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The Aga Khan Rural Support Programme



FIFTH ANNUAL REVIEW, 1987 Incorporating the Twentieth Progress Report



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GILGIT NORTHERN AREAS

1988

THE AGA KHAN RURAL SUPPORT PROGRAMME

A Project of the Aga Khan Foundation



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FIFTH ANNUAL REVIEW, 1987

Incorporating the Twentieth Progress Report

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AGA

1. Rural dev. projects - Pakistan (AKRSP)
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C O N T E N T S

	Page
Preface	vi
Statistical Abstract for the Project Area	xiv
Statistical Abstract for Gilgit District	xvii
Statistical Abstract for Chitral District	xx
Statistical Abstract for Baltistan District	xxii
Chapter One Social Organisation	1
Chapter Two Women in Development	16
Chapter Three Physical Infrastructure and Engineering Services	31
Chapter Four Agriculture and Resource Management	65
Chapter Five Commercial and Industrial Development	94
Chapter Six Human Resources Development	106
Chapter Seven Credit and Savings	112
Chapter Eight Monitoring, Evaluation and Research	133
Chapter Nine Budget and Accounts	137

List of Tables

Table No.

1.1	Village Organisations, Membership and Bank Deposits	GD	12
1.2	Village Organisations, Membership and Bank Deposits	CD	13
1.3	Village Organisations, Membership and Bank Deposits.	BD	14
1.3	Categorisation of Village Organisations	CD	15

2.1	PIES Packages for Women	GD	24
2.2	ARM Packages for Women	GD	25
2.3	HRD Packages for Women	GD	26
2.4	Credit Disbursement	GD	27
2.5	Women's Organisations Provided with Spinning Wheels	CD	28
2.6	Women's Organisations Provided with Nut-cracking Machines	CD	28
2.7	ARM Packages for Women	CD	29
2.8	HRD Packages for Women	CD	30
3.1	Self-Financed PPIs for the Year 1987	GD	47
3.2	Maintenance Record of PPIs During 1987	GD	48
3.3	Maintenance Record of PPIs During 1987	CD	50
3.4	Sub-Division and Sector-Wise Identification and Distribution of Schemes and Costs	GD	51
3.5	Commitment, Disbursement and Completed Projects	GD	52
3.6	Sub-Division and Sector-Wise Distribution of Schemes and Costs	GD	53
3.7	Sub-Division and Sector-Wise Identification and Distribution of Schemes and Costs	CD	54
3.8	Commitment, Disbursement and Completed Projects	CD	55
3.9	Sub-Division and Sector-Wise Distribution of Schemes and Costs.	CD	56
3.10	Sub-Division and Sector-Wise Identification and Distribution of Schemes and Costs	BD	57
3.11	Commitment, Disbursement and Completed Projects	BD	58
3.12	Sub-Division and Sector-Wise Distribution of Schemes and Costs	BD	59

3.13	Land Development Projects Initiated on Medium-term Loans in Gilgit District; Abstract of Costs and Targets	GD	60
3.14	Medium-term Loans; Land Development Plans for 1988	CD	61
3.15	Medium-term Loans; Land Development Plans for 1988	BD	62
3.16	List of Slow PPIs	GD	63
3.17	Appropriate Technology Innovations and the Technology Assessment Cycle	PA	64
4.1	ARM Innovations and the Technology Assessment Cycle	PA	84
4.2	Human Resource Development: Training Courses	GD	85
4.3	Pesticides/Fungicides Purchased by VO	GD	86
4.4	Vaccines and Medicines Procured by VO Livestock Specialists	GD	87
4.5	Statement Showing the AI Work for the Quarter Ending December 31, 1987	GD	88
4.6	Human Resource Development: Training Courses	CD	89
4.7	Vaccines and Medicines Procured by VO Livestock Specialists	CD	90
4.8	Artificial Insemination	CD	91
4.9	Human Resource Development: Training Courses	BD	92
4.10	Vaccines and Medicines Procured by VO Livestock Specialists	BD	93
5.1	Cooperative Marketing	GD	102
5.2	Marketing Fruits and Agricultural Produce October-December, 1987	GD	103
5.3	Cooperative Marketing	CD	104
5.4	Cooperative Marketing	BD	105

7.1	Village Organisations' Bank Deposits Cumulative upto December 1987	GD	120
7.2	Loan-to-Deposit Ratios October - December 1987	GD	120
7.3	Short-term Credit, Disbursement Summary	GD	121
7.4	Medium-term Credit, Disbursement Summary	GD	122
7.5	Credit Summary for all Loans	GD	123
7.6	Short-term Credit, Summary of Disbursement	CD	124
7.7	Credit Summary for all Loans	CD	125
7.8	Credit Summary for all Short-term Loans	CD	126
7.9	Medium-term Credit, Summary of Disbursement	CD	127
7.10	Loan-to-Deposit Ratios	CD	128
7.11	Village Organisations, Bank Deposits	BD	129
7.12	Loan-to-Deposit Ratios	BD	129
7.13	Short-term Credit, Summary of Disbursement	BD	130
7.14	Medium-term Credit, Summary of Disbursement	BD	131
7.15	Credit Summary for all Loans	BD	132
9.1	Sources and Applications of Funds (Unaudited) 1987	PA	139

Abbreviations

GD = Gilgit District
 CD = Chitral District
 BD = Baltistan District
 PA = Project Area
 WID = Women-in-Development
 PIES = Physical Infrastructure and Engineering Services
 ARM = Agriculture and Resource Management
 CID = Commercial and Industrial Development
 HRD = Human Resources Development
 MER = Monitoring, Evaluation and Research

P R E F A C E

The Fifth Annual Review presents a comprehensive in-house assessment of AKRSP's programme's as they stand five years after AKRSP's arrival in Gilgit. The subject matter is presented thematically, although separate statistical appendices are attached for each of the three districts in which AKRSP is operating.

AKRSP was initiated on December 8, 1982 and has now entered the sixth year of its life. It began in Gilgit District of the Northern Areas (NAs) in 1982, with a soft opening of the programme in Chitral District of NWFP in 1983 and in Baltistan District of the NAs in 1985. Full fledged district-programme offices (DPOs) were opened in Chitral and Baltistan on January 1, 1986. Thus, in terms of phasing, whereas the Gilgit programme is in its sixth year, the Chitral and Baltistan programmes are in the third year.

Within the general policy framework of improving the economic condition of the majority of the rural populace and developing a replicable model of rural development, the Management Group (MG) of AKRSP formulated a strategy based on distillation of over fifteen decades of experience, comprising the following fundamental essentials of smallholder development:

- a) organisation and collective management;
- b) generation of capital through savings; and
- c) upgrading of human skills; productive, managerial, cooperative etc.

The specific objective of doubling the income of the rural people over a period of ten years is no more than a guideline for the management of the programme. The "World Bank Experience with Rural Development 1985-86" (Report No. 6883) has clearly brought out that such targets as a criteria for programme performance are unrealistic. It favours evaluation of performance on the basis of progress made over the bench mark figures.

The cumulative achievements of the programme are at appendices. In terms of three fundamental principles, the response of the 98,200 households living in 1,280 villages, which form the target group of the programme, has been as follows (end December 1987):

Organisation and collective management	762 Village Organisations (VO) 45,192 members
Generation of capital through savings	Rs. 34.34 million

Upgrading of
human skills

1,293 village specialists

The Activity Chart (pp xi-xiii) spells out the spread of development activities undertaken by the VOs, in addition to acting as a forum for development to achieve integration of services and supplies by government and other agencies. In summary the development package evolved by the VOs comprises:

- Organisation and collective management
- Land development
- Increased productivity
- Credit and banking
- Marketing
- Reduction in workload of women
- Coordination with government and other agencies.

The sum total of these activities would lead to increased income: how much and how soon needs to be determined by undertaking income surveys taking the base income of US\$150 per capita. The first such comprehensive survey should be scheduled for Gilgit in the year 1993, in the meanwhile sample and panel surveys would be planned to determine trends. As the World Bank evaluation report on AKRSP observed that a stage has now been reached to focus on the production model, but without the development of the institutional model over the first five years, this stage would have never been reached. According to the World Bank evaluation, the first phase of AKRSP, namely, developing the institutional model are the missed years of most of the rural development programmes funded by the Bank and many other donors.

This brings us to the second long term objective of AKRSP of replication. The donor interest and funding is a testimony to the confidence reposed by development agencies in the AKRSP strategy. AKRSP has been able to play an active advocacy role both nationally and internationally and there is considerable interest within and outside the country on the replicable features of AKRSP. The initiative taken by Government of NWFP in setting up an AKRSP type NGO in the Province for undertaking province wide rural development is an interesting and exciting step in the direction of replication. The insistence of ADB-IFAD assisted project of area development in Chitral for collaboration with AKRSP is another example. The regular and continuous contact and visit by GTZ assisted project personnel from Baluchistan and Mardan and Swiss funded project in Kalam has now become a regular feature since 1985. The Pakistan Administrative Staff College, the National Institutes of Public Administration Karachi, Lahore, Peshawar and Quetta, the WAPDA Staff College, the Administrative Academies encompassing District Management, Foreign Service, Information Service and Accounts Services are yearly visitors to AKRSP. The Management Group members have been frequently invited to national and international workshops and seminars to make presentations on AKRSP. AKRSP itself has hosted two international workshops at

Gilgit in collaboration with ICIMOD and IUCN. The latest invitation to the GM AKRSP by the World Bank to their Paris Seminar on Experience of Rural Development and a pointed reference in the background document to the success achieved by AKRSP, are positive indications of AKRSP moving in the right direction.

Above all the observations of the founder and Patron of the programme after a visit to AKRSP in November 1987 have been a source of tremendous satisfaction and inspiration to the staff:

"I have spent here in the Northern Areas one of the most inspiring and exciting weeks of my life. Words are shallow in comparison to the depth of feeling and admiration I have for the extraordinary achievements of AKRSP, and everyone connected with it, achieved in the last five years. Centuries of poverty and despair, human conflict and division appear to be fading into the past, as new light and hope are projected onto a future which people can believe in. Yes, words do fail ...

Aga Khan
20th November, 1987."

Challenge of the Future

I: Change in system of management at village level;

(i) recognition by villagers of VO as a main vehicle for collective and individual development enabling farmers to derive full benefits from the assets and resources at their disposal;

(ii) taking full advantage of the terrain which lies in afforestation, pasture development and orchards; and,

(iii) exploitation of the high pasture in a cooperative and collective way - the only way - to derive full advantage of the man-land ratio in the region.

II: Forging linkages between VOs and other agencies.

III: Formation of an apex organisation which ultimately should be owned, operated, managed and funded by VOs and should take over many of the functions of the current AKRSP. A beginning could be setting up of a financial institution based on Rs. 34 million of VO savings.

IV: Fostering of agro-based and processing industries once agricultural base is strengthened and productivity increases achieved.

V: Provision of social sector needs of the VOs.

VI: Recruitment and retention of high quality management staff. Since its inception the programme has been able to develop a cadre of social organisers, rural engineers and others for field and middle management functions but the higher management suffers with chronic shortage of staff.

VII: Development of a human resource development institute.

