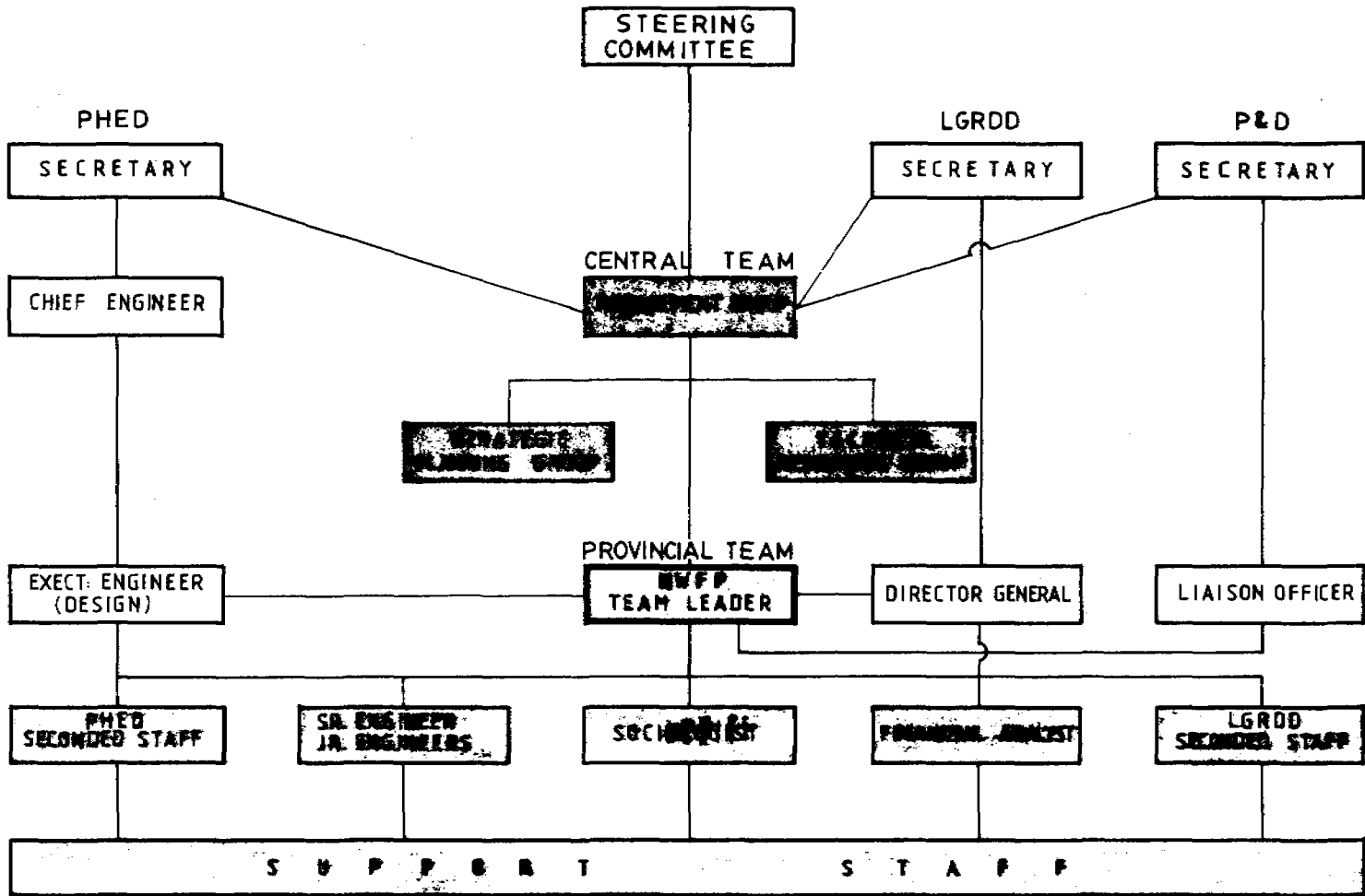


## HUMAN RESOURCES SCHEDULE

POSITION	NAME	MONTHS REMAINING	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV
			REVIEW	PRELIM SPIP	FINAL SPIP + PRELIM PP	FINAL PP + NS					
<b>MANAGEMENT GROUP</b>											
PROJECT DIRECTOR	MC GINNIS		█		█				█		
PROJECT CODIRECTOR	MC GARRY		█	█	█	█	█	█			
PROJECT MANAGER	FOY		█	█	█	█	█	█	█	█	█
DEPUTY PROJECT MANAGER	ABID		█	█	█	█	█	█	█	█	█
DEPUTY PROJECT MANAGER	BAKTHEARI		█	█	█	█	█	█	█	█	█
MANAGEMENT ADVISOR	ASHWORTH				█			█			
<b>STRATEGIC PLANNING GROUP</b>											
STRATEGIC PLANNER	RATHIER		█	█	█	█					
ADVISOR PLANNING	WEBSTER				█	█		█			
ECONOMIST	PASHA		█	█	█	█		█	█	█	█
FINANCIAL ANALYST	KARDAR		█	█	█	█	█	█	█	█	█
SOCIOLOGIST	BAKTHEARI			AS	ABOVE						
DEMOGRAPHER	KHAN		█	█	█	█	█	█			



PROJECT ORGANISATION FOR NWF PROVINCE



**Appendix**  
**I**

## APPENDIX I

### 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;

APPENDIX I

- . Member - Joint Secretary,  
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

## APPENDIX I

liaison with the Federal Government and the World Bank. The 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**

## 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.

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;



- . 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.

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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.

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### . The Investment Plan

- 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;

## APPENDIX II

- 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**

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;
  - . 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;
- . 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:

- . 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, 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.

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 Analysis310 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. Prioritize the Key Critical Issues.

## 313 Analyze the Key Critical Issues:

- . 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.

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 Information410 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 consensus.



APPENDIX III

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 consensus 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 consensus.

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.

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.

- 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.