

**ANNEX I STUDY ON PROPOSED PRIORITY DEVELOPMENT  
PLANS**



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## CHAPTER I SELECTION OF PRIORITY DEVELOPMENT PLAN

The higher priority development plans will be selected to expedite implementation of Swat District Integrated Rural Development Project as discussed in Chapter VI.

The studies for selecting the priority development plans are conducted based on Phase I field work and home office work. These selected areas for the priority development Plans will be considered as the objective areas for carrying out pre-feasibility study of the project.

### 1.1. Preliminary Selection of Priority Development Plans

In order to select the priority development Plans from 20 Sub-Project Areas, the following criteria are taken into consideration;

- i) Local people's requirements,
- ii) Concentration of main project facilities, and
- iii) Social and economical backwardness

#### 1) Local People's Requirement (Criterion)

According to the inquiry survey at the Union Council (UC) level conducted by the JICA Study Team during the Phase-1 field work, the project facilities, which have been strongly requested by local people are those for irrigation, road, rural electrification, village water supply, health center and school, and the number of Union Councils responded for the above project facilities are evaluated as follows:

As is seen in the above table, Zones having a large numbers of response are Zone III in swat Sub-Division, Zone V in Shangla Par Sub-Division, and Zone IX in Buner Sub-Division, respectively.

#### 2) Concentration of Main Project Facilities in Development Plans (Criterion-2)

Number of Response for UC Requirements

Items	<u>Swat</u>			<u>Shangla Par</u>			<u>Buner</u>		
	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>	<u>VII</u>	<u>VIII</u>	<u>IX</u>
No. of Response	12	34	37	21	25	5	33	6	7
No. of UC	6	15	14	7	6	2	14	3	2
No. of Response/UC	2.0	2.3	2.6	3.0	4.2	2.5	2.4	2.0	3.5

The location and layout of the 16 main project facilities excluding veterinary and artificial insemination center are studied, and the Plans having high concentrations of project facilities in one Union Council are located in Zone III, V and VII as tabulated below;

Concentration of Main Project Facilities

<u>Sub-Division</u>	<u>Zone</u>	<u>Development Scheme</u>	<u>No. of Project Facilities (1)</u>	<u>No. of UC(2)</u>	<u>Concentration (1)/(2)</u>
Swat	III	Kabal	7	3	2.3
		Barikot	7	3	2.3
Shangla Par	V	Puran	10	2	5.0
		Chakesar	7	2	3.5
		Martung	8	2	4.0
Buner	VII	Gadezai	10	3	3.3
		Chaghrzai	10	4	2.5

Note: The area of Kalam development Plan having the concentration value of three is eliminated from priority development Plan considering on-going Kalam Integrated Rural Development Project.

3) Social and Economical Backwardness (Criterion-3)

Social and economic situations in the Project Area can be presented using annual gross production values of crop per capita. As shown in the following table, these values in Shangla Par Sub-Division present the lowest in swat District.

Annual Gross Production Values of Crop

<u>Sub-Division</u>	<u>1987</u>	<u>2005</u>
Swat	1,751	2,852
Shangla Par	466	720
Buner	655	1,058
Average	1,233	1,982

Note: Figures in the year of 2005 are estimated applying annual growth rate of six percent.

As is found in the table, it is considered that the priority development Plans for the project should be formulated focusing on the Shangla Par Sub-Division because of its present social and economic backwardness of the area.

In consideration of the above-mentioned studies, the following eight priority development Plans are preliminarily selected for the project.

Preliminary Selection of Priority Development Plans

<u>Name of Plans</u>	<u>Zone</u>	<u>Cultivation</u>	<u>No. of UC</u>	<u>Population</u>
		<u>Area</u> ( <u>'000 ha</u> )		
Kabal	III	21.0	3	114
Barikot	III	12.4	3	64
Puran	V	8.4	2	51
Chakesar	V	6.7	2	51
Martung	V	4.5	2	31
Gadezai	VII	10.5	3	65
Chaghrzai	VII	8.9	4	47
Khudukhel	IX	9.0	2	47

## 1.2. Secondary Selection of Priority Development Plans

In order to realize the project implementation for the rural development Plans, secondary selection of the priority development Plans was made depending on and applying the following consideration to the

preliminarily selected eight priority development Plans discussed in the previous paragraph.

Criterion-1 (Physical Aspects)

- i) Present Diffusion Index of Rural Infrastructures
  - Ratio of required irrigation area,
  - Ratio of population covered by electricity,
  - Ratio of Wards connected with Katcha roads,
  - Ratio of population covered by water supply,
  - Population per health center,
  - Population (5-14 age) per school (elementary, middle, high and mosque), and
  - Population per post office
- ii) Present Agricultural Index
  - Agricultural Income Index;
    - Annual cultivated areas per household,
    - Nos. of cattle per farm household,
    - Range land per farm household,
  - Agricultural Supporting Index;
    - Nos. of farm household per one extension worker,
    - Nos. of cattle per animal dispensary, and
    - Rate of required soil conservation areas.

Criterion-2 (Planning Aspects)

Following consideration will be paid to the agricultural infrastructure and rural electrification plan related with water resources development, which were preliminarily selected as described in paragraph 1.1.



- i) Coordination with on-going projects,
- ii) Implementation stage of the plan,
- iii) Attainability of implementing plans,
- iv) Scale of irrigable areas, and
- v) Possibility of hydel power generation.

In applying the above-mentioned consideration and criteria to the preliminarily selected eight priority development Plans, Table I-1 and I-2 were prepared. As a result, the most of the priority development Plans showing the depressed situation from viewpoint of physical aspects are selected. Namely, following two river basins in Shangla Par Sub-Division are finally selected as the most priority development plans.

- Itai Khwar Basin : Puran and/ or Martung  
Development Plans
- Chakesar Khwar Basin : Chakesar Development Plan.

These selected areas, so called as Shangla Par Integrated Rural Development Project (SIRDP) Area correspond to the objective areas for pre-feasibility study in the phase II Study, The pre-feasibility study including the potential analysis of water resources development and technical and economic feasibility was made in focusing on these areas. These selected Plans will function as pilot project to the surrounding area with the similar conditions to those in swat District.



## CHAPTER II FORMULATION OF PRIORITY DEVELOPMENT PLANS

### 2.1 Project Components

To select the development components and schemes to meet the requirement for integrated rural development project, following criteria are taken into account;

- To keep consistency in Government policy,
- To meet local demands,
- To make efforts to income increase and employment creation,
- To satisfy local people with basic needs in minimum, and
- To look into adequate investment scale.

All of the development plans in such sections as a) land use and soil conservation, b) water resource, c) agriculture, d) rural industry, e) marketing and agricultural credit, f) agricultural infrastructure, g) rural and social infrastructure and h) social forest and tourism, which are considered to be betterment of the rural life in the Project Area, are carefully studied based on the above-mentioned criteria, development potential and natural and physical conditions in the area.

As the results, the the following development components are selected for the priority development schemes.

- i) Agricultural Infrastructure,
- ii) Agricultural Supporting Services,
- iii) Road and Communication,
- iv) Rural Electrification
- v) Village Water Supply, and
- vi) Rural Infrastructure.

## 2.2 Proposed Development Schemes

### 2.2.1 Agricultural Infrastructure Schemes

The following schemes are proposed to be implemented in the SIRDP Area for short term development schemes.

#### 1) Small Scale Irrigation Schemes (SSIS)

The scheme consists of the construction of off-take, feeder canal, farm pond equipped with water control apparatus and lined irrigation channels in order to utilize the seasonal flow in the intermittent Khwars for the purpose of small-scale supplementary irrigation, cattle and domestic uses.

#### 2) Spring Water-Tank Programme

The scheme can materialize the effective irrigation for the orchards and vegetables using perennial spring water in the mountainous places. The facilities consists of water storage tank and adequate length of pipelines equipped with the required number of water taps and valves in order to distribute the water to the every lot of orchards and fields among the beneficiaries for rotational irrigation.

#### 3) Sandai-Aloch Irrigation and Hydel Power Scheme

One scheme is planned to be implemented at Sandai village where Itai Khwar meanders and forms good project site.

The schemes consists of the following facilities.

- Construction of one head regulator and feeder canal (about 500 m long)
- One micro-hydel power house and distribution power line system
- Improvement of existing irrigation canals and off-takes

- Riverbanks and farmlands protection from flood by means of gabions and spurs.
- Construction of village pond and improvement of village roads.

The details of the above-mentioned schemes and the quantities of the works are discussed in Chapter 7 of the Main Report, and those standard designs are shown on the drawings attached to Main Report.

The location of each scheme is indicated on the Project Map of SIRDP in the Main Report as well as the inventory papers in Annex G.

### 2.2.2 Agricultural Schemes

Among the proposed agricultural supporting plan in Chapter VII, it is propose to implement the following schemes as the priority schemes.