Elucidation of the Fifth Review

I: The central theme of the Fifth Review is the management of change through institutional and technological innovation. AKRSP operates in a region where change is rapid and pervasive. AKRSP and the villagers have responded with innovation. AKRSP has sometimes led and sometimes followed the villagers in this process of innovation. By and large, AKRSP has led the process of technological innovation, while villagers have shown the way to institutional innovation beyond AKRSP's basic model of collective management.

II: AKRSP's basic model emphasizes the collective management of common problems and common resources; in its basic form, this is a general model of resource management at the village level. Over time, both AKRSP and the villagers have been challenged by changing opportunities to articulate management functions over two; related dimensions, viz., ownership of resources and the scale of the management unit. For traditional resources (irrigation channels, farm land, forests, pastures), the ownership pattern is well-established, and basic management functions have been articulated over centuries with respect to the appropriate scale of management (e.g., channel beneficiaries, individual households, villages, etc.). For new assets (e.g., machinery, cooperative capital, common storage facilities, etc.), or for traditional resources subject to changes in status (e.g., grazing land converted into irrigated farm land), AKRSP has had to follow a process of dialogue, documentation and generalisation. This process recognizes the autonomy of Village Organisations in experimenting with alternative management regimes. Significant parts of the Fifth Review document, the results of such experimentation, particularly in the chapter on social organisation.

III: The Fifth Review also gives substantial coverage to technological innovation, particularly in the chapters on engineering and agricultural development. The performance and present status of numerous individual technologies is outlined. Perhaps the most important findings for AKRSP relate to: (a) the need for systematic assessment of technological options with particular attention to farming systems interactions, and (b) the need to devise appropriate delivery mechanisms to facilitate diffusion.

IV: The material brought together in the Fifth Review impinges upon many of the challenges that AKRSP has set for its Second Phase. We have always maintained that AKRSP's approach should be seen as a learning process, rather than as a blueprint. I hope that the Fifth Review will help our readers and friends appreciate the nature and progress of our learning process.

Shoaib Sultan Khan
General Manager

ACTIVITY CHART

	1983	1984	1985	1986	1987
1-MEETINGS					
2- SAVINGS					
3- FIELD BASED SPECIALIST TRAINING					
4- CO-OPERATIVE MARKETING					
5- WOMEN PROGRAMME					
6 FERTILISER CREDIT					
7- PPP TRAINING					
8- LIVESTOCK TRAINING					
9- MARKETING CREDIT					
10- FIELD BASED MARKETING TRAINING					
11- POULTRY TRAINING					
12- NUT CRACKING MACHINES					
13- POLYESTER QUILT MAKING					
14- IMPROVED STOVES					
15- MARKETING TRAINING					
16- VEGETABLE SEEDS					
17- BASSET PROJECT					
18- LIVESTOCK VACCINATION PROGRAMME					
19- POULTRY VACCINATION PROGRAMME					

ACTIVITY CHART

1983	1984	1985	1986	1987
		20- HOME BASED POULTRY UNITS		
		21- AGRI. MACH. CREDIT		
		22- WHEAT, MAIZE & OTHER CROPS DEMO. PLOTS		
		23- INTRODUCTION OF IMPROVED FRUIT VARIETIES		
			24- IMPROVED ROOT STOCK INTRODUCED	
			25- IMPROVED FOREST TREES	
			26- SPRAY PROGRAMME IN COLLABORATION WITH AGRICULTURE DEPARTMENT	
			27- SILAGE MAKING	
			28- UREA TREATMENT OF STRAW	
			29- A. I. PROGRAMME	
			30- WHEAT SEED VILLAGES	
			31- TREE PLANTATIONS	
			32- NURSERY	
			33- VECH INTRODUCTION	
			34- ORCHARDS INTRODUCED	
			35- IMPROVED AGRICULTURE IMPLEMENTS	
			36- DEXTURATION APRICOTS	
			37- SULPHURING	

ACTIVITY CHART

1983	1984	1985	1986	1987
			38- WIND MILLS SOUTH UNIT - 6C	
			39- BIO-GAS	
			40- WATER WHEELS	
				41- BRIPER PROJECT
				42- SEED POTATOES PRODUCTION AND MARKETING
				43- VEGETABLE DEMO. PLOTS
				44- CENTRAL PURCHASE & PROCESSING UNIT
				45- DESTIGATION CREAMERS
				46- SULPHUR TREAT CREDIT
				47- TRANSPORT CREDIT FOR CLUSTER MARKETING
				48- INTEGRATED FARMING PROJECT
				49- MINI HYDEL UNITS
				50- POTATO GRADES & WASTE SHEDS
				51- PANS INTRODUCED FOR SEED IMPROVEMENT
				52- SPINNING WHEELS

STATISTICAL ABSTRACT

Programme Area
December 1982 - December 1987

	<u>Cumulative</u>	<u>Quarter's Addition</u>
I. Project Area		
1. Area (Sq.km)	69,200	
2. Population	802,000	
3. No. of rural households (approx)	98,200	
4. No. of potential Village Organisations (approx)	1,280	
II. Social Organisation		
1. No. of Village Organisations	762	57
2. Membership (estimated)	45,192	1,579
3. Total Bank Deposits (million Rs.)	34.34	5.31
4. % of rural households covered by VOs.	46	-
III. Women-in-Development (WID) (Gilgit District Only)		
1. No. of Women's Organisations	148	-
2. Membership	7,300	0
3. Bank Deposits (million Rs.)	3.18	0.58
4. Credit Disbursed (Rs.)	729,336	33,740
- Short-term	512,336	18,740
- Medium-term	217,000	15,000
5. No. of Villages where Appropriate Technology Introduced	251	25
- By grant	155	25
- By credit	96	0
6. Agriculture and Resource Management PPIs	32	0
- Nursery Projects	7	0
- Vegetable Demonstration Plots	23	0
- Poultry Farms	2	0
7. Human Resource Development: No. of First Time Trainees	1,092	5
- Poultry Long Courses	174	0
- Poultry Refresher Courses	47	5
- Poultry Short Courses	58	0
- Vegetable Cultivation Technique	115	0
- Fruit Processing	667	0
- Nursery Management	30	0
- Plant Protection Specialist	1	0

IV. Productive Infrastructure & Engineering Services (PIES)

1. No. of projects identified	1,249	149
2. Estimated cost of Projects identified (million Rs.)	181.61	18.08
3. No. of projects initiated	585	57
4. No. of beneficiary households	41,677	3,130
5. Cost of initiated projects (million Rs.)	90.87	9.01
6. Physical Progress (%)	74	
7. No. of projects completed	375	44

V. Short-term Credit (includes marketing loans which are also reported separately.)

1. Total Amount disbursed (million Rs.)	28.74	2.69
2. Cumulative amount in default (Rs.)	109,224	(-94,664)
3. Cumulative default as % of total amount disbursed	0.38%	
4. Amount disbursed during Jan - Dec 86	7,670,354	
5. Default for amount disbursed during Jan - Dec 86	73,507	
6. Default as % of amount disbursed during Jan - Dec 86	0.96%	
7.* No. of group loans for VOs	2,103	190
8.* No. of beneficiary households	103,929	12,921

(* includes multiple loans to the same VO)

VI. Medium-term Credit

1. Amount disbursed (million Rs.)	22.01	3.35
2.* No. of group loans for VOs	175	16
3.* No. of beneficiary households	10,595	1,116
4. Default as % of amount disbursed	0	-

(* includes multiple loans to the same VO)

VII. Human Resources Development (HRD)

1. No. of Regular Courses	66	7
- Agriculture	26	2
- Livestock	20	3
- Poultry	11	2
- Marketing	8	0
- Accounts	1	0
2. No. of First-time Trainees	1,293	153
- Agriculture	462	47
- Livestock	422	82
- Poultry	257	24
- Marketing	136	0

-	Accounts	16	0
3.	No. of Refresher Courses	43	2
-	Agriculture	17	1
-	Livestock	18	1
-	Poultry	4	0
-	Marketing	4	0
-	Accounts	0	0

VIII. Commercial & Industrial Development (CID)

1.	No. of participating VOs	383	123
2.	Gross sales (million Rs.)	7.59	2.16
3.	Marketing expenses (million Rs.)	0.57	0.11
4.	Farmgate Income (million Rs.)	7.02	2.05
5.	Beneficiary households	12,788	4,043
6.	Marketing loans (million Rs.)	7.04	1.31
7.*	No. of group loans for VOs	341	61
8.*	No. of beneficiary households for loans.	17,814	2,538

(* includes multiple loans to the same VO)

STATISTICAL ABSTRACT

Gilgit District
December 1982 - December 1987

	<u>Cumulative</u>	<u>Quarter's Addition</u>
I. Project Area		
1. Area (Sq.km)	28,500	
2. Population	277,000	
3. No. of rural households (approx)	29,600	
4. No. of potential Village Organisations (approx)	410	
II. Social Organisation		
1. No. of Village Organisations	376	6
2. Membership (estimated)	26,500	0
3. Total Bank Deposits (million Rs.)	23.75	4.05
4. % of rural households covered by WOs.	90	0
III. Women-in-Development (WID)		
1. No. of Women's Organisations	148	
2. Membership	7,300	0
3. Bank Deposits (Rs. million)	3.18	0.58
4. Credit Disbursed (Rs.)	729,336	33,740
- Short-term	512,336	18,740
- Long-term	217,000	15,000
5. No. of Villages where Appropriate Technology Introduced	251	25
- By grant	155	25
- By credit	96	0
6. Agriculture and Resource Management PPIs	32	0
- Nursery Projects	7	0
- Vegetable Demonstration Plots	23	0
- Poultry Farms	2	0
7. Human Resource Development: No. of		
- First Time Trainees	1,092	5
- Poultry Long Courses	174	0
- Poultry Refresher Courses	47	5
- Poultry Short Courses	58	0
- Vegetables Cultivation Techniques	115	0
- Fruit Processing	667	0
- Nursery Management	30	0
- Plant Protection Specialist	1	0

IV. Productive Infrastructure & Engineering Services (PIES)

1. No. of projects identified	426	-
2. Estimated cost of Projects identified (million Rs.)	58	-
3. No. of projects initiated	293	10
4. No. of beneficiary households	24,864	848
5. Cost of initiated projects (million Rs.)	45.38	2.16
6. Physical Progress (%)	76	
7. No. of projects completed	222	8

V. Short-term Credit (includes marketing loans which are also reported separately.)

1. Total amount disbursed (million Rs.)	19.90	1.11
2. Total amount in default	99,530	(-78,643)
3. Cumulative default as a % of Short-term credit disbursed	0.50%	
4. Amount disbursed during Jan '86 - Dec '86 (million Rs.)	5.07	-
5. Default for the loans disbursed during Jan '86 - Dec '86:	63,813	
6. Default as a % of amount disbursed during Jan. 86 - Dec '86	1.26%	
7.* No. of group loans for VOs	1,432	47
8.* No. of beneficiary households	73,465	2,491

(* includes multiple loans to the same VO)

VI. Medium-term Credit

1. Amount disbursed (million Rs.)	18.63	3.13
2.* No. of group loans for VOs	142	13
3.* No. of beneficiary households	8,704	950
4. Default as % of amount disbursed	0	0

(* includes multiple loans to the same VO)

VII. Human Resources Development (HRD)

1.	No. of Regular Courses	45	3
-	Agriculture	16	1
-	Livestock	12	1
-	Poultry	10	1
-	Marketing	6	0
-	Accounts	1	0
2.	No. of First-time Trainees	911	59
-	Agriculture	306	22
-	Livestock	246	32
-	Poultry	238	5
-	Marketing	105	0
-	Accounts	16	0
3.	No. of Refresher Courses	33	1
-	Agriculture	12	0
-	Livestock	13	1
-	Poultry	4	0
-	Marketing	4	0
-	Accounts	0	0

VIII. Commercial & Industrial Development (CID)

1.	No. of participating VOs	267	61
2.	Gross sales (million Rs.)	6.18	1.52
3.	Marketing expenses (million Rs.)	0.47	0.07
4.	Farmgate Income (million Rs.)	5.71	1.45
5.	Beneficiary households	9,132	2,629
6.	Marketing loans (million Rs.)	5.45	0.59
7.	* No. of group loans for VOs	258	22
8.	* No. of beneficiary households for loans.	13,729	1,019

(* includes multiple loans to the same VO)

STATISTICAL ABSTRACT

Chitral District

June 1983 - December 1987

	<u>Cumulative</u>	<u>Quarter's Addition</u>
I. Project Area		
1. Area (Sq.km)	14,850	
2. Population	253,000	
3. No. of rural households (approx)	32,600	
4. No. of potential Village Organisations (approx)	500	
II. Social Organisation		
1. No. of Village Organisations	224	16
2. Membership (estimated)	12,383	526
3. Total Bank Deposits (million Rs.)	8.07	0.94
4. % of rural households covered by VOs.	38	-
III. Productive Infrastructure & Engineering Services (PIES)		
1. No. of projects identified	474	-
2. Estimated cost of Projects identified (million Rs.)	74	-
3. No. of projects initiated	177	20
4. No. of beneficiary households	10,887	891
5. Cost of initiated projects (million Rs.)	28.27	3.78
6. Physical Progress (%)	76%	-
7. No. of projects completed	100	17
IV. Short-term Credit (includes marketing loans which are also reported separately.)		
1. Total amount disbursed (million Rs.)	6.61	1.36
2. Total amount in default	9,694	5,988
3. Cumulative default as a % of Short-term credit disbursed	0.15%	
4. Amount disbursed during Jan '86 - Dec '86 (million Rs.)	2.26	
5. Default for the loans disbursed during Jan '86 - Dec '86	9,694	
6. Default as a % of amount disbursed during Jan. 86 - Dec '86	0.43%	
7.* No. of group loans for VOs	557	126
8.* No. of beneficiary households	25,588	9,945

(* includes multiple loans to the same VO)

V. Medium-term Credit

1. Amount disbursed (Rs. '000)	2.72	.22
2.* No. of group loans for VOs	28	3
3.* No. of beneficiary households	1,631	166
4. Default as % of amount disbursed	0	0

(* includes multiple loans to the same VO)

VI. Human Resources Development (HRD)

1. No. of Regular Courses	14	3
- Agriculture	7	1
- Livestock	5	1
- Poultry	1	1
- Marketing	1	-
2. No. of First-time Trainees	237	71
- Agriculture	102	25
- Livestock	102	27
- Poultry	19	19
- *Marketing	14	-
3. No. of Refresher Courses	6	-
- Agriculture	3	-
- Livestock	3	-
- Poultry	-	-
- Marketing	-	-

(*includes 7 trained in Gilgit District.)

VII. * Commercial & Industrial Development (CID)

1. No. of participating VOs	55	21
2. Gross sales (million Rs.)	0.84	0.12
3. Marketing expenses (Rs. '000)	44	20
4. Farmgate Income (Rs. '000)	794	0.10
5. Beneficiary households	2,199	317
6. Marketing loans (million Rs.)	0.97	0.36
7. No. of group loans for VOs	54	19
8. No. of beneficiary households for loans.	2,906	866

* (Figures are subject to revision during on going verification process).

VIII. Women-in-Development (WID)

1. No. of WOs	26	13
- Membership	1,008	421
- Savings	171,166	81,479

STATISTICAL ABSTRACT

Baltistan District

July 1985 - December 1987

	<u>Cumulative</u>	<u>Quarter's Addition</u>
I. Project Area		
1. Area (Sq.km)	25,850	
2. Population	272,000	
3. No. of rural households (approx)	36,000	
4. No. of potential Village Organisations (approx)	370	
II. Social Organisation		
1. No. of Village Organisations	162	35
2. Membership (estimated)	6,309	1,053
3. Bank Deposits (million Rs.)	2.52	0.32
4. % of rural households covered by VO's.	17.5	0.3
III. Productive Infrastructure & Engineering Services (PIES)		
1. No. of projects identified	349	149
2. Estimated cost of Projects identified (million Rs.)	49.61	18.08
3. No. of projects initiated	115	27
4. No. of beneficiary households	5,926	1,391
5. Cost of initiated projects (million Rs.)	17.22	3.07
6. Physical Progress (%)	66	
No. of projects completed	53	19
IV. Short-term Credit (includes marketing loans which are also reported separately.)		
1. Total amount disbursed (million Rs.)	2.23	0.22
2. Total amount in default (Rs.)	0	(-22,009)
3. Cumulative default as % of total amount disbursed	0%	
4. Amount disbursed during Jan - Dec. 86	341,354	
5. Default for the loans disbursed during Jan - Dec 86	0	
6. Default as % of amount disbursed during Jan - Dec 86	0%	

7.* No. of group loans for VOs.	114	17
8.* No. of beneficiary households	4,876	485

(*includes multiple loans to the same VO)

V. Medium-term Credit

1. Amount disbursed (Rs. '000)	657	0
2. No. of group loans for VOs	5	0
3. No. of beneficiary households	260	0
4. Default as % of amount disbursed	0	0

VI. Human Resources Development (HRD)

1. No. of Regular Courses	7	1
- Agriculture	3	0
- Livestock	3	1
- Poultry	0	0
- Marketing	1	0
2. No. of First-time Trainees	145	23
- Agriculture	54	0
- Livestock	74	23
- Poultry	0	0
- *Marketing	17	0
3. No. of Refresher Courses	4	1
- Agriculture	2	1
- Livestock	2	0
- Poultry	0	0
- Marketing	0	0

(*includes 7 trained in Gilgit District.)

VII. Commercial & Industrial Development (CID)

1. No. of participating VOs	61	41*
2. Gross sales (million Rs.)	0.57	0.52*
3. Marketing expenses (million Rs.)	0.05	0.02*
4. Farmgate Income (million Rs.)	0.52	0.50*
5. Beneficiary households	1,457	1,097*
6. Marketing loans (million Rs.)	0.61	0.35*
7. No. of group loans for VOs	29	20
8. No. of beneficiary households for loans.	1,179	653

(* Figures for the last two quarters of 1987.)

CHAPTER ONE

SOCIAL ORGANISATION: EXPERIENCES WITH COLLECTIVE MANAGEMENT

I. Social Fragmentation, Economic Development and Community Organisation: An Introduction

Like many Third World societies, Pakistan is experiencing a period of social fragmentation, disintegration of values and institutions, and the alienation of social and economic life from the values, institutions and resources of rural communities. Short-term development projects, conceptualized as blueprints and driven by input-delivery, have failed to check institutional and infrastructural decay. At the same time, thousands of grassroots activists and community organisations have emerged all over the country. Often lacking technical expertise and finance, these activists and organisations are attempting to restore social order, articulate local values, and engage the creativity and resources of thousands of small communities that are isolated from the mainstream.

The AKRSP experience needs to be understood as a process of social organisation, a process in which AKRSP and the villagers explore the alternatives to social anarchy and a diminishing resource base. The key element of this process is the organisation of rural communities into broad-based, multi-purpose development institutions. The second element of this process is the identification and support of community activists who can manage local development organisations. The third element is the articulation of alternative values, i.e., cooperation and equitability in the management of common resources and problems. The fourth element is the incremental grafting of modern scientific techniques onto traditional knowledge. The fifth element is the mobilisation and investment of local capital on a sustainable basis. In a general sense, then, AKRSP's response to social fragmentation and a declining resource base can be described as a process of community organisation, sustained by community activists, cooperative values, incremental technological innovation, and capital accumulation.

The Northern Areas are fortunate in that the tradition of cooperation is relatively active; isolation and feudal authority helped preserve this tradition until well after it ceased to be the dominant characteristic of economic life in most parts of Pakistan. Traditionally, labour-sharing and common management of natural resources (often under the control of feudal authority) have been the norm rather than the exception in this region. Thus, when AKRSP first started working in Gilgit, its message of "private land ownership, and collective management" was received sympathetically by the villagers: the villagers understood that the functions performed by feudal chiefs in the past had to be incorporated into the Village Organisation's mandate. They also understood the importance of the other elements that are needed

to sustain and extend the capacity of the VO to manage village development.

At the same time, changing circumstances in the last five years have challenged AKRSP and the villagers to devise new rules and conventions for the management of village resources. This has happened, particularly, whenever the traditional status of a resource has undergone change, or whenever new assets have been introduced. An early example of great interest was land development. AKRSP-sponsored irrigation channels assisted villagers in converting low-productivity winter grazing land into potentially high-productivity, multiple-use farm land. The grazing land, by tradition, belonged to the entire village, so everyone had equal rights to it. But how were the villagers to implement "private ownership, and collective management" on this now-irrigated farm land? The villagers responded with a full range of options, with various combinations of ownership and collective management. At one extreme, some villages simply divided up the new land, handed the plots over to the individual households, who went about developing the new land with their own individual resources; but even these villages generally approached AKRSP for land development loans through their Village Organisations. At the other extreme, there is village Khaiber in Gujral Tehsil, whose VO is the region's leader in the specialisation of land and labour: the new land is being developed as a single farm, a portion of which will be transferred to individuals for farming after it has been fully developed; the VO will continue to own the fruit orchard and the forest-cum-fruit nursery on the new land; women have been trained to manage the nursery; all irrigation on the new land is undertaken by three specialists; there are other village specialists as well, and all are remunerated by the VO.

In between these two types of management systems, there is a wide variation in what the villagers have adopted. By and large, new land is divided up (usually equally, according to traditional rights) among individual households, but specific inputs may be managed collectively. These inputs include: loans for land development; transport and implements for land development; fertiliser, seed and saplings; the services of village specialists; and, quite often, labour pooled among neighbours. In terms of collective management issues, AKRSP's First Phase was dominated by the land development process. The major lesson for AKRSP was that we should not insist on the VO treating its new land as a single farm - we should, instead, encourage its rapid and equitable development through collective management of critical inputs.

A multiplicity of issues arose in the Second Phase as the VOs began to tackle non-traditional assets and the supra-village dimensions of collective management. For both, the VOs had to define new rules and conventions; not surprisingly, they did so usually with reference to traditional patterns of management. The remainder of this chapter discusses some specific Second Phase

experiences. The case studies presented below are divided into two categories - those involving village-level collective management, and those involving supra-village dimensions. Some preliminary conclusions are offered at the end of the chapter.