#### 1) Agricultural Extension Strengthening and Seed Multiplication Scheme

It is proposed to implement the proposed Agricultural Transfer Technology and Demonstration (ATTD) Farm scheme in Mingora (Main Farm) and SIRDP Are (Branch farms) for the efficient and effective transfer of technology for different agroecological zones in SIRDP Area.

For the strengthening extension activities, enough number of extension staff (a Field Assistant per Union Council and a Agriculture Officer per three to five Field Assistants) should be posted on the basis of national standard. Then it is proposed to install the buildings of extension activity and training with adequate space and equipment (viecles, audio- visual aids etc.) materials. For the purpose of the multiplication and distribution of quality seeds and fruit trees the establishment of a seed Farm and a Fruit Nursery Station are proposed to be established/ in the SIRDP Area.

Furthermore, it is also proposed to establish a Field Assistant office of the Fruits and Vegetables Development Board and a Bee-keeping Center respectively for the development of fruits and vegetables cultivation, and bee-keeping.

The number of location of above mentioned facilities are as follows;

	<u>No. of location</u>
- Agricultural training Center	One
- Seed Farm	One
- Transportation facilities for extension services	L,S
- Fruits Nursery Station	One
- Fruits and Vegetables Training Office	One
- Bee Keeping Center	One

## 2) Animal Husbandry Development Scheme

It is proposed to strengthen the veterinary services through establishing four Veterinary Hospitals in accordance with the demand by local people. Three natural breeding centers, one Artificial Insemination Center and one main nutrition improvement unit are required to be established in SIRDP Area. The stud animals of rams, he-goat and sets of Fayumi chicken (five pullets and one cockerel) should be distributed for the improvement of genetic characteristics of local animals and poultry.

## 3) Farm Mechanization Promotion Scheme

For the introducing small farm machinery under rental system, three tractor station should be placed in the Project Area.

## 4) Soil conservation

It is proposed to expand the Soil Conservation Project Swat District with placing high priority to the SIRDP Area. The existing Swat Conservation Project have to increase the staff a with providing main office, a workshop, a branch office, several Unit Supervisor offices and the related equipments like durable goods like bulldozer, tractors and vehicles.

#### 5) Cooperative and Input Supply Scheme

A inspector Office of Cooperative Department and a branch office of Provincial Agricultural Cooperative Bank should be established to serve farmers about farm credit and farm input supply.

Since there is no formal sale point of input supply in the Project Area , it is proposed to establish an Agriculture Development Authority (ADA) sale point with a warehouse at the capacity of about 1,000 ton in the SIRDP Area or it vicinity for the supply of farm inputs.

Regarding to improve market of farm produces,it is proposed to develop four marketing facilities including storages in Chakesar, Aloch and Martung to improve marketing of farm products. One of ATTD Farm section will take in charge of improving local marketing in the areas by means of these proposed marketing facilities.

#### 6) Small Industry

It is proposed to establish a women Handicraft Inspectors Office of Cooperative Department and A women Handicraft center to introduce the movement of Women Handicraft Cooperative Societies for the job opportunity creation in sewing, embroidering and knitting in the Project Area.

#### 7) Soil Survey and Land Evaluation

Most of the SIRDP lands are mountainous and require due attention to the soil erosion control and also to the integrated approach on the proper land use among crop production, animal husbandry and other land use like forest. Before implementation of the above-mentioned agricultural supporting schemes, the land of SIRDP should be evaluated for the formulation of a suitable land utilization / soil conservation plan. For this purpose, a collaboration work should be done among the Soil Survey of Pakistan Unit Office and the Soil Conservation Project under the SIRDP.

## 8) Training of Project Staff

The project staff as well as the governmental staff of the concerned agencies have to be trained with regard to the implementation of the proposed agricultural development schemes. The training at various training institutes in Pakistan and foreign countries will be required together with the in-service training of the concerned staff by the specialists which will be provided in suitable international technical cooperation program.

### 2.2.3 Road and Communication Schemes

Road development in rural area is one of the most important rural development components in the SIRDP area. The establishment of a proper road system in the area is strongly requested by local people and can contribute to the total development of the area in future. Therefore, improvement and pavement of main roads in the SIRDP area should be carried out during the initial stage of SIRDP.

Connecting with the on-going road improvement scheme by the Seventh Five Year Plan, which is Yakhtangi-Derai-Aloch Road following road improvement schemes should be implemented in the earliest stage of SIRDP, they are ;

- Derai-Chakesar-Karora Road	50.5km
- Aloch-Martung Road	20.0km
- Aloch-Choga Road	6.0km

Above-mentioned main roads connect main local villages in the SIRDP area, which are Chakesar, Aloch, Marutung and Choga and provincial highways.

### 2.2.4 Rural Electrification

Shangla Par Sub-Division is a remote from existing WAPDA grid line, in addition to the fact that there is no electric supply except a few personal micro-hydel power generator. Therefore, the electrification rate and life environment in Shangla Par Sub-Division is lower than other Division. A rural electrification is very helpful to raise the total living



conditions of the people, and is necessary for the improvement of various social services such as health care, education and others.

There are 293 villages and 19,000 households or more in Shangla Par Sub-Division. The WAPDA proposed a plan of the electrification for Shangla Par Sub-Division, so that a grid station should be constructed in Martung or Chakesar and the new grid line should be extended from Daggar in Buner Sub-Division to the grid station.

The whole Shangla Par Sub-Division is a steeply mountainous area and the villages to be electrified are scattered. Therefore, it will be anticipated that the completion of the project mentioned above will be considerably delayed due to those reasons.

A hydel power generation is the most probable efficient way to urgently Shangla Par Sub-Division. According to the result of this study, Shangla Par Sub-Division has low potential for the hydel power for the demand of the whole Shangla Par Sub-Division. However, some sites have some potentials for a micro-hydel power which will be utilized for public facilities only. Jambal Derai is located between Aloch and Martung along Irai Khwar and is the most suitable site for the construction of the micro-hydel power station according to the topographical and hydrographical data. The potentials for the micro-hydel power in Jambal Derai are as follows;

- Maximum Discharge	:	1.42 (cu.m/sec)
- Head	:	20.2 (m)
- Catchment Area	:	227.1 (sq.km)
- Power(Max.)	:	200.0 (kw)
- Power(Min.)	:	84.6 (kw)
- Annual Possible Power Generation:		721.0 (Mwh)

As mentioned above, the generated power will be utilized for the public facilities only due to the limited power. Details of the above study are given in Annex F.

### 2.2.5 Village Water Supply Schemes

The population coverage of water supply facilities in the SIRD area, which has been estimated at less than 30 percent in 1988, is behind with that of the average in NWFP (50 percent) and is lowest in Swat

District. The construction of water supply facilities is essential to improve condition of rural area. Therefore, in order to ease the mentioned local gap of water supply services in the SIRDP area, a concentrated investment to construction of water supply facilities is required on early stage.

3,440 families will be benefited during initial stage of SIRDP for two years. In order to introduce an operation and maintenance system by local people, direct participation of local people is required during construction of water supply facilities. In company with improvement of schools, health institutions and others, water supply facilities should be completed for them.

#### 2.2.6 Rural Infrastructure Schemes

The existing local gap of the social services in Swat District should be eased through the rural infrastructure development. Therefore, a higher investment for rural infrastructure development for the SIRDP area which shows backward situation in the District, should be assigned to the early stage.

##### 1) Education Facilities

Improvement and /or upgrading of existing schools should be carried out in the first place to give good conditions and incentive to local people to join education. In order to increase in number of teachers and raise up participation rate of students in scattered villages, establishment of residence and dormitory should be included into improvement works.

Considering a population growth in future, construction of new schools and a increase in number of teachers are required. In order to fulfill a number of teachers required, a system of assistant and /or temporary teachers from educated local people will be introduced.

##### 2) Health Facilities

Present poor health care conditions should be improved through upgrading of dispensaries to BHUs and posting doctors in first place. Also some new BHUs should be established for villages in remote areas.

Ambulances will be stationed at existing hospitals in the SIRDP area. That can be helpful for the rescue medical system and the link system with the District Headquarters Hospital in Saidu Sharif in company with road improvement schemes.

3) Hygiene education and guidance on improvement of sanitary condition to the rural people is required in first place. Therefore, an implementation office for rural sanitation schemes should be established into PHE Department, Swat in first stage of SIRDP.

Self-construction of private latrines by the local people should be encouraged consistently to raise a population coverage consistently to raise a population coverage of population coverage of sanitation facilities in rural area. Construction of latrines should be involved into improvement and construction of schools and other public facilities.

## 2.3 Project Facilities and Cost Estimation

### 2.3.1 Project Facilities

The proposed priority project facilities in SIRDP are categorized into following components which are mentioned in the Master Plan. They are;

- Agricultural Infrastructure Facilities
- Agricultural Supporting Facilities
- Roads and Communication Facilities
- Rural Electrification Facilities
- Village Water Supply Facilities, and
- Rural Infrastructure Facilities

The Priority project facilities are shown in Table I-3

### 2.3.2 Project Cost

The development cost of the priority project facilities in SIRDP is estimated at Rs. 400.9 million (including 20% of contingency, without

price escalation), according to the estimation conditions mentioned in the Master Plan. The breakdown of the project cost is given in Table I-4.