II. Case Studies in Village-level Collective Management

II.1. Garelth Poultry Farm

Traditionally in the Northern Areas women play a vital role in backyard poultry rearing. On average, a typical household has 2-4 non-descript scavenging birds.

The idea of a commercial poultry farm came from the VO itself since there is a good market for broilers during April - September, which is the tourist season. The climate is highly suitable in the Northern Areas for the development of small scale commercial poultry industry. To experiment with collectively managed projects, AKRSP assisted in setting up a semi-commercial poultry farm under its Women in Development Programme. Two women and one man from Garelth (Hunza) were trained in Gilgit. Management of poultry and disease control formed the major parts of the training. High morbidity and mortality from diseases is a serious drawback in the development of poultry as a viable industry. For this particular reason, disease prevention is more economical than treatment for disease.

The collectively managed poultry farm in Garelth proved to be profitable. There are economies of scale in brooding, input purchase, vaccination and output marketing. But it should be noted that the management of poultry is very intensive and requires round the clock supervision. Women alone cannot manage this type of poultry farms. For the collective poultry farm to be a success, the farm manager should be highly motivated (e.g. fair remuneration) to assure proper management.

It appears that the poultry farm will probably break even in terms of the costs incurred by the VO. At the same time, we should note the heavy dependence of the VO on AKRSP for technical services and for supplies; this entailed a substantial management cost. AKRSP's Field Coordinators for WID spent weeks at Garelth, and its veterinarians made several visits in response to urgent requests from the VO. Unless a VO can manage this new technology largely with its own resources, semi-commercial poultry farms should not be considered replicable.

It also needs to be noted that the Garelth Poultry Farm is part of an integrated land use package, in which a small plot of land is used to rear poultry as well as to grow fruit and vegetable. One objective of this package is to demonstrate a high-value land use model for small farms. To the extent the poultry component puts a strain on overall profitability, the attractiveness of the integrated package is diminished; one might consider separating

the two components. The second objective of the package was to exploit the biological linkages between poultry farming and agricultural activities, involving poultry feed, composting, etc.; these linkages appear to be practically non-existent so far.

Finally, we note that Gareith provides a concrete example of the integration of gender roles within a VO's collective management mechanism. Men and women participate jointly in decision-making, and undertake specific (usually traditional) tasks.

II.2. Micro Hydel Electricity Experiment in Shahtote

AKRSP discussed the possibility of installing a micro hydel unit with VO Shahtote which is one of the poorest villages in Gilgit District. The VO agreed to take collective responsibility for the management of the hydel unit. The micro hydel would provide electricity to all the households. The VO members also agreed to pay for the electricity and maintenance. This money would be used for remuneration of the care taker.

The VO decided to charge Rs. 5 for each bulb and Rs. 5 as maintenance charges per household. For commercial consumption of electricity a charge of Rs. 45 for 3 bulbs was agreed. The caretaker would receive Rs. 100 per month.

With these terms of partnership, the micro-hydel unit was installed under the Women-in-Development programme. The hydel started operating on 27th January, 1987, and was fully functional by 23rd March, 1987. During the installation of the hydel, the villagers did not fully cooperate and did not contribute towards labour input. Once the micro-hydel started to function, the villagers accepted electricity for lighting purposes. However, some of the villagers refused to pay and the free-rider attitude was increasing. This was despite the fact the cheap electricity had reduced their monthly lighting expenditures by approximately 70 percent. As micro-hydel was a non-traditional common property, there were no set rules and sanctions procedures. However, the VO did decide to use the ultimate sanction: disconnection. This convinced the free riders to pay up.

This represented an interesting learning experience for AKRSP and led to the development of a new hypothesis: for micro-hydel units to become useful in a sustainable way, they must be linked to some income generating activities. In light of this, a small wheat grinding unit, a maize sheller, and a saw mill were installed in Shahtote. These communally owned services were used by Shahtote villagers, who now willingly paid for the services provided. In no time, neighbouring villages also started using these facilities. The addition of income generating activities led to a change in the attitude and awareness of the Shahtote villagers. Now they could see concrete benefits from the micro-hydel. This change in attitude and awareness led to acceptance of other AKRSP packages, e.g. regular orchards, tree planting, etc.

The micro-hydel unit is a clearly indivisible technology whose benefits have been distributed equitably through collective ownership and collective management. As with the Garelth Poultry Farm, the nature of the technology favoured AKRSP's bias for (equitable) collective management. The micro-hydel is a good example of equitability being influenced positively by the technology-institution interaction: the technology is in consonance with the institutional arrangements for its collective management.

The Shahtote example also supports the contention that villagers can be organised most effectively around income-generating activities: the micro-hydel without its income-generating attachments elicited a divisive response from the villagers. The implication for AKRSP is to promote technology that has a demonstrable impact on farmer incomes.

11.3. The Heifer Project: Semi-exotic Cattle

One of the aims of the livestock section is breed improvement in the project area. With the cooperation of Heifer Project International (U.S.A) AKRSP introduced cross-bred cows (semi-exotic) in 8 villages in Gilgit District: Rahimabad Bala, Jalalabad-II, Paidandass, Khaiber, Chaprote, Thingdass, Shonus, and Barkulti Paeen. The aim was to introduce genetic improvement and experiment with a new management style i.e. collective management of the cows.

One of the terms and conditions with Heifer Project International (HPI) is that participants in each project "pass on the gift" by sharing an offspring from the original animal with others in the community. It was agreed that the second and the fourth female offspring would be passed on to another VO under the aegis of AKRSP.

With the assistance of the Engineering Section, a design for the sheds was drawn where the cows would be fed and housed collectively. A grant of Rs. 40,000 was given to each VO for the construction of the shed. The VO was responsible for the purchase of material and for providing labour input. Although villagers have long experience with animal husbandry, to further enhance their technical and managerial capacity, one man was chosen by the VO for training at the Military Dairy Farm in Rawalpindi. Initially the VOs agreed that the HP cows would be managed on a collective basis. Not all members of the VO participated in the Heifer Project. The VOs made an institutional innovation: a Village Heifer Organisation (VHO) was set up to deal with the management of the HP cows e.g. feed, shed, marketing etc. The VHO members agreed to increase fodder acreage to ensure that the new herd would be provided with sufficient fodder. Silage storage was constructed and silage was made from green maize which was used in the winter months. The VHO hired attendants to look after the

Heifer cows to feed and milk them. The VHO also takes care of the marketing of milk and milk products.

Presently some of the VOs still manage the HP cows on a collective basis while others have divided the cows amongst groups of VHO members (Jalalabad-II, Paidandass and Chaprote). This is an institutional innovation by the villagers. The causes for the division of cows were the damage to shed due to heavy rains, difficulties in management, and declining individual interest due to high expectations they had about their performance. The rent costs of the shed and labour costs for the attendants are saved by dividing the cows. Also, after division, management may improve.

The VO of Jalalabad decided to divide the Heifer cows among 10 sub-groups of five members. These cows were randomly allocated. The new institutional innovation by the villagers is remarkably interesting. A rotation mechanism was developed as follows: one member from each subgroup was chosen to manage the Heifer cow. This member would bear all the costs of maintenance and feeding and keep all benefits (if any). He is also entitled to keep the first calf. If another member from the subgroup wishes to take over the Heifer cow, he would have to wait till the end of the next lactation period.

In the case of Jalalabad, each subgroup has one large farmer holding over 80 kanals (4 ha) of land, with other members holding 20-40 kanals (1-2 ha). It is not totally unexpected that it is the larger farmer who manages the Heifer cow because only larger farmers have the resources to manage these cows.

The Heifer Project experience offers a number of generalisations. Firstly, cooperative ownership of dairy cattle runs against the tradition of individual ownership of livestock; most VOs are not ready to effect a radical departure from prevailing custom. Secondly, new technology needs to be assessed thoroughly in an analytical way, using technical and economic criteria, before substantial costs are incurred on village-based experimentation. Thirdly, the nature of the technology helps determine its effect on equitability; institutional arrangements and the nature of technology jointly determine equitability. AKRSP's insistence on collective ownership was motivated by a desire for equitability; but collective ownership had an adverse effect on productivity. When, in some villages, the cows were assigned to individuals (or groups), equitability suffered, while productivity may have improved. As with land development, AKRSP needs to distinguish between collective ownership and collective management. However, there are examples such as Khaiber where collective ownership, equitability and productivity have gone ahead in hand.

11.4. Cooperative Management of Tractors

VO Roshanabad-Sherabad took a medium-term loan for the purchase of a tractor, thresher, plough, trolley and pulley. The VO formed a committee for the management of the tractor. This committee is also responsible for the records. The committee comprises of 5 members out of which one has some clerical experience and another has some entrepreneurial skills. This committee is accountable to the VO. It was decided to hire a driver from Aliabad who is paid a salary of Rs. 900 per month (also during the low season). In addition he receives Rs. 20 per day for working outside Hunza proper. Also a VO member has been attached to him to be trained as a driver so that the VO has its own driver in the future. The driver is also incharge of maintenance.

The VO employs the tractor for work within the Hunza-Nagar area. The VO has fixed rental charges as follows:

- ploughing and threshing charges: Rs. 90 per hour.
- tractor-trolley charges: Rs. 220 per 8 hours.

There is no discrimination in rental charges between VO members and non-VO members within the village. The tractor services are provided on first-come-first-served basis. The advantage to VO members is that they can use the tractor facility on credit basis. The profits earned on the tractor are kept in a separate account.

VO Nomal Madinatulkarim had also taken a medium-term loan from AKRSP for the purchase of a tractor. Previously there were no tractors in Madinatulkarim. The VO appointed a committee of 4 members to manage the tractor. Both the VO president and secretary are members of this committee. This committee is accountable to the VO. All households in Madinatulkarim are represented in the VO, but 8 VO members declined to participate in the tractor investment and did not contribute towards the debt. These 8 members will have no share in the profits from the tractor. But these 8 members do attend the VO meetings regularly and contribute towards VO savings. The tractor operates both within and outside the village. The VO decided to give priority for tractor services during peak season to members. The thresher charges are Rs. 80 per hour and the tractor trolley charges are Rs. 200 for 8 hours. There are no differential rates for members and non-members. However, members can acquire the tractor services on credit. The driver is paid Rs. 800 per month and Rs. 10 per day for work outside Nomal. A VO member always accompanies the driver.

Their neighbouring village Segal had also acquired a tractor through AKRSP. There are signs of competition between both villages but also there is consultation between the two.

Next to land development loans, credit for tractors represents the largest component of AKRSP's medium-term credit programme. This component is aimed specifically at providing the VO with an asset that is invariably individually-owned; the outcome for equitability is expected to be more favourable under cooperative ownership. VOs appear to have gone through a tremendous learning experience in managing their tractors. They appear to have overcome initial problems to successfully exploit the growing demand for haulage and mechanised ploughing and threshing.

A disconcerting feature of the tractor experience is the emergence of management committees in the VOs. These may be desirable where they provide specialist services (e.g., driving, maintenance, accounting, etc.). But in some cases they appear to be exercising the monitoring and control functions of the VO itself, thus creating a potential for undermining the evolution of equitable village management. Nominally, all VOs follow AKRSP's advice of making the committees accountable to the VO. In practice, however, influential individuals may yet become the de facto controllers of tractors. AKRSP is continuing to watch developments carefully and give advice on a case-by-case basis.

III. Supra-village Dimensions of Collective Management

III.1 Community Management of Forests & Pastures

The depletion of forests and pastures in the face of disintegrating institutions, population pressures and improved accessibility is a common phenomenon throughout the Third World. The conventional wisdom among economists is that optimal exploitation of such natural resources requires a property regime under which costs and benefits can be internalised by the owner. There is a considerable body of knowledge relating to "the problem of the commons" which suggests options for optimal management of natural resources.

One option is private, individual ownership. In Gilgit, feudal chiefs with the authority of the state exercised ownership rights over forests and pastures; the states were legally dissolved in 1974 by the Government of Pakistan. In the feudal system, villagers had limited and well-defined use rights over forests and pastures, and feudal chiefs could effectively organise counter-vailing sanctions. The evidence appears to indicate that the system was efficient (in an economic sense), but may have been inequitable.

Another option is state ownership. This is quite common in Pakistan and is reported to be in force in the Northern Areas over all those lands which previously belonged to the feudal chiefs. As elsewhere, however, state ownership has proved neither efficient nor equitable: short-term leases, combined with lack of effective control, have led to a situation of free access, little investment and rapid depletion of resources.

A third option is private, community ownership. Contrary to the claims of the Forest Department, the villagers of Gilgit see themselves as the inheritors of feudal lands; villagers also exercise de facto control over most forests and pastures. Because of uncertainty over ownership, however, villagers are exploiting their forests and pastures for their immediate needs, without investing in their development. Some forests and pastures are "owned" by individual villages, while others involve several villages. While traditional arrangements dating from feudal times guide access to many of the forests and pastures, this institutional basis has been weakened in the face of uncertain tenure, growing population and improved accessibility.

AKRSP believes that the Village Organisation can provide the missing link between conservation and development, between sustainability concerns and income-generation, provided the VO can effectively internalise the costs and benefits. This would require de facto ownership by the VO, and rules governing exploitation and investment. Several villages in the Chalt area have jointly taken steps in this direction. Faced with the rapid loss of trees to commercial exploitation, the VOs imposed a ban on sales, devised procedure for meeting domestic timber and fuelwood requirements for the inhabitants, and began reviewing their traditional system of pasture rotation. They formed a committee to oversee the new arrangements, devised mechanisms for enforcement, and announced sanctions against potential deviants.

Several other villages, acting individually or in clusters, have also effected complete or partial bans on the free-grazing of livestock. The partial bans relate to a particular season, or to a specific type of livestock. The benefit is in terms of the opportunity to plant trees, as well as vegetables which mature in autumn (when the livestock descend from their summer pastures). In social terms, this step creates a tension between livestock-oriented households and others: in general, larger, labour-abundant farmers have a livestock orientation, while smaller, labour-poor families favour intensive land use (e.g., through vegetables and fruit trees).

An important experiment is also underway in seven villages of Gujal Tehsil lying at altitudes of 2,400 - 2,700 metres below the Khunjerab border with China. Five of these seven villages have traditional rights over the area now protected as part of the Khunjerab National Park. The Government of Pakistan has been considering proposals for compensating affected villages from revenues generated from the Khunjerab Park. At the same time, AKRSP is working with the International Union for the Conservation of Nature (IUCN) to develop a model in which conservation and development needs can be addressed simultaneously. This model seeks to develop resources that can provide alternatives to dependence on the Khunjerab National Park. Thus, the new land opened up by AKRSP-sponsored projects has been targetted for intensive development for forest products and fodder needs. The involved VOs have to develop a vision of

the future in which they can act collectively to conserve the wildlife and natural resources of Khunjerab, while investing in new land as a nearer and productive alternative.

The examples cited above suggest a sequence of steps for better resource management. The first step has to be taken by the VO: a village activist convinces his fellow-villagers that a precious resource can and should be protected. The second step is for the VO to articulate rules, mechanisms and sanctions for the protection of the designated resource. Once protected, the resource can be developed to a higher level of productivity than the one implied by natural regeneration. Hence, the third step: AKRSP has to provide the technical and financial inputs for improving the productivity of the resource. It needs to be emphasized that while AKRSP has an educational role to play in the first two steps, it cannot proceed to the third step unless the VO has initiated the sequence: putting "technical" solutions first is liable to be a counter-productive reversal of social change.

III.2 Valley Planning

During the First Phase, AKRSP's institution-building focus was on village-level mechanisms. The Second Phase sets the challenge for addressing development functions that have supra-village dimensions. One can visualize a two-stage process of institution-building at the supra-village level. In the first stage, AKRSP will work with clusters of VOs to discover the functions which can and should be managed at the supra-village level; appropriate institutions will be developed through dialogue and experimentation. In the second stage, some of the arrangements would need to be formalized. This two-stage sequence has the advantage of being a learning process, rather than a blueprint for the formalisation of a multitude of collective management functions.

One can anticipate the rationale for supra-village institutions (say, at the valley level) in the following terms:

1. there are economies of scale in the purchase of inputs;
2. there are economies of scale in the sale of produce;
3. there are issues of common property management that affect several villages jointly, relating to both natural resources and modern assets (e.g., storage facilities, credit, etc.);
4. it is possible to think of a valley as a recommendation domain for agricultural technology, and for the purposes of technology demonstration.

Thus conceived, valley planning subsumes resource management issues and extends, in fact, across all AKRSP activities. A dialogue has been initiated in Gilgit District with the seven villages of the AKRSP-IUCN project area in Gujal. The initial response from the VOs has been encouraging, but no concrete steps have been taken so far.

It should be recognized that valley planning can lead to a general model of watershed development over time. At present, however, only some of the specific models that are needed are in the process of development (both in Gilgit and Chitral). Several more of the specific models need to be initiated by AKRSP and the VOs before the valley planning exercise can mature into a model for watershed management.

IV. Preliminary Conclusions from the First Phase

The success of collective management depends on the presence of a residual of the cooperative spirit, and of a local activist who can harness this spirit for development purposes.

Second: the incentive to organise for the common good must be clear and considerable. This has implications for the choice of technology by AKRSP.

Third: institutions of cooperation can be developed incrementally, and not through radical departures from custom. Departures from traditional ownership patterns may be rightly rejected by the villagers, notwithstanding equity considerations.

Fourth: both technology and institutions help determine equitability, and either can be chosen to favour equitability. In particular, a technology that cannot withstand collective management can still be chosen for its positive impact on incomes and equitability. However, a technology that is not amenable to collective management may well undermine a VO if cast in the restrictive mould of collective management.

Fifth: technological innovation in resource management may be more beneficial if it follows institutional innovation by the VOs, rather than preceding it: the investment is secured by an effective management regime, rather than falling victim to the "tragedy of the commons."

Sixth: management committees set up by VOs may be desirable where they perform specialist functions, but need to be watched carefully lest they undermine the monitoring and control functions of the VOs.

Seventh: a process-oriented approach to supra-village institutions may be more desirable than a blueprint for the formalisation of collective management functions.

Table 1.1

**VILLAGE ORGANISATION, MEMBERSHIP AND BANK DEPOSITS
AS ON DECEMBER 31, 1987**

GILGIT DISTRICT

Sub-Division	No. of VOs	Membership	Deposits (Rs. 000)	Average (Rs.)	
				Per VO	Per Member
Hunza	71	5,170	3,756	52,901	726
Nagar	53	3,979	3,249	61,302	817
Gilgit	85	6,327	5,725	67,353	905
Punyal-Ishkoman	67	4,705	2,840	42,388	604
Gupis-Yasin	100	6,319	4,997	49,970	791
Total	376	26,500	20,567	54,699	776

Table 1.2

VILLAGE ORGANISATION, MEMBERSHIP AND BANK DEPOSITS
AS ON DECEMBER 31, 1987

CHITRAL DISTRICT

Sub-Division	No. of VOs	Membership	Deposits* (Rs. 000)	Average (Rs.)	
				Per VO	Per Member
Chitral	111	5,266	3,447	31,052	655
Mastuj	113	7,117	4,456	39,439	626
Total	224	12,383	7,903	35,283	638

* Includes savings of Rs. 1.09 million held in term deposit.

Table 1.3

VILLAGE ORGANISATION, MEMBERSHIP AND BANK DEPOSITS
As on December 31, 1987

BALTISTAN DISTRICT

Sub-Division	No. of VOs	Member-ship	Cumulative Deposits) (Rs.000)	Average (Rs.)	
				Per VO	Per Member
Skardu	50	2,227	1,010,042	20,200	453
Shigar	32	1,153	508,849	15,901	441
Kharmang	40	1,537	586,405	14,660	381
Khaplu	40	1,392	414,923	10,373	298
Total	162	6,309	2,520,219	15,556	399

Table 1.4**CATEGORISATION OF VO's**CHITRAL DISTRICT

Sub-Division	Advanced	Potential Advanced	Average	Inactive	Total
	A	B	C	D	
CHITRAL	13	41	44	13	111
MASTUJ	25	37	42	9	113
TOTAL	38	78	86	22	224
DISTRIBUTION	17%	35%	38%	10%	100%

CHAPTER TWO

WOMEN-IN-DEVELOPMENT: PROGRAMME DEVELOPMENT COMES OF AGE

I. Introduction and Objectives

The project area's women are heavily involved in agricultural activities and their on-farm responsibilities can be expected to grow if present trends of male migration and off-farm employment opportunities continue. Men are increasingly drawn into the wage economy on daily, seasonal or permanent basis outside the village. Consequently, the demands placed on women to replace men in their former village occupations increase. Women do not own any significant physical assets which yield cash income. Their primary asset is labour applied to land and livestock.

The overall objective of the WID section is to work closely with the other sections in identifying interventions targeted at reducing the workload of women, increasing their productivity and improving their capacity to manage the resources at their disposal through the introduction of time and labour saving techniques and upgrading their agricultural and household skills to enable them to better manage their existing resources. By improving the productivity of women their incomes can be raised substantially. The workload can be reduced by introducing appropriate technology. By encouraging savings, it gives them access to credit. Also more emphasis is being placed on the management of rural resources.

In general WID assists in the integration of women within the Village Organisations; encourages collective savings by women members and helps improve their access to credit for activities which traditionally involve them.

WID also assists in: increasing the opportunities for investments by women; establishing Productive Physical Infrastructure Projects for women which would enhance their productivity in the agricultural sector and upgrading the skills of the women by means of a system of extension training.

II. Approaches to Communication and Decision Making

II.1. Integrated Decision- Making by Men and Women

The importance of women in the village economy and the need for a deliberate focus on women's activities became apparent at an early stage of the project. In the first three years, AKRSP concentrated on establishing credibility with the VOs; this helped create the foundations for initiating a development package with a potential for directly impacting the women of the Northern Areas.