### 2.3.3 Operation and Maintenance Cost

The estimation of operation and maintenance cost of the priority project facilities in SIRDP is carried out in the way for the Master Plan project. Annual operation and maintenance cost is estimated at Rs. 29.5 million (including 20% of contingency without price escalation) as shown in Table I-5.

## 2.4 Project Implementation Programme

Preparation, design and others for SIRDP will started from July 1990. The tentative schedule of initial stage of SIRDP is illustrated in Figure I-1. The seasonal weather conditions, particularly snowfall (from December to February) should be considered in the schedule.

## 2.5 Project Evaluation

### 1) Agricultural Infrastructure Schemes

Sandai Aloch irrigation scheme area of 352 ha will be benefited by increase in crop yield to be realized through an improvement of irrigation efficiency and on timely water management. The project economy is estimated at about 14 percent of economic internal rate of return.

Storage capacity of tank constructed in the Spring water tank scheme is not so enough to irrigate a large size of fields. However, the surrounding orchards will be irrigated and the commercial crops will be cultivated on the beneficial barani fields.

The mountainous river discharge utilized by facilities constructed by small scale irrigation scheme is stored in the farm pond, and effectively supplied for small scale supplementary irrigation, cattle and domestic uses. Though an irrigable period is limited due to non-

perennial irrigation, farmers will be benefited by use of valuable water for short term commercial cropping such as vegetable.

Incremental production volume generated from three irrigation schemes mentioned above would be expected at about 100 tons of paddy, about 20 tons of maize, about 230 ton of vegetable and about 15tons of fruits.

## 2) Agricultural Scheme

ATTD Farm scheme aims to play an important role in an innovation of agricultural technology in Swat District, especially in SIRDP. This scheme will give great impact to farmers, that is, upgrading of farmer's technology level, introduction of cash crops, increase in crop yield, promotion of agricultural extension service and etc.

Seeds of maize, wheat and vegetable and seedlings of fruit trees supplied by the seed farm and fruits nursery station respectively will be able to meet demands expected in SIRDP, Shangla Par Sub-Division and partly other Sub-Divisions.

Qualitative benefits generated from livestock development scheme are prevention of various livestock diseases, extension of artificial insemination services in the remote areas, improvement of the genetic character through cross breeding and amelioration of nutrition and household economy for the small farmers and landless farmers.

Three tractor stations would contribute to raise crop yields and cropping intensity through rental use of machinery with capacity of about 1,500 ha per year. Women handicraft center create job opportunities in sewing, embroidering and knitting and contribute to increase in farm household income. Establishment of local marketing centers would play an important role in increase in acreage of marketable crops and improvement of price structure through marketing activity on demand and supply of goods.

## 3) Road and Communication Schemes

Benefits generated from road schemes are vehicle operating cost saving value and passenger time saving value. These benefits is

quantitatively estimated based on the results of traffic survey conducted on trunk road of 76.5km. Full development benefits are estimated at about 15 million Rupees of vehicle operating cost saving and about 4.5 million Rupees of passenger time saving. Project economy is evaluated at seven to nine percent of EIRR.

Trunk road improvement scheme would contribute to an expansion of commerce and rural industry, increase in employment opportunity, improvement of accessibility to school and medical services and promotion of investment to other social infrastructure.

#### 4) Rural Electrification Schemes

Establishment of Jambar Derai micro-hydel power station would be necessary to supply electricity to adjacent public user in order to improve or cover the local unbalance supply caused from an extension of WAPDA line implemented in near future.

Though economic evaluation shows a low internal rate of return, the schemes will contribute to revitalization of local public services in the mountainous and remote area.

#### 5) Village Water Supply Schemes

Beneficiaries will be scheduled at 3,440 houses for two years. The general effects will be represented by release of rural women labor from the heavy labor fetching water, improvement of health and sanitation in rural area and etc.

The financial evaluation is quantitatively estimated based on the affordable water charge assumed. Financial rate of return will be expected at about ten percent.

#### 6) Rural Infrastructure Schemes

Construction of ten primary schools would mitigate trouble generated from attending school for long distance and result to improvement of attendance ratio. Through an implementation and

upgrading of existing education facilities, an education environment would be improved and the local inhabitants would be active on school education.

Strengthen of an existing poor medical system through the health facilities development schemes will contribute to increase in number of doctor and other medical staffs, upgrading of standard of rural medical technology or rescue system and promotion of welfare of the poverty people.

The self construction of latrines will be scheduled for 520 houses during the construction period of 16 months. This schemes promote for the governments to execute sanitary education and rural community program.

### 3.2 Project Cost and Implementation Period for the Schemes

The total project cost for the priority development schemes by foreign aid is estimated at about 258 million Rupees as indicated in Table I-6. The implementation period is scheduled to be two years from July 1990 to June 1992.



TABLE I-1 EVALUATION INDEX OF SELECTED EIGHT PRIORITY DEVELOPMENT PLANS BY CRITERIA-1 OF PHYSICAL ASPECTS

Item	Kabal	Barikot	Puran	Chakesar	Martung	Gadezai	Chaghrzai	Khudukhel
A. Present Diffusion Index for Rural Infrastructure								
1. Ratio of Present Irrigation Area (%)	53.2	64.5	0.0	0.0	0.0	0.3	0.0	14.2
2. Ratio of Population covered by Electricity (%)	52.0	79.4	0.0	0.0	0.0	49.9	0.0	31.4
3. Ratio of Wards connected with Katcha Roads (%)	60.0	67.0	40.0	53.0	13.0	63.0		75.0
4. Ratio of Population covered by Water Supply (%)	18.6	50.0	21.9	16.5	39.9	42.2	54.0	53.7
5. Population per Health Center (person)	22,930	12,930	25,590	17,160	31,070	12,970	6,690	15,740
6. Population (5-14 age) per School (person)	623	485	309	457	335	363	236	346
7. Population per Post Office (person)	22,930	12,930	51,180	25,730	31,070	64,840	15,600	15,740
B. Present Agricultural Index								
1. Annual Cultivated Areas per Household (ha)	6.6	4.3	1.6	2.3	1.5	2.4	1.4	4.3
2. Nos. of Cattle per Farm Household (head)	4.0	1.9	0.8	1.6	1.2	4.6	2.7	5.7
3. Range Land per Farm Household (ha)	3.0	3.6	1.2	2.0	2.2	1.7	2.4	4.7
4. Nos. of Farm Household per One Extension Workers (farmer)		790	7,470	2,070	3,870	500	500	500
5. Nos. of Cattle per Animal Dispensary (head)	12,800	18,600	2,100	6,600	6,000	33,000	3,100	12,100
6. Rate of required Soil Conservation Area (%)	5.5	7.3	11.0	16.1	9.5	8.8	7.1	14.0

Source : Village Profile Survey and Agricultural Survey conducted by JICA Study Team.

Note : 1/ Nos. of cattle per farm household include sheep and goats, of which numbers are converted to those of cattle.

2/ Soil conservation area is presented by the ratio of cultivable waste to total cultivated land.

TABLE I-2 EVALUATION INDEX OF SELECTED EIGHT PRIORITY DEVELOPMENT PLANS BY CRITERIA A-2 OF PHYSICAL ASPECTS

Item	Kabal	Barikot	Puran	Chakesar	Martung	Gadezai	Chaghrzai	Khudukhel
<b>A. Development Plans</b>								
1. Agricultural Infrastructure (Irrigation Facility)	Deorai Khwar; Head Work	Small Stream; Small Dam	Janbal Derai; Multi. Dam	Chakesar; Multi. Dam	Kabulgram; Multi. Dam	Small Stream; Small Dam	Budark Head Work	Chur- Ghusinto; Pump
2. Rural Electrification (Electrification Facility)	No Plan	No Plan	Sandai Aloch; Small Dam Multi. Dam	Multi. Dam	Multi. Dam	No Plan	Chagharzai; Dam No Plan	No Plan
<b>B. Evaluation of Plans</b>								
1. Coordination with On-going Project	No On-going Project	No On-going Project	No On-going Project	No On-going Project	No On-going Project	No On-going Project	No On-going (1986-1990)	On-going (1987-1989)
2. Implementation Stage 1/	1st, 2nd Stage	1st Stage High Priority	Multi. Dam; 1st, 2nd Small Dam; 1st Stage High Priority	1st Stage High Priority	2nd, 3rd Stage	1st Stage High Priority	Chaghrzai Dam belongs to 1st priority, but this Scheme is planned to be low priority considering on-going Budar Project.	1st Stag High Priority
3. Attainability of Implementing Plan	Low (1st & 2nd Stage)	High (1st Stage)	Low (1st & 2nd Stage)	High (1st Stage)	Low (2nd, 3rd Stage)	High (1st Stage)	Low (On-going Project)	High (1st Stage)
4. Scale of Irrigable Area (ha)	Large (1,920)	Small	Small (300)	Medium (820)	Small (320)	Small	Large (2,000)	Small
5. Possibility of Hydel Power Generation	No Plan	No Plan	Possible	Possible	Possible	No Plan	No Plan	No Plan