AKRSP's strategy of development is premised on participatory principles which could be extended to women's programme. AKRSP's experience with PPIs has shown that projects designed for the village level do not readily involve women directly. No single

on-farm enterprise involves either men or women alone. There is a sexual division of labour and women are restricted in their exposure and mobility outside the village. For most activities undertaken, there has been a direct input from the men like procurement of raw materials, marketing, maintenance of records etc. Such linkages emphasize the need for integrated programmes.

The programme has already moved away from a strategy of establishing separate women's organisations, parallel to the male-dominated VOs towards the realization that the Purdah constraint does not warrant treating the activities of women separately from the village economy as a whole.

The approach now is directed towards viewing women's work in households and villages as an integral part of the local economy, and deals with the Purdah constraint by using trained female staff and training local women. The basic thrust is that women should be incorporated into general development decisions and activities in the village while taking account of the existing realities which may require that they retain a distinct identity and separate forum to work out their ideas regarding issues concerning them. The rationale is to consolidate decision making at village level.

Totally 148 Women's Organisations (jointly and separately) in Gilgit and 26 in Chitral were established by the end of December 1987.

The willingness of the women to get organised is reflected in their membership, savings and credit taken, participation in the programmes, participation in the conferences, participation in training courses, feedback and complaints about the programme etc. In some cases women responded by direct membership in the VO and in other cases women's section of the VO were being formed. In those cases where women meet separately some male VO members attend their meetings and vice versa. Some villages keep separate accounts of WO savings and other villages keep a joint account.

11.2. Communication and Extension

It is known that programmes which are aimed at women but work through men have the disadvantage of leaving the women outside the decision-making process. Such programmes are bound to distort the felt needs of the women and have a limited impact on the target group.

There are two levels of communication namely communication between men and women within a village and communication between village women and AKRSP. There are problems with direct communication with women due to non-availability of enough female staff, illiteracy among the women and language diversity. The main problem in project implementation is to disseminate information from the men to the majority of village women. To obtain insight in women's issues it is preferable for village women to be represented by women.

At present communication links between village women and AKRSP are either direct or through the SOUs (field based). As there are no female representatives at the SOU level, the field coordinators in Gilgit act as Social Organisers which is not very effective due to infrequent contacts. To improve communication between AKRSP and the village women, the SOUs have been encouraged to appoint female assistants wherever possible and if this is not possible, to appoint a female supervisor within a village who would work in close coordination with the male SO.

Also, a new forum has been established to enhance the contact of village women with AKRSP; women's managers and presidents conferences are being organised every two months. The women have been exceptionally vocal in presenting their concerns and expectations. These conferences proved to be a very useful forum for experience sharing for women from different villages. It should be noted that because of the social constraints women from certain villages could not attend these conferences.

One of the fundamental principles which is embodied in AKRSP's approach is the provision of an administrative infrastructure which includes the provision of extension services. The extension links between AKRSP and villages are through dialogues, VO meetings, conferences etc. AKRSP is planning a mobile audio visual unit to make the extension (and training) more effective. This AV unit would be useful for sharing of experiences and can also be used as a teaching aid for specific courses. It could be used to establish links with other agencies which could use the AV unit as an infrastructure for extension and diffusion purposes.

III. Programme Development

III.1. Agriculture and Resource Management

Vegetable Package: Traditionally in the Northern Areas women are almost wholly responsible for vegetable cultivation. Seed sowing, watering, weeding and transplanting knowledge is found with the women. The traditional vegetable seed quality is often poor because seed is propagated from the same stock year after year. Traditionally, seeds are sown by casting them by hand over the surface of the soil by the broadcast method. Transplanting was done at random spacing, without regard to size of plants at maturity.

The objectives of the vegetable package were to introduce new and improved vegetable seeds and to promote higher yields by introducing simple cultivation practices. These improved practices would help the village women in expanding their vegetable cultivation. The women are encouraged to grow vegetable collectively, to multiply seeds of vegetable and to market the vegetable produce. Seeds of beetroot, aubergine and bell peppers have been totally new for the women in the villages. Several cultivation techniques like raised seed bed, line sowing, transplanting frame, plastic tunnel and seed potato cultivation

were introduced.

Seed Potato Cutting Techniques: Improved methods of cutting potato tubers before planting have been introduced. This technique is aimed at eliminating the use of diseased tubers, encouraging use of cuttings which yield more tubers and spacing and planting. The seed potato cultivation technique was well adopted because of higher yields and disease resistance.

Nursery and Orchard Development: The nursery package was conceived in early 1986 as a response to demands from VOs for better plant stocks to be provided by AKRSP. It is aimed at establishing a 4 kanal nursery for every group of 10-12 villages which do not have access to government nurseries. A shortage of nursery stock in villages was identified and fruit and forest plants are either propagated from the existing trees or come from down country.

Nurseries and orchards require training linked with high levels of supervision, and to some extent limits the species grown to ones not requiring too much time and attention. Also village women should play a predominant role in nursery and orchard management and care. Women are traditionally involved in sowing of vegetables, weeding and some propagation and women's organisations are eager to undertake income generating activities.

The nurseries in Gilgit are at various stages of operation and are managed jointly by the female and male representatives of the VO. It is expected that these nurseries will yield substantial income in the coming years. High maintenance standards of the nurseries show that women's involvement in the nursery package is satisfactory. The orchard development project is still in its initial stages.

Poultry Development: Under the mixed farming package, AKRSP introduced commercial broilers at Garelth (Hunza). The idea of a commercial poultry farm came from the VO itself since there is a good market for broilers during April-September, which is the tourist season.

Traditionally, women play a vital role in backyard poultry rearing. On average a typical household has 2-4 non-descript birds. These are the scavenging types producing 50-60 eggs per annum. The non-descript birds tend to be quite resistant to local diseases with the exception of Newcastle disease. The poultry development programme is being developed jointly by the Livestock and WID Sections. The programme has three aspects:

- Introduction of superior breeds
- Introduction of better poultry husbandry techniques
- Disease control by mass vaccination.

Women and men were trained in poultry management and poultry disease control. Women stated that work on the vegetable patch was something that was usual for them and they were well versed in tending vegetable plots. But the level of management required

in commercial poultry is very intense, and women alone could not manage. It requires round the clock supervision and it is impossible for women to tend poultry during night hours.

The VO Gareltz experimented with broilers and completed two brooding and rearing cycles of eight weeks each. The first batch yielded a profit of Rs. 5,008. The second batch caused a loss due to disease outbreak and management problems.

The farm in Princeabad is expected to be operational in 1988. Both farms Gareltz and Princeabad were intended as pilot projects to test the collective management capacity of the VOs in the operation of these semi-commercial projects.

The women also came up with the suggestion of home based poultry farms for layers. According to the women, they have spare time at hand during winters when there is a good market for eggs. Home based poultry is less intensive in terms of management.

VO Gareltz will buy another flock of broilers in March 1988. Also a new home based poultry package has been designed by AKRSP to increase household income by marketing of eggs.

Livestock Fodder Management: Since women in the Northern Areas do a great deal of the farm labour, it is important to involve their participation in silage making. Also women have been involved in livestock management. Women are usually responsible for collection of fodder and the aims of silage preparation are feed improvement (improvement of nutrient value) and feed storage for winter.

III.2. Appropriate Technology

Under this package, appropriate technology is focussed at improving the efficiency and productivity and reducing the workload of women (by introducing labour saving technology and skill improvement).

Dehydration Chambers: The experience with the dehydration chambers did not prove to be very successful. Actual time required for dehydration did not reduce as planned. At several locations it took more time than open air drying. Due to irregularity of electricity in some places, apricots were totally wasted as a result of humidity. In 1988, AKRSP intends to conduct a survey to determine whether the problems reported are of a technical kind or of a managerial nature. The dehydration chambers are still at the adaptive research stage. Further development of these chambers is stopped till the nature of the problem is determined.

Bio-gas Unit: Biogas units were installed in Gilgit for experimental purposes. These units were introduced in 1986. The package included a biogas unit, a flush toilet which would directly feed in to the unit and a gas-operated stove and lantern. Due to several problems like cost, extreme temperatures,

required inputs and cultural factors, it is not possible to replicate these units on a wider scale.

Nut Cracking Machines: One of the main income generating activities of women is the sale of apricot kernels. The traditional nut cracking method of breaking the nuts with hands is, however, very labour intensive and wasteful. With a view to overcome these problems, nutcracking machines were introduced. With these new manually operated machines, the women can now break 1 kg of apricot stone in 2 minutes as compared to 1-1/2 hour taken previously to break the same weight. Only 5% of the seeds are wasted as opposed to 20-30% prior to adopting these machines. These machines have helped in raising the income of the women. These machines are still in the adaptive research stage and not yet ready for diffusion.

Butter Churners: Butter churning is a women's activity and to churn sour milk by the traditional method is very time consuming. Traditionally churning was done in a goat skin sewn up to form a bag where the milk could be poured in. The goat skin was then rocked back and forth on a person's knee until the ghee was formed which would take as much as 2 hours.

The advantage of the new type of butter churner is that it is time saving and not so labour intensive. It can be used for 1-10 households on a communal basis and it is more durable than traditional churners. The butter churners are still being tested for their adaptability to local conditions.

Spinning Wheels: In the Northern Areas spinning is still in its primitive form. The traditional method is not only time consuming but also cumbersome. It is an observed fact that women spend most of their time during winters in yarn making. There is a need to introduce a technology which is time saving and less labour intensive. One of the problems facing the rural women is carding in the spinning of wool. In collaboration with PCSIR, a foot operated spinning wheel in which there is no need for carding, was constructed. Now thread can be made directly from wool. The spinning wheels are still in the adaptive research stage.

Micro Hydel Units: Micro hydel units play an important role in reducing the workload of the rural women. The use of micro hydel units is for power supply for light and for the use of power in new technologies like nut cracking machines, butter churners, oil expellers and silage choppers.

Demand for these units is generally from the areas where the government power system has not been extended. These units are still in their experimental stage. Tests will be conducted with an electronic load controller to control the voltage and frequency by keeping the load constant.

Fuel- efficient Stoves: The Northern Areas experience long and cold nights and possess only limited supplies of fuel. The problem of efficient cooking and heating of premises calls for

particular attention. AKRSP is helping propagate fuel-efficient stoves designed by the Aga Khan Housing Board for Pakistan.

Sulphur Tents: In order to improve the shelf-life, taste, texture and colour of dried apricot, sulphuring prior to drying was found to be essential. For this purpose sulphur tents were developed and tested. They proved to be operating successfully and are currently under diffusion, with great interest being shown by the VOs.

III.3 Human Resource Development

The training programme is responsive to the growing needs for investment in women's skill development. The training programme is focussed on three areas:

- Areas in which women are traditionally engaged.
- Areas in which women increasingly will be engaged.
- New areas in which training is necessitated due to AKRSP intervention.

Traditionally women are engaged in weeding, harvesting, vegetable cultivation, fruit processing, poultry management, wood gathering and water carrying. This in addition to their responsibilities within the home. Livestock management, disease control and plant protection are the areas in which women will be more and more engaged. Introduction of appropriate technology, nursery development and marketing require additional training.