Note: 1/: 1st Stage : Short-term implementation  
 2nd Stag : Middle-term implementation  
 3rd Stage : Long-term implementation 19201920

TABLE I-3 SIRDP PROPOSED PRIORITY SCHEMES

Description	Unit	Q'ty	Location
<b>Agricultural Infrastructure Development</b>			
- Irrigation Schemes			
1. SSIS	No.	3	Not Specified
2. Spring Water Tank	No.	6	Not Specified
3. Sandai Aloch Irrigation Scheme	ha	352	Puran
<b>Agricultural Supporting Service Develop.</b>			
- Extension & Seed Multiplication			
1. ATTD Farm	No.	1	Mingora
Centres	No.	2	Chakesar, Malam Jaba
Branches	No.	1	Puran
2. Agricultural Training Centres	No.	1	Puran
3. Seed Farm	No.	1	Puran
4. Transportation for Extension Service	L. S.	-	Not Specified
5. Fruits Nersary Station	No.	1	Puran
6. F & V Training Office	No.	1	Puran
7. Bee Keeping Centre	No.	1	Puran
- Livestock & Poultry			
1. Veterinary Hospital	No.	4	Chakesar, Puran, Martung
2. Natural Breeding Centre	No.	4	Chakesar, Puran, Martung
3. Artificial Insemination Sub-centre	No.	1	Puran
4. Animal Nutrition Improv. Centre	No.	1	Puran
5. Poultry Hatchery	No.	1	Puran
6. Animal Distribution	L. S.	-	Not Specified
- Agricultural Engineering			
1. Tractor Station	No.	3	Chakesar, Puran, Martung
- Cooperatives & Input Supply			
1. Inspector Office	No.	1	Puran
2. Cooperative Bank	No.	1	Alpuri
3. Agr. Inputs Warehouse	No.	1	Alpuri
- Small Industry			
1. Women Handicraft Centre	No.	1	Chakesar
- Marketing Facilities			
1. Main Marketing Centre	No.	1	Mingora
2. Marketing Sub-centre	No.	3	Chakesar, Puran, Martung
<b>Road &amp; Communication Development</b>			
1. Road Improvement	km	76.5	Karora-Chakesar-Derai Aloch-Martung Aloch-Choga
<b>Rural Electrification Development</b>			
1. Micro Hydrel Power Station(200 kw)	No.	1	Janbal Derai(Marutung)
<b>Village Water Supply Development</b>			
1. Village Water Supply System	Houses	3,440	Not Specified
<b>Rural Infrastructure Development</b>			
- Education Facilities			
1. Imp./Upgrading Exist. Facilities	No.	30	Not Specified
2. Construction of Primary Schools	No.	10	Not Specified
3. Staffing Teachers	Persons	50	Not Specified
- Health Facilities			
1. Imp./Upgrading Exist. Facilities	No.	3	Not Specified
2. Construction of BHUs	No.	2	Not Specified
3. Construction of Residence for Doctors	No.	2	Not Specified
4. Ambulances	No.	3	Chakesar, Puran, Martung
- Sanitation Facilities			
1. Establishment of Office	L. S.	-	Mingora
2. Construction of Latrines	Houses	520	Not Specified

TABLE I-4 DEVELOPMENT COST OF SIRDP PRIORITY SCHEMES

(Cost Unit: Rs. '000)

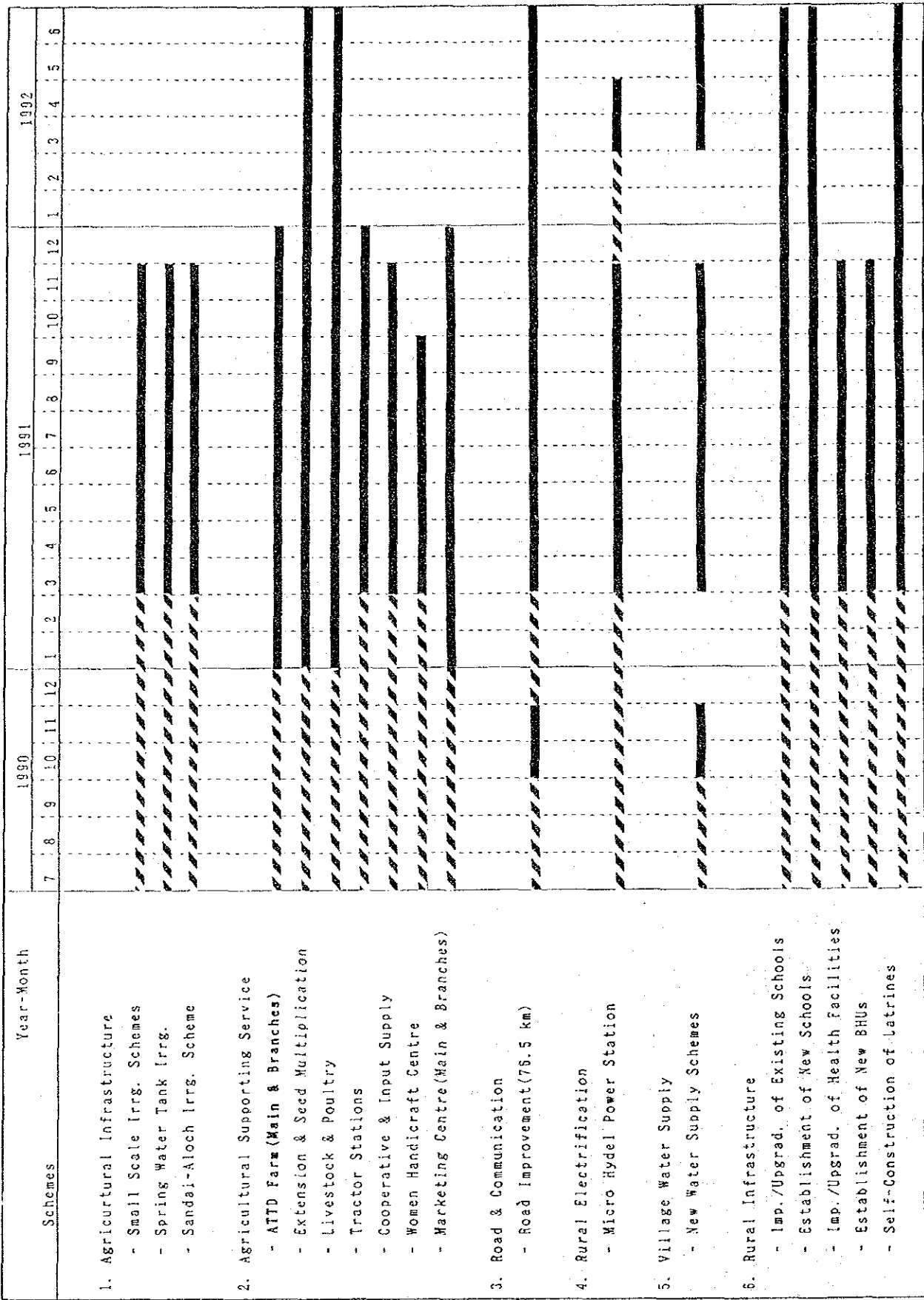
Description	Unit	Q'ty	Cost
<b>Agricultural Infrastructure Development</b>			
<b>Irrigation Schemes</b>			
1. SSIS	No.	3	8,814
2. Spring Water Tank	No.	6	1,892
3. Sandai Aloch Irrg. (Puran)	ha	352	4,357
Sub-total			14,863
<b>Agricultural Supporting Service Develop.</b>			
<b>Extension &amp; Seed Multiplication</b>			
1. ATTD Farm (Centre and Branches)	L. S.	-	55,793
2. Agricultural Training Centres	No.	1	745
3. Seed Farm	No.	1	2,145
4. Transportation for Extension Service	L. S.	-	546
5. Fruits Nersary Station	No.	1	980
6. F & V Training Office	No.	1	370
7. Bee Keeping Centre	No.	1	2,276
<b>Livestock &amp; Poultry</b>			
1. Veterinary Hospital	No.	4	5,592
2. Natural Breedinlg Centre	No.	3	1,440
3. Artificial Insemination Sub-centre	No.	1	766
4. Animal Nutrition Improv. Centre	No.	1	706
5. Poultry Hatchery	No.	1	3,827
6. Animal Distribution	L. S.	-	2,200
<b>Agricultural Engineering</b>			
1. Tractor Station	No.	3	13,500
<b>Cooperatives &amp; Input Supply</b>			
1. Inspector Office	No.	1	785
2. Cooperative Bank	No.	1	816
3. Agr. Inputs Warehouse	No.	1	700
<b>Small Industry</b>			
1. Women Handicraft Centre	No.	1	1,815
<b>Marketing Facilities</b>			
1. Main Marketing Centre (Mingora)	No.	1	4,980
2. Marketing Sub-centre	No.	3	3,780
Sub-total			103,762
<b>Road &amp; Communication Development</b>			
1. Road Improvement	km	76.5	79,484
Sub-total			79,484
<b>Rural Electrification Development</b>			
1. Micro Hydel Power Station	No.	1	21,580
Sub-total			21,580
<b>Village Water Supply Development</b>			
1. Village Water Supply System	Houses	3,440	14,104
Sub-total			14,104
<b>Rural Infrastructure Development</b>			
<b>Education Facilities</b>			
1. Imp./Upgrading Exist. Facilities	No.	30	10,470
2. Construction of Primary Schools	No.	10	4,130
<b>Health Facilities</b>			
1. Imp./Upgrading Exist. Facilities	No.	3	1,695
2. Construction of BHUs	No.	2	970
3. Construction of Residence for Doctors	No.	2	504
4. Ambulances	No.	3	1,155
<b>Sanitation Facilities</b>			
1. Establishment of Office	L. S.	-	1,482
2. Construction of Latrines	Houses	520	2,782
Sub-total			23,188
<b>Direct Cost Total</b>			256,981
<b>Indirect Cost</b>			
Land Acquisition & Compensation (5 %)			12,849
Project Administration (10 %)			25,698
Engineering Service (15 %)			38,547
Sub-total			77,094
<b>Direct &amp; Indirect Cost Total</b>			334,075
Contingency (20 %)			66,815
<b>Development Cost (1989 price)</b>			400,890



TABLE 1-5 ANNUAL O & M COST OF SIRDP PRIORITY SCHEMES

(Cost Unit: Rs. '000)

Description	Unit	Q'ty	Cost
<b>Agricultural Infrastructure Development</b>			
<b>- Irrigation Schemes</b>			
1. SSIS	No.	3	132.3
2. Spring Water Tank	No.	6	25.2
3. Sandai Aloch Irrg. (Puran)	ha	352	65.4
Sub-total			222.9
<b>Agricultural Supporting Service Develop.</b>			
<b>- Extension &amp; Seed Multiplication</b>			
1. ATTD Farm (Centre and Branches)	L. S.	-	10,227.1
2. Agricultural Training Centres	No.	1	128.9
3. Seed farm	No.	1	576.9
4. Transportation for Extension Service	L. S.	-	109.2
5. Fruits Nersary Station	No.	1	259.6
6. F & V Training Office	No.	1	97.4
7. Bee Keeping Centre	No.	1	490.1
<b>- Livestock &amp; Poultry</b>			
1. Veterinary Hospital	No.	4	1,124.8
2. Natural Breeding Centre	No.	3	117.0
3. Artificial Insemination Sub-centre	No.	1	70.5
4. Animal Nutrition Improv. Centre	No.	1	189.3
5. Poultry Hatchery	No.	1	184.8
6. Animal Distribution	L. S.	-	0.0
<b>- Agricultural Engineering</b>			
1. Tractor Station	No.	3	2,970.0
<b>- Cooperatives &amp; Input Supply</b>			
1. Inspector Office	No.	1	267.7
2. Cooperative Bank	No.	1	286.3
3. Agr. Inputs Warehouse	No.	1	80.0
<b>- Small Industry</b>			
1. Women Handicraft Centre	No.	1	258.9
<b>- Marketing Facilities</b>			
1. Main Marketing Centre (Mingora)	No.	1	99.6
2. Marketing Sub-centre	No.	3	75.6
Sub-total			17,613.7
<b>Road &amp; Communication Development</b>			
1. Road Improvement	km	76.5	3,970.4
Sub-total			3,970.4
<b>Rural Electrification Development</b>			
1. Micro Hydel Power Station	No.	1	505.0
Sub-total			505.0
<b>Village Water Supply Development</b>			
1. Village Water Supply System	Houses	3,440	392.2
Sub-total			392.2
<b>Rural Infrastructure Development</b>			
<b>- Education Facilities</b>			
1. Imp./Upgrading Exist. Facilities	No.	30	270.0
2. Construction of Primary Schools	No.	10	103.0
3. Staffing Teachers	Persons	50	755.0
<b>- Health Facilities</b>			
1. Imp./Upgrading Exist. Facilities	No.	3	57.9
2. Construction of BIUs	No.	2	39.4
3. Construction of Residence for Doctors	No.	2	86.4
4. Ambulances	No.	3	217.8
<b>- Sanitation Facilities</b>			
1. Establishment of Office	L. S.	-	386.7
2. Construction of Latrines	Houses	520	0.0
Sub-total			1,916.2
Total			24,620.3
Contingency (20 %)			4,924.1
Annual O & M Cost (1989 price)			29,544.3

FIGURE 1-1 IMPLEMENTATION SCHEDULE OF SIRDP PRIORITY SCHEMES



Note:  : Preparation, Design, ect.  
 : Construction & Establishment

**ANNEX J. COLLECTED DATA AND PAKISTANI GOVERNMENT  
OFFICIAL CONTACTED BY STUDY TEAM**





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## CHAPTER I. COLLECTED DATA

### 1.1. Drawing and Map

1. Topographic Map (Scale = 1/50,000) prepared by Survey of Pakistan,
2. Topographic Map (Scale = 1/250,000) prepared by Survey of Pakistan,

### 1.2. Reports, Data and Information

#### General

1. Five-Year Plan (1988-1993) and Perspective Plan, prepared by Planning Commission, Government of Pakistan,
2. Seventh Five-Year Plan, 1988-1993, Planning Commission Government of Pakistan, Federal / Provincial Projected and Programmes, January, 1989.
3. Highlights of the Draft Seventh-Year Plan (1988-1993), prepared by Planning and Development Division, Government of Pakistan,
4. Agricultural Statistic of Pakistan, 1986 Vol. II, prepared by Ministry of Food, Agriculture and Co-operatives,
5. Development Statistic of NWFP, 1986, prepared by Bureau of Statistic, Planning and Development Department. NWFP,
6. Pakistan Statistical of NWFP, 1986 prepared by Federal Bureau of Statistic, Government of Pakistan.
7. 1981 District Census Report of Swat, June 1983, prepared by Population Census Organization, Government of Pakistan,
8. Pakistan Census of Agriculture, prepared by Agricultural Census Organization.

### Rural Development

1. Final List of Wards of Union Council, District Swat prepared by LG & RD Department,
2. PC-1 Proforma Buner Development Project, October 1978, prepared by Planning and Development. NWFP,
3. PC-1 Proforma, Kalam Integrated Development Project (Phase II), September 1988, prepared by Department of Agriculture, Forest and Co-operatives,
4. Annual Report, 1988, Kalam Integrated Development Project, prepared by Agricultural Department, Pakistan-Swiss Joint Project,
5. Malakand Fruit and Vegetable Development Project, prepared by Agricultural Department, Pakistan-Swiss Joint Project,
6. Malakand Fruit and Vegetable Development Project Marketing Consultancy Digest of Existing Information, February 1989, prepared by Roger White Associates Limited.
7. Pakistan-German Integrated Rural Development Program Maldan, January 1988, prepared by Local Government and Rural Development Department, NWFP,
8. Master Plan for Barani Area Development, prepared by Asian Development Bank,
9. Malakand Area Development Project Agro/Socio-Economic Study of Chitral District, October 1986, prepared by Institute of Development Studies (IDS), Agricultural University.
10. Impact Evaluation Report, Pakistan-Income Generating Project for Refugee Areas (Phase I), 1988, prepared the Institute for Development Programmes, USA,.
11. Community Development and Local Councils, prepared by Ministry of Local Government and Rural Development, 1985.

### Agricultural Infrastructure

1. Development Activities of Irrigation Department in Swat and Dir prepared by Irrigation Department, Swat, in 1989,
2. PC-1 Proforma and Project Estimate of Flow and Lift Irrigation Schemes, prepared by Irrigation Department Swat,
3. PC-1 Proforma and Project Estimate of Flood Protection Works prepared by Irrigation Department, Swat,
4. Daily Discharge Data of Aspandam Shah Ban Nullah, 1987-1989 prepared by Hydrology Division Irrigation Department, Peshawar, NWFP,
5. Sharki Dam Project, Feasibility and Preliminary Design Report, prepared by Hydrology Division, Irrigation Department, Peshawar, NWFP, in 1988.
6. On-Farm Water Management Field Manual, Vol.I-V, March 1986, prepared by Ministry of Food, Agriculture and Co-operatives,
7. PC-1 Proforma Second On-Farm Water Management Project, March 1985, prepared by Directorate of On-Farm Water Management, NWFP, and
8. Consumptive Use of Water for Crops in Pakistan, 1982, prepared by Pakistan Agricultural Research Council.