The training needs of women require special attention because of their limited exposure and mobility. As such training courses are organised in Gilgit as well as in the villages. The training courses are designed on the basis of the level of education of the trainees, the course content and the social restrictions. The purpose of the training determines whether the training course will be village based or in the Extension Training Centre in Gilgit. The courses designed to produce specialists capable of providing an essential service at the village level are held in Gilgit. Field demonstrations intended to upgrade the basic skills of women in the performance of traditional tasks are usually village based. Two or three day intensive courses have also been held in villages in cases of a disease outbreak.

Some of the problems of communication and training are that women have a low level of literacy and they come from different valleys which brings linguistic diversity with it. Both these issues require a special approach from the instructors of the training course. Complicated medical terms were translated into colour or other codes and training courses based in Gilgit were translated into three dialects. An audio-visual extension and communication officer was engaged within the WID section to help design audio-visual teaching aids. Active collaboration with institutions like the Allama Iqbal Open University is being sought to help in this effort.

Given the special training needs of the WID Section, an effort is being made to collaborate with institutions like the Poultry

Research Institute, PCSIR, Agricultural University Faisalabad and the Pakistan Forestry Institute to enable our Field Coordinators to upgrade their skills as master trainers.

IV. Savings and Credit

The women of Gilgit District alone acquired collective savings of Rs. 3.2 million by the end of December, 1987. This improved their access to credit and by the end of 1987 they had taken medium term and short term loans of Rs. 729,336 using the collective savings as collateral.

In Chitral, during the year Rs. 6,600 was extended as short-term loan for buying chicks and Rs. 120,600 was granted for spinning wheels and nurseries. The total savings in Chitral for women amounts to Rs. 171,166.

Table 2.1

**PRODUCTIVE INFRASTRUCTURE AND
ENGINEERING SERVICES
Packages for Women**

GILGIT DISTRICTA: Cumulative upto December 1987

Type of technology	No. of villages where technology is being introduced		No. of completed Projects
	Grant	Loan	
1. Nut cracking machines	39	38	77
2. Dehydration chambers			
i) Chambers	6	-	6
ii) Microhydel	5	-	5
3. Sulphuring tents	59	25	84
4. Biogas units	6	-	6
5. Butter churners	37	3	40
6. Micro-hydel units	2	-	2
7. Fuel-efficient stoves	-	30	30
8. Maize sheller	1	-	1
Total	155	96	251

B: Additions During the Quarter

1. Nut-cracking machines	2	-	2
2. Butter churners	21	-	21
3. Micro-hydel unit	1	-	1
4. Maize sheller	1	-	1

Table 2.2

AGRICULTURE AND RESOURCE MANAGEMENT
Packages for Women

GILGIT DISTRICT

A: Cumulative upto December 1987

Type of Project	Valleys in which Projects implemented	No. of villages in each valley
1. Nursery Dev.	Gojal	1
	Hunza	2
	Nagar	2
	Gilgit	1
	Yasin	1
2. Vegetable Demonstration plots	Gojal	2
	Hunza	2
	Nagar	3
	Gilgit	5
	Gupis	6
3. Poultry Farm	Yasin	5
	Hunza	1
	Gilgit	1

B: Additions during the Quarter: Nil

Table 2.3

HUMAN RESOURCE DEVELOPMENT
Packages for Women

GILGIT DISTRICT

A: Cumulative upto December 1987

Type of Project	No. of women trained	No. of villages with trained women
Poultry training regular (long)	174	84
Poultry training refresher	47	34
Poultry training (Short)	58	57
Plant Protection Specialists	1	1
Nursery training	30	6
Vegetable cultivation techniques	115	23
Fruit Processing	667	54

B: Additions during the Quarter

Poultry training refresher	5	2
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Table 2.4

CREDIT DISBURSEMENT

GILGIT DISTRICTA: Cumulative upto December 1987Short-term Loan

Type of Loan	No. of loans	Amount (Rs.)	Beneficiary Households
1. Fertiliser	31	254,924	613
2. Poultry	37	230,315	1,515
3. Vegetable Seed	3	20,097	158
4. Marketing	1	7,000	32
Total	72	512,336	2,318

Medium-term Loans

1. Mixed farming	1	65,000	86
2. Nursery	4	152,000	195
Total	5	217,000	281

B: Additions during the Quarter

1. Mixed farming	-	15,000	-
2. Fertiliser	2	18,740	118
Total	2	33,740	118

Table 2.5

WOMEN'S ORGANISATION PROVIDED WITH SPINNING WHEELS
(ON GRANT)

CHITRAL DISTRICT

Name of the Valley	Women's Organisation
Karim Abad	Dronil, Shahnoon, Sosoom
Garam Chashma	Mogh, Monor
Yarkhun	Chapari, Chuinch, Jamlasht
Laspur	Harchin
Torkhow	Nisur

Table 2.6

WOMEN'S ORGANISATIONS PROVIDED WITH NUT CRACKING MACHINES
(ON GRANT)

CHITRAL DISTRICT

Name of Valley	Women's Organisation
Karimabad	Dronil, Hinjil, Shahnoon
Garam Chashma	Mough
Yarkhun	Diezg, Janlasht
Booni	Loot Door
Mulkhow	Rabat Kosht
Torkhow	Nisur

Table 2.7

AGRICULTURE AND RESOURCE MANAGEMENT
Packages for Women

CHITRAL DISTRICT

A: Cumulative upto December, 1987

Type of Project	Valley	Women's Organisation
1. Nursery Development	(i) Booni (ii) Mulkhow (iii) Garam Chashma (iv) Karim Abad	Lot Door Rabat Kosht Monor Shah
2. Vegetable Demonstration plots	(i) Karim Abad (ii) Arkari (iii) Garam Chashma	Dronil Hinjeel Mogh, Monor
3. Poultry Farm	(i) Mulkhow (ii) Booni	Rabat Kosht Lot Door

Table 2.8

HUMAN RESOURCE DEVELOPMENT
Packages for Women

CHITRAL DISTRICT

A: Cumulative upto December 1987

Type of Training	No. of Women trained	No. of Villages with trained women
Poultry Training Regular (Short)	19	11
Silage preparation		
Vegetable cultivation Techniques		
Fruit Processing		
Plant Protection Specialist		
<u>Total</u>	<u>19</u>	<u>11</u>

CHAPTER THREE

PHYSICAL INFRASTRUCTURE AND ENGINEERING SERVICES

1. Why are Productive Physical Infrastructures (PPIs) Effective Social Organisers

1.1. PPIs and VOs: A Symbiotic Relationship

Traditionally, it was the local feudal chiefs, such as Mirs and Rajahs who initiated land and irrigation development for settlement. They used state authority and its attendant powers to induce or constrain their subjects into constructing new channels, rehabilitating old ones and developing new lands.

The Mirdoms and other feudal states were formally abolished in 1974. Although the general decline in feudal authority began with the British incursion in the late 19th century, the decline became more pronounced during the last 35-40 years. One effect of the decline in feudal authority was the slow pace of irrigation and land development in the 30-35 years prior to AKRSP's arrival. Despite the growing pressure on land during these years, no land settlement schemes were undertaken.

AKRSP thus entered at a stage when the old order by all practical realities was defunct and an institutional vacuum existed which inhibited mobilisation of resources atleast at the village level. AKRSP's approach was thus geared to meet this challenge - to organise the villages that can undertake the development exercise on a cooperative basis. Cooperative efforts became necessary because farmers in the North were smallholders, thus handicapped in attaining the economies of scale. One dramatic package that could meet this challenge on a first strike and lay the foundation for development was the Productive Physical Infrastructure (PPI). The essentials for small farmer development are (i) productive physical infrastructure (ii) administrative infrastructure and (iii) social and economic infrastructure. It was the villagers themselves who identified the micro projects (namely the productive physical infrastructure) at the village level as their most important priority.

AKRSP believes that villages can be most effectively organised initially around economic, rather than social sector activities. A PPI scheme is regarded as an essential component of the creation of the Village Organisation (VO), since it is a cost effective entry point around which villages have proven their ability to organise. VOs and PPIs are thus in a state of symbiosis: The new social infrastructure (VO) is aided by the catalytic effect of the new economic infrastructure (PPI) that the VO has identified, will implement and upon completion, maintain.

Through the diagnostic process, the villagers identify a common project whose benefits are perceived to be equally and widely distributed irrespective of the land holdings. The social organisation aspect is further strengthened during the PPI implementation phase. The "peoples project" activates rules,

regulations, sanctions, duties and conflict resolution using the VO as a forum through regular meetings. Once the PPI is complete, the regular maintenance of the scheme continues to involve the VO. The economic aspects of the completed scheme further nurture the VO. A newly constructed irrigation channel for instance translates into additional water resource and land reclamation. The latter in particular necessitates collective efforts and AKRSP inputs in post-PPI phase for land development continue to be extended at a VO level. It has been our experience that the identification of a scheme during the dialogue is crucial for the future viability of the VO. When identification has not been proper in terms of equitable benefits, the cohesiveness of the VO has been affected in due course. This testifies to the direct relationship between the PPI as an entry point and the VO as a common forum.

The symbiotic relationship between the VO and the PPI is further reinforced by AKRSP condition for a VO to have savings of at least Rs. 200 per member (Rs. 300 in the case of Gilgit district) before the second and the third dialogues can be undertaken for scheme feasibility and sanctioning of the grant. The savings function not only reflects the commitment on the part of the VO members but also creates a vested interest in the implementation of the project.

There are rare instances when exogenous factors may inhibit the mutually reinforcing PPI - VO ties. One such example is the case of VO Sildhi in Baltistan. The local elections in November 1987 for the Union Council witnessed the VO Manager and President running as opposite candidates. Work on the incomplete PPI irrigation channel scheme stopped at this stage. Stalemate continued after the election results and AKRSP intervened calling upon the VO to fulfil its obligations as laid out in the terms of partnership. The VO reached the decision that the two "political factions" would work as two separate groups, and the remaining work on the irrigation channel was completed. The VO continues to be riddled by two factions who cannot operate singularly as a VO. This is reflected in the fact that the VO savings have stopped. One possible solution would be to form two VOs.

1.2. Grafting Modern Technology on Traditional Practices

AKRSP's approach to technological innovation to raise productivity or efficiency has been to graft modern techniques on traditional practices. AKRSP has used this approach in its PPI package attaining considerable success.

The construction of gravity-fed irrigation channels in the North is an old and an established art, reflecting centuries of wisdom, for livelihood depends on these channels. Early channel construction involved a variety of manual devices including an ibex horn for excavation. The availability of explosives facilitated channel construction considerably and most villages in the domain of the Mir appear to have had the access and the expertise to use explosives. AKRSP ofcourse supplied explosives to VOs where blasting was necessary. But AKRSP also introduced

the mobile pneumatic drill machine. These are rented out to the VOs at market rates and brief training is provided in its use. These drill machines have proved to be invaluable in AKRSP channel construction.