### Rural Infrastructure

1. List of Schemes of Highway Division Swat, prepared by Highway Division Swat, Communication and Works (C & W) Department,
2. Seventh Five-Year Plan, prepared by Highway Division, Swat, C & D Department.
3. Seventh Five-Year Plan, NWFP (1988-1983), prepared by Public Health Engineering (PHE) Department, Peshawar,
4. Brief Notes on the Activities of PHE Department in Circle Malakand prepared by PHE Department, Malakand Circle,

5. Brief Notes on the Activities of PHD Department, Swat, 1988, prepared by PHE Department Mingora,
6. Inception Report on NWFP Strategic Provincial Investment Plan and Project Preparation for Rural Water Supply, Sanitation and Health,
7. Education Year Book Session 1987-1988, prepared by Education Department, NWFP,
8. Statistical Data of Girls School in Swat District for the Year 1987-1988, prepared by Office of the District Education, Swat, and
9. The Details of School Welfare Activities in District Swat, prepared by Social Welfare Swat.

#### Soils and Agriculture

1. Reconnaissance Soil Survey of Tarbera Watershed, Buner Valley and Swat Catchment Areas, prepared by Soil Survey of Pakistan,
2. Soil and Water Conservation Project for Central and Northern District, prepared by Soil Conservation Office, Swat.
3. Village-wise Land Use Data, prepared by Land Revenue Office in Tehsil of Chakesar, Puran and Martung,
4. Tehsil-Wise Cropping Area by Crop, prepared by Land Revenue Office, Swat District,
5. Fertilizer Experiments Cereal crops, 1983 prepared by Agricultural Research Institute,
6. Assessment Proposal of Land Revenue, Swat, Shangla Par, Buner Sub-Division, prepared by Commissioner Office, Swat,
7. Agricultural Production Credit Requirement, March 1981, prepared by Institute of Economic Studies, NWFP
8. Delivery System in Support of Small Farmers in the Context of Rural Development, prepared by Center of Integrated Rural Development for Asian and the Pacific,

9. PC-1 Proforma, Crop Maximization Scheme in Swat District, prepared by Agricultural Engineering Department,
10. Farm to market Roads, Swat, prepared by Communication and Works Department, NWFP,
11. Marketing of Handicrafts, September 1979, prepared by Institute of Economic Studies, NWFP, and
12. Cost Estimate of Veterinary Facilities, prepared by Assistant Director Office of Livestock and Dairy Development, Swat
13. Agricultural Statistics of NWFP (1980-81 to 1987-88) Agriculture Department, Peshawar
14. Report of the National Commission on Agriculture, Ministry of Food and Agricultural, GOP, 1988
15. Annual Report (1986-87 and 1987-88) NWFP Agricultural University, Mingora Research Station.
16. Concept Paper for Upgradation of Agricultural Research Station, Mingora Swat to the Status of Agricultural Research Institute by Habib-Ur-Rehman, Mingora Research Station, 1987.
17. Final Technical Report on PL-480 Persimmon, Pome and Nut Fruits by Iftikharul Haq, NWFP Agricultural University, Tarnab Research Station, and
18. Dir District Development Plan, Digest, Vol .1 and Vol. 2, Special Development Unit, P & D Department Government of NWFP.

#### Forestry

1. PC-1 Proforma, Forestation in Forest Blanks of Alpuri Forest, Swat, prepared by Forest Department, NWFP,
2. Introduction of Social Forestry in NWFP, Malakand, prepared by Forest Department, NWFP,

3. Revised Working Plan for the Lower Indus Kohistan Forest of Alpuri, 1984/1985 - 1993/1994, prepared by Forest Department, NWFP, and
4. Integrated Resources Survey of Lower Indus Kohistan and Buner, 1976, presented by NWFP Forest Record Inventory Series No.8.

#### Socio/Agro-Economy

1. Economic Survey, 1987-1988, Finance Division, Economic Advisor's Wing, Islamabad.
2. Economic Survey, 1987-1988, Statistical Supplement, Finance Division, Economic Advisor's Wing, Islamabad,
3. Foreign Trade Statistics of Pakistan, Exports & Re-Exports April-June, 1988, Federal Bureau of Statistics, Statistics Division,
4. Foreign Trade Statistics of Pakistan, Imports, April-June, 1988, FBS, SD.
5. Important District-Wise Socio-Economic Statistics of NWFP, prepared by Bureau of Statistics, P & D Department, NWFP.
6. Alpuri Rapid Agro-eco System Zoning, July 1988, prepared Malakand Fruit and Vegetable Development Project Office.
7. Local Government Service Rules, Exhaustive Comments and Up-to-Date Case law and Manual of Agricultural Produce Market Committee Law, prepared by Malik Irshad Ahmed Arshad, and
8. Socio-Economic Survey of Ushu Valley, prepared by Department of Social Work, Sociology and Anthropology, and University of Peshawar.

#### Rural Electrification

1. PC-1 Proforma Hydel Power Scheme at Ashuran (SWAT), October, 1985 prepared by Irrigation Department,
2. Data Regarding Master Plan of Integrated Rural Development Project Swat, prepared by SHYDO,



3. Hydel Power Scheme at Ashoran District Swat, prepared by Irrigation Department, NWFP.
4. PC-1 Proforma, Hydel Power Scheme at Ranyal District Swat, prepared by Irrigation Department, NWFP, and
5. Base Workshop and Training Center for O/M of Small Hydel Station, prepared by SHYDO, Irrigation Department, Ministry of Water and Power.

#### Design and Cost Estimate

1. Unit Costs for Road Improvement Works, prepared by Highway Division, Swat, Communication and Works Department,
2. Standard Section and Cost of Metaled Road and Katcha Road, 1987, obtained from Local Government and Rural Development Department,
3. Standard Plan of Building, prepared by C & W Department, Building Division, Swat.
4. Design Sample of Tube-well, prepared by PHE Department, Division Swat,
5. Design Sample of Latrine, prepared by PHE Department, Sanitation Division, Peshawar, and
6. Catalogue & Prime Costs of Submergible Pumps of Tube-wells and Centrifugal Pumps of Tube-wells an Centrifugal Pumps of Dug-well, prepared by KSB Co. Ltd. & Granfos.



## CHAPTER II. GOVERNMENT OFFICIAL CONTACTED BY STUDY TEAM

### 2.1. Federal Government of Pakistan

#### Economic Affairs Division (EAD)

1. Mr. Akhtar Iqbal Deputy Secretary, EAD, Ministry of Finance

#### Soil Survey of Pakistan

1. Mr. Abdul Hameed Khan Deputy Director, Soil Survey of Pakistan, Peshawar
2. Mr. Taj Mohammad Assistant Soil Survey Research Officer
3. Mr. Mohammad Usman Assistant Soil Survey Research Officer

### 2.2. Government of NWFP, Peshawar

#### Planning and Development Department (P & D Dept.)

1. Mr. Sulaimen Ghani Secretary, P & D Dept.
2. Mr. Abdul Jalil Mughal Additional Secretary, P & D Dept.
3. Mr. Mohammad Ibrahim Beg Additional Secretary, P & D Dept.
4. Mr. Abdul Qayum Kakezai Deputy Secretary (Admi.)
5. Mr. Hamid Ali Abbasi Director, Bureau of Statistics, P & D Dept.
6. Mr. Mufti Javed Aziz Chief, Plan Evaluation and Formulation, P & D Dept.

- |                              |  |
|------------------------------|--|
| 7. Mr. Akbal A. Shamin       | Chief, Aid/SDP   |
| 8. Mr. Mohammad Ghaus        | Acting Chief (W & P), P & D Dept.                                |
| 9. Mr. Manzoor Ali           | Assistant Chief (W & P), P & D Dept.                             |
| 10. Mr. Abdul Waheed Khan    | Assistant Chief-II, Special Aid Development Project, P & D Dept. |
| 11. Mr. Asad-Ullah           | Assistant Chief, Special Aid Development Project                 |
| 12. Mr. Mohammad Ismail      | Research Officer, Special Aid Development Project, P & D Dept.   |
| 13. Mr. Fida Mohammad        | Research Officer, P & D Dept.                                    |
| 14. Mr. Aziz-Ur-Rehman Malik | Section Chief (Agriculture), P & D Dept.                         |

Local Government and Rural Development Department (LG & RD Dept.)

- |                          |   |
|--------------------------|---|
| 1. Mr. Inayat-Ullah Khan | Secretary, LG & RD Dept.  |
| 2. Mr. Qazi Amanullah    | Additional Secretary, LG & RD Dept.                             |
| 3. Mr. Ihtesham Khan     | Director General, LG & RD Dept.                                 |
| 4. Mr. Fazal Shah Abbasi | Director, LG & RD Dept.   |
| 5. Mr. Fazal Hussain     | Assistant Director (Admi.), Acting Director (HQ), LG & RD Dept. |
| 6. Mr. Gul Afzal         | Section Officer-II  |
| 7. Mr. Mohammad Ishfaq   | Section Officer (General)                                       |

Irrigation Department (Irri. Dept.)

1. Mr. Aslam Saleem Director (Designing & Panning)  
Office of Chief Engineer, Irri. Dept.
2. Mr. Hussain Shah Executive Director, Hydrology  
Division, Irri. Dept.
3. Mr. Mohammad Jaleem Khan Chief Engineer, Irri. Dept.
4. Mr. Fazal Rehman Director, Small Dam, Irri. Dept.
5. Mr. Shah Ali Naqi Civil Deputy Director, Small Dam,  
Irri. Dept.
6. Mr. Gulzar Khan Executive Engineer, Peshawar  
Canal Section
7. Mr. Mohammad Akram Technical Officer, Irri. Dept.

Food, Agriculture, Livestock and Cooperative Department

1. Mr. Abdul Rahaman Khan Secretary, Agri. Dept.
2. Mr. Abdul Waheed Chief Planning Officer, Agri. Dept.
3. Mr. Syed Mehfooz Ali Shah Director, General, Agri. Extension
4. Mr. Mohammad Arif Khan Director, Agri. Engineering Dept.
5. Mr. Haq Dad Khan Deputy Director, Planning, Agri.  
Dept.
6. Mr. Azad Khan Assistant Director, Director  
General, Agri. Dept.
7. Mr. Mohammad Siddig Director Research NWFP  
Agricultural University
8. Mr. Hohammad Qazi Director, Livestock and Dairy Dept.

- |                            |   |
|----------------------------|---|
| 9. Mr. Mohammad Yousaf     | Director, Water Management Dept.  |
| 10. Dr. Manzoor Elahi Raja | Managing Director, Fruit and Vegetable Development Board                        |
| 11. Mr. Saeed Ullah Khan   | Office in Charge, Senior Statiscian, Director General of Extension, Agri. Dept. |
| 12. Mr. Abdul Haq          | Malakand Fruit and Vegetable Development, NWFP, Fruit and Vegetable Board       |
| 13. Mr. Mumtaz Khan        | Senior Research Officer, Malakand Fruit and Vegetable Development Project       |

Communication & Works Department (C & W Dept.)

- |                       |   |
|-----------------------|---|
| 1. Mr. Shamsur Rahman | Senior Engineer, HQ, C & W Dept.                  |
| 2. Mr. Altaullah Khan | Assistant Design Engineer, C & D Dept.            |
| 3. Mr. Aminullah Khan | Personal Assistant to Chief Engineer, C & D Dept. |
| 4. Mr. Abdul Sami     | Head Draftsman, C & D Dept.                       |

Education Department (Edu. Dept.)

- |                             |   |
|-----------------------------|---|
| 1. Mr. Mahammad Khan        | Secretary, Edu. Dept.                   |
| 2. Mr. Mohammad Iqbal Malik | Deputy Director, Edu. Dept. (Schools)   |
| 3. Mr. Fida Hussain         | Assistant Director, Edu. Dept. (School) |
| 4. Mr. Nisar Ahmad Sethi    | Chief Planning Officer, Edu. Dept.      |

5. Mr. Mohammad Ashraf Statistical Officer-I, Edu. Dept.
6. Mr. Afsar Said Statistical Officer-II, Edu. Dept.
7. Mr. Mazroof Salam District Education Officer, Edu. Dept.

Public Health Engineering Department (PHE Dept.)

1. Mr. Abdul Jamil Director (Design), PHE Dept.
2. Mr. S. Jalil Khan Senior Research Officer, Laboratory PHE Dept.

Forest Department

1. Mr. Zafar Iqbal Deputy Secretary, Forest Dept.
2. Mr. Yar Mohammad Khan Chief Conservator, Forest Dept.
3. Mr. S.M. Kaunain Divisional Forest Officer, Division Peshawar

Water and Power Development Authority (WAPDA)

1. Mr. Mohammad Akubar Khan Chief Engineer, WAPDA Peshawar
2. Mr. Mohammad Yunis Marwat Director, Technical, WAPDA, Peshawar
3. Mr. Anis Ahamad Assistant Director, Design, WAPDA
4. Mr. Muhammad Saeed Senior Engineer, WAPDA, Peshawar

Small Hydel Power Development Organization (SHYDO)

1. Mr. Abdul Wadood                      Executive Engineer, SHYDO
2. Mr. Nisar Muhammad Hkan      Chief Engineer, SHYDO
3. Mr. Ekkehard Paschke              Resident Engineer (GTZ), SHYDO
4. Mr. Dieter Schlken-  
Grossmann                              Resident Engineer (GTZ), SHYDO

2.3. District Government Office, Swat

Administration

1. Mr. Shakil Durrani                      Commissioner, Malakand Division
2. Mr. Naveed Akram Chima              Deputy Commissioner, Swat  
District
3. Mr. Shabbir Ahmed                      Assistance Commissioner, Shangla  
Par Sub-Division
4. Mr. Syed Allandin                      Chairman, Swat District Council
5. Mr. Mohibullah Khan                      Chief Officer, Swat District Council
6. Mr. Malak Beram Khan                      Chairman, Municipal Committee,  
Mingora
7. Mr. Mohammad Farooque                      Tehsildar, Alpuri
8. Mr. Syed Hussain Shah                      Tehsildar, Chakesar
9. Mr. Mohammad Ismail                      Tehsildar, Totalai
10. Mr. Muhammad Ali                      Advocate, Alpuri
11. Mr. Mohammad Naeem                      Advocate, Alpuri
12. Mr. Mohammad Shuaib                      Naib Tehsildar, Martung
13. Mr. Habib Ullah                      HVC District Swat



14. Mr. Momen Khan District Kanungo, Swat  
15. Mr. Sharief Khan Assistant District Kanungo, Swat

Local Government and Rural Development Department (LR & RD Dept.)

1. Mr. Saiful Maluk Khan Divisional Director, Malakand Division LG & RD Dept.  
2. Mr. Fazal Qadir Khan Assistant Director, LG & RD Dept.  
3. Mr. Mohibullah Khan Chief Officer, District Council, Swat  
4. Mr. Syed Allaud Din Chairman, District Council, Swat  
5. Mr. Mohibullah Khan Chief Officer, District Council, Swat  
6. Mr. Masood Khan District Engineer, Technical Branch, District Council, Swat  
7. Mr. Faramooz Khan Supervisor, Swat Sub-Division  
8. Mr. Alam Zeb Khan Supervisor, Buner Sub-Division  
9. Mr. Fazli Rabbi Supervisor, Alpuri Sub-Division  
10. Mr. Sabir Khan Secretary, UC Puran, LG & RD Dept.  
11. Mr. Fazal Rehman Secretary, UC Martung, LG & RD Dept.  
12. Mr. Amir Ali Junior Clerk, UC Puran, LG & RD Dept.

Irrigation Department (Irr. Dept.)

1. Mr. Mohammad Karim Khan Executive Engineer, Irri. Dept.
2. Mr. Zahoor-Ud-Din Sub-Divisional Officer, Irri. Dept.
3. Mr. Shakir Ullah Head Draftsman, Irri. Dept.
4. Mr. Asmat Ullah Divisional Accountant, Irri. Dept  
Circle Officer, Swat, The Office of  
the Superintending Engineer, Irri.  
Dept.
6. Mr. Mohammad Suleman Draftsman, The Office of the  
Superintending Engineer, Irri.  
Dept.
7. Mr. Syed Zainoor Shah Draftsman

Food, Agriculture, Livestock and Cooperative Department

1. Mr. Habib-Ur-Rehman Director, Agriculture Research  
Station, Mingora
2. Mr. Mohammad Jan Khan Director, Livestock and Dairy  
Development Swat
3. Mr. Ismat Ullah Khan Deputy Director, Agricultural  
Extension Malakand Division
4. Dr. Haj Hamidur Raziq Assistant Director, Livestock and  
Dairy Dept.
5. Mr. Sultan-I-Room Extra-Assistant Director of  
Agriculture, Swat
6. Mr. Abdul Ghani Assistant Research Officer, Agri.  
Research Station, Mingora
7. Mr. Hamidur Raziq Assistant Director, Livestock and  
Dairy Development, Swat

8. Mr. Ahmad Shah Khan	Assistant Registrar Coop. Societies, Swat
9. Mr. Mursalin Khan	Potato Botanist, Agri. Research Station, Mingora
10. Mr. Mohammad Anwar	Horticulture Officer, Fruit & Vegetable Development Board, Swat
11. Mr. Waheed Ahmad	Agricultural Officer, Fruit & Vegetable Development Board, Swat
12. Mr. A. Rashid Mirza	Soil Conservation Officer, Swat
13. Mr. Iqbal Hussain	Agricultural Officer, Alpuri
14. Dr. Javaid Iqbal	Veterinary Officer, Civil Veterinary Hospital, Swat
15. Mr. Arsala Khan	Assistant Agricultural Engineer
16. Mr. Said Afzal	Junior Subject Matter Specialist, Agricultural Extension Project, Daggar
17. Dr. Mohammad Shuaib	Veterinary Officer, Artificial Insemination Center, Saidu Sharif
18. Mr. Amir Bashir Khan	Deputy Register, Cooperative Societies, Malakand Division, Swat
19. Miss Shagupta Naz	Cooperative Societies, Head Quarter, Swat
20. Miss Jehan Bano	Sub-Inspectress, Cooperative Societies, Head Quarter, Swat
21. Mr. Noor Mohammad Khan	Assistant Register, Swat
22. Mr. Mohammad Rahim	Economic Botanist, Agricultural Research Station, Swat