Both in history and in recent times, many villages in Gilgit have experienced successive failures in channel construction. Channel attempts at Passu and Aliabad until AKRSP's arrival were legendary failures. Some villages used the traditional method for determining the gradient of the channel. This entailed the use of water as a level, and starting from the source to take the channel on an ad hoc line, hoping that it would come out with the desired command. The use of a theodolite by engineers today helps in determining gradient. One would thus assume that application of modern engineering techniques would be sufficient to bear a successful outcome. This again however has not been the case and there are several examples in the project area of unsuccessful channels designed by modern engineers. Right from the early stage, AKRSP recognized these complexities. In 1983, the AKRSP engineers carried out a survey of existing channels in Gilgit district. It was determined that a bed slope of 1 : 300 or 400 was ideal for discharge meeting an approximation of 1 cusec for 40 ha. At one stage for instance, the engineers at the Northern Areas Works Organisation (a Government body) were designing a bed slope of 1 : 1000, a typical "text book" approach, which explained all too often the low discharge and insufficient water for irrigation.

The reason for failure is often the unwillingness or the inability of modern engineers to draw upon local knowledge. In a region where local conditions vary dramatically within short distances, and from one season to another, engineering surveys that do not engage local knowledge may lead to costly failures and frustration. Successful channel construction often requires a balanced combination of local wisdom and modern engineering. This combination has been utilised by AKRSP engineers since the programme's inception. The second dialogue between AKRSP and the VO is in fact the survey process undertaken to determine scheme feasibility and cost estimation. This may often entail several visits to survey sites by AKRSP engineers accompanied by knowledgeable villagers selected by the village as a whole.

A classic example of grafting is in the case of protective works. Traditional protective works in the programme area utilised wood and stone which too often proved ineffective in checking water floods. Back in 1983, AKRSP's very first design of protective spurs at the village of Phakora collapsed against the rising water pressure. The Senior Engineer unable to find successful water - control projects in the Northern Areas, visited Swat district where successful river flood control projects have been established. The outcome of the visit was the designing of an "apron", where the stone bund structure is strengthened by the use of gabion wires. This idea was new to the villagers of the North. AKRSP hired craftsmen from down country to provide on-site training to local villagers in the art, who in turn acted as

Master Trainers for other villagers. The skill is now fairly well spread in the project area.

The traditional method of syphon irrigation utilised wooden aqueducts - an inefficient water delivery system which is difficult to maintain. In Chitral district, AKRSP was the first agency to introduce syphon irrigation technique using metal pipes which has expanded the scope for bringing additional barren land into cultivation. The technique which was introduced by AKRSP at Parawak is now being adopted by other development agencies working in the district.

1.3. Villagers Contribution to PPIs

The first PPI project is essentially a grant by AKRSP and is viewed as an investment in the Village Organisation.

With PPI, elements of community participation are introduced in atleast four ways which also reflect the villagers input:

- (i) Knowledgeable villagers are involved in the survey of the project.
- (ii) Villagers are encouraged to save part of the grant disbursement for the project as VO savings.
- (iii) Estimated project costs are itemised into capital and labour costs and put forward to the Village Organisation. The project cost is then negotiated with the Village Organisation, and the labour component is negotiated downwards. The difference between the estimated cost and the negotiated cost reflects the villagers input. AKRSP pays less for labour than the prevailing market rates. On average, AKRSP paid Rs. 15 against Rs. 20 which is the prevailing daily market rate for unskilled labour and Rs.35 instead of Rs.55 in the case of skilled labour. In several instances, the VO has extended the project beyond the specifications in the initial plan, utilising its own resources. Several VOs have undertaken second generation of PPIs utilising their own resources with AKRSP's technical assistance. Table 3.1 shows self financed PPIs initiated in Gilgit District during the year 1987.
- (iv) Upon completion of a project, the VO is responsible for its maintenance. During 1987 in Gilgit District, the VOs incurred an estimated cost of Rs. 722,440 to repair PPI schemes that had been damaged due to heavy rainfall, floods etc (see Table 3.2). In Chitral District, a maintenance schedule for 11 PPI schemes indicates that the VOs bore an estimated cost of Rs. 64,000 to repair damaged PPI projects (see Table 3.3). On the whole, the maintenance performance of VOs in the project area is deemed satisfactory.

PPIs record as AKRSP's most notable achievements. They have proven to be an effective entry point for the programme. As an

entry point, the PPI induces broad-based participation reflecting the villagers consensus, who develop a stake in its construction and maintenance. Such participation is essential for change and for initiating the development process. In a fundamental sense, successful infrastructural engineering by AKRSP laid the foundations on which effective Village Organisations are being nurtured today. The role of PPIs in cementing the villagers to a common front will continue throughout the Second Phase of AKRSP since the last PPI projects are not planned to begin in Chitral and Baltistan Districts until 1993, and many will be completed in the following year.

11. PPI PERFORMANCE AND UPDATE

11.1. Gilgit District

A total of 426 PPI projects have been identified in Gilgit District and the total estimated cost for the implementation of these schemes amounts to Rs. 58.00 million (See Table 3.4). By the end of 1987, a total of 293 PPI schemes had been initiated in Gilgit District at a total cost of Rs. 45.38 million. A total of Rs. 40.01 million or 88% of the commitments have been disbursed to the implementing VOs. Two hundred and twenty two or 76% of the PPI schemes were reported complete and the cumulative physical progress of the PPI package in the district registered 76%. Table 3.5A shows the commitment, disbursement and completed schemes by type of project and Table 3.5B by sub-division. Table 3.6 illustrates the sub-division and sector wise distribution of schemes and costs. Over 58% of the total initiated schemes in the district account for irrigation channels, attesting that water is the main resource priority for raising agricultural productivity. Link roads comprise 17% of the schemes while protective works and storage reservoirs account for 10% and 8% respectively.

Sub-division wise, the highest number of projects (75 PPIs) are located in Gilgit Sub-division while the lowest number (47 PPIs) are in the Nagar-Sikandarabad Sub-division. Irrigation schemes account for the majority of PPIs (over 50%) throughout all the five sub-divisions of Gilgit District. Majority of the link roads (47%) are located in Gilgit Sub-division while Gupis-Yasin account for the highest number (50%) of the total protective works in the district. This reflects the distinct priorities of the sub-divisions in question. Most of the link roads in Gilgit District link the village either directly to the KKH or indirectly through a major feeder road. On the other hand, the villages of Gupis-Yasin Sub-division face the scourge of river erosion hence the priority for protective works. The yearly additions in PPIs, average costs and physical dimensions as well as the unit costs for selected PPI sectors in Gilgit District are given in appendix B.

Cumulatively speaking, the average cost of a PPI scheme in the district is Rs. 154,884. The average cost of an irrigation channel stands at Rs. 140,241. Sector wise the one and only

syphon irrigation scheme at Gurkandass costing Rs. 520,000 makes it on average the most expensive PPI sector. The cheapest PPI schemes are the nurseries averaging at a cost of Rs. 86,250 per nursery.

11.2. Chitral District

By the end of December 1987, a total of 474 PPI projects had been identified in Chitral District and the total cost estimated for the implementation of these projects amounts to Rs. 74.02 million (see Table 3.7). By the years end, a total of 177 PPI schemes had been initiated in Chitral District at a total cost of Rs. 28.26 million of which Rs. 21.66 million or 77% of the total commitment has been disbursed to the implementing VOs. One hundred PPI schemes were reported complete and the cumulative physical progress of the PPI package in the district was 76%. Table 3.8A shows the commitment, disbursement and completed schemes by type of project and Table 3.8B by sub-division. Table 3.9 illustrates the sub-division and sector wise distribution of schemes and costs.

About 59% of the total initiated schemes in the district are irrigation channels. They are followed by link roads which account for 20% and protective works 16%. The comparatively high priority of link roads after the channels reflects the poor state of communication infrastructure in the district.

Sub-division wise, the schemes are more or less equally distributed within the two sub-divisions: 95 in Chitral and 82 in Mastuj Sub-division. Irrigation channels are the predominant schemes in both the sub-divisions comprising 58% of the total schemes in Chitral Sub-division and 61% in the case of Mastuj Sub-division.

The average cost of a PPI project in Chitral district is Rs. 159,695. In terms of average cost of PPI by sector, the syphon irrigation scheme at Parawak is the most expensive sector costing over a million rupees. The cheapest PPI sectors are the bridges which average at Rs. 63,000 each. The yearly additions in PPIs, average costs and physical dimensions as well as the unit costs for selected PPI sectors in Chitral District are given in appendix C.

11.3. Baltistan District

So far, 349 PPI projects have been identified in Baltistan District at an estimated total cost of Rs. 49.61 million (see Table 3.10). By the end of 1987, a total of 115 PPI projects had been initiated in the district at a cost of Rs. 17.21 million. A total of Rs. 11.34 million or 66% of the total commitments have been disbursed to the implementing VOs. Fifty-three projects were reported complete at the years end and the cumulative physical progress of the PPI package in the district was 66%. Table 3.11A shows the commitment, disbursement and completed schemes by type of project and Table 3.11B by sub-division. Table 3.12 illustrates the sub-division and sector wise distribution of

schemes and costs. The majority of the schemes in the district are irrigation channels (44%) followed by protective works (20%) and link roads (13%).

The average cost of a PPI project in the district is Rs. 149,704. Sector wise, the footbridge is the most expensive PPI sector at Rs. 254,000 while the cheapest sector is the boundary wall averaging Rs. 103,200. The yearly additions in PPIs, average costs and physical dimensions as well as the unit costs for selected PPI sectors for Baltistan District are given in appendix D.

III. Land Development, Village Planning and Valley Planning

III.1. Land Development

In 1985, AKRSP launched a land development programme financed by loans to capitalise on the new land being opened by irrigation channels. Engineering staff work with the VO and other AKRSP personnel to survey the new land and to help prepare physical and financial plans. There are questions about allocation and utilisation of land, about mechanisms to enforce these decisions and financial planning to ensure the repayment of substantial medium term loans.

In Gilgit District, AKRSP has so far extended Rs. 14 million in medium term loans to facilitate the implementation of 98 land development projects in the district. In addition, five Village Organisations have received Rs. 275,000 in medium term credit to develop nursery projects covering 3.5 ha in total area. With the 98 land development projects initiated in the district, it is estimated that 716 ha will be terraced for crops, 454 ha will be devoted to fodder and pasture development, 811 ha for afforestation and 338 ha for orchards. Table 3.13 shows the targets and commitments for land development projects initiated in Gilgit District.

With the completion of 105 irrigation projects in Chitral District, an estimated 8,000 ha of uncultivated land will be brought under the irrigation range. By the end of 1987, a total of 15 land development plans had been finalised. The estimated cost of developing 453 ha of barren land amounts to Rs. 3 million. For the 12 land development projects initiated in the district, the estimated cost was Rs. 3.13 million. The medium term loan amount committed stands at only 1.78 million. This means that 43% of the financial contribution for the execution of these land development projects would come from the VOs themselves. It is envisaged that land developed as a result of the currently initiated irrigation schemes would almost double the present land holdings of 6,604 rural households in Chitral District. During 1988, 40 land development plans and 12 nursery development plans would be completed. The total cost for these land development projects is estimated at Rs. 6 million and Rs. 0.54 million in the case of nursery projects. Table 3.14 is an

abstract of costs and targets of 11 development schemes in Chitral District. In Baltistan District, land development plans have been drawn for 10 VOs covering the period 1988 to 1991. Table 3.15 is an abstract