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| 23. Mr. A.K. Mirza         | Soil Conservation Officer  |
| 24. Mr. Noor Mohammad Khan | Assistant Soil Conservation Officer  |
| 25. Mr. Hazrat Hussain     | Statistical Officer, Mingora,<br>Statistical Division, Federal<br>Bureau of Statistics |
| 26. Mr. Mohammd Diyar      | Assistant Director, Fisheries<br>Agriculture, Swat                                     |
| 27. Mr. Abdul Hamid        | District Food Controller, Swat   |
| 28. Mr. Qamal Khan         | Assistant Food Controller, Swat  |
| 29. Mr. Aziz-Ur-Rehman     | Food Grain Inspector, Swat   |
| 30. Mr. Inam Ali Khan      | Assistant director, Water<br>Management Dept. Swat                                     |
| 31. Mr. Khalid Ghafoor     | Water Management Officer, Water<br>Management Dept., Swat                              |
| 32. Mr. Jamil Khan         | Water Management Officer, Water<br>Management Dept. Swat                               |
| 33. Mr. Haq Nawaz          | Water Management Officer, Water<br>Management Dept. Swat                               |
| 34. Mr. Sher Ali           | Industrial Development Officer,<br>Swat  |
| 35. Mr. Abdul Haq          | Manager, Pakistan-Swiss<br>Malakand Fruit and Vegetable<br>Project                     |
| 36. Mr. Ian Gibson Mba     | Chief Technical Advisor, Pakistan-<br>Swiss Malakand Fruit and<br>Vegetable Project    |
| 37. Mr. David Parsons      | Horticulturist, Pakistan-Swiss<br>Malakand Fruit and Vegetable<br>Project              |

38. Mr. Hans Oppligar                      Agriculture Advisor, Kalam  
Integrated Development Project

Public Health Engineering Department (PHE Dept.)

1. Mr. Abdul Karim Khan              Superintending Engineer, Project  
Circle
2. Mr. Rahmat Ullah Khattak        Executive Engineer, Swat Division
3. Mr. Abdul Salam                    Sub-Divisional Officer, Sub-  
Division Swat
4. Mr. Faqir Khan                    Superintending Engineer, Circle  
Mingora

Communication and Works Department (C & W Dept.)

1. Mr. Noor Mohammad Khan        Executive Engineer, Highway  
Division, Swat, C & W Dept.
2. Mr. Saifullah Khan                Executive Engineer, Building  
Division, Swat, C & W Dept.
3. Mr. Faiz Ahamad Khan            Sub-Divisional Officer, Highway  
Division, C & W Dept.
4. Mr. Inayutullah Jan                Sub-Divisional Officer, Building  
Division, C & W Dept.
5. Mr. Maqbool Ahmad                Sub-Engineer, Highway Division, C  
& W Dept.
6. Mr. Riaz Ahmad                    Stenographer, Building Division,  
Swat C & W Dept.
7. Mr. Ahmad Jan                      Draftsman, Building Division,  
Swat C & W Dept.

### Education Department

1. Mr. Mohammad Zaman Assistant Sub-Divisional Education Officer
2. Mr. Mazroof Salam District Education Officer (for Male)
3. Mr. Faiz Mohammad Khan Sub-Divisional Education Officer (for Male)
4. Miss Shah Begum Sub-Division Education Officer (for Female)
5. Mrs. Mumtaz Gillani District Education Officer (for Female)

### Social Welfare Department

1. Mr. Rahim Shah Social Welfare Officer, Swat

### Forest Department

1. Mr. Mohammad Saadullah Khan Conservator, Malakand Circle Forest Dept. Swat
2. Mr. Mohammad Rafiq Divisional Forest Officer and Project  
Director Malakand Social Forestry Project, NWFP
3. Mr. Abdul Jamil Divisional Forest Officer, Water Management Project, Mingora
4. Mr. Shah Wazir Khan Divisional Forest Officer, Alpuri Forest Division
5. Mr. Haidu Ali Divisional Forest Officer, Water Management Project

6. Mr. Abdul Jamil                      Divisional Forest Officer of Dir-Swat, Watershed Water Management Project

Pakistan Tourism Development Corporation

1. Mr. Mukhtar Ahmmad Khan      Assistant Tourism Officer, Pakistan Tourism Development, Swat

Water and Power Development Authority (WAPDA)

1. Mr. Mohammad Asim Khan      Exeuctive Engineer, Swat Division, WAPDA
2. Mr. Nazir Ahammad              Executive Engineer, Swat Division, WAPDA
3. Mr. Fazal Qadar Khan          Superintendent Engineer, WAPDA Operation Circle, Swat
4. Mr. Zafar Ali Khan              Circle Superintendent, WAPDA Operation Circle, Swat
5. Mr. Musa Khan                  Sub-Divisional Officer, ATB WAPDA
6. Mr. Bakht Biland                Head Draftsman, Swat Division, WAPDA

Health Department

1. Mr. Ghulam Yousaf              District Health Officer, Health Dept., Swat
2. Mr. Pikhawari Khan              Administration Officer, District Health Office, Swat

3. Dr. Sardar Ahmad                      Medical Officer, Tehsil Head  
Quarter Hospital, Alpuri

2.4. University and Related Project Offices

1. Mr. Mohammad Siddig                Director, Research, Agricultural  
University

2. Dr. Nurul Islam Mian                Professor, Institute of Development  
Studies (IDS), Agricultural  
University, Peshawar, NWFP

3. Mr. Anwar Hussain                Assistant Professor, IDS,  
Agricultural University, Peshawar,  
NWFP

4. Mr. Muhammad Ahmad Khan        Chief of Research, IDS,  
Agricultural University, Peshawar

5. Mr. Muhammad Iqbal                Junior Research Specialist, IDS,  
Agricultural University, Peshawar

6. Dr. Khan Elahi                      Chairman, Department of Social  
Work Sociology and Anthropology,  
University of Peshawar

7. Mr. Gul Zada Khan                Assistant Publicity Officer,  
Agri./Subject Matter Specialist,  
PATA Groundwater Irrigation  
Project, Malakand Division

8. Mr. Ali Akbar                      Conservator of Forest, Pre-  
Investment Center, Pakistan Forest  
Institute, Peshwar

9. Mr. Martien Van Nieuwkoop        Associate Expert, Agricultural  
Economic PATA Groundwater  
Irrigation Project, Malakand  
Division



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| 10. Mr. Alfred H. Ashworth    | Team Leader, Strategic Provincial Investment Plans and Project, Preparation for Rural Water Supply, Sanitation and Health Project, NWFP    |
| 11. Mr. Ahwar Mujahid         | Senior Engineer, Strategic Provincial Investment Plans and Project, Preparation of Rural Water Supply, Sanitation and Health Project, NWFP |
| 12. Ms. Nasreen Khattak       | Sociologist, Strategic Provincial Investment Plans and Project, Preparation of Rural Water Supply Sanitation and Health Project, NWFP      |
| 13. Mr. Richard J. A. Edwards | Production Specialist, Pakista /Swiss Potato Development Project   |
| 14. Mr. David Parsons         | Horticulturist, Malakand Fruit and Vegetable Development Project, Joint<br>Pakistan/Swiss Government<br>Venture                            |
| 15. Mr. Waheed Ahmad          | Assistant Horticulturist, Fruit and Vegetable Board  |
| 16. Mr. Wajid Gul             | Project Manager, Cold Storage Development Authority, Swat  |
| 17. Mr. Qazi Aqiuq Ullah      | Regional Director Agricultural University, NWFP  |
| 18. Mr. Muhammad Tasneem      | Director, Project Development Department, Agricultural Development Bank of Pakistan (ADBP)   |

19. Mr. Ihsanullah Khan Director, Credit Policy Department, ADBP
20. Mr. S. Deedar Joint Director, Rural Credit Department ADBP
21. Mr. Muhammad Mansha Joint Director, Rural Credit Department (in charge of Potato Project), ADBP
22. Mr. Sultan Muhammad Khan Regional Manager Malakand Division, ADBP
23. Mr. Khalid Khan Manager, Mingroa, ADBP
24. Mr. Ali Muhammad Manager, Alpuri, ADBP
25. Mr. Sadaqat Hussain Soil Chemist, Agricultural Research Institute, Tarnab
25. Mr. Iftikhar Ul Haq Horticulturist Agricultural Research Institute, Tarnab



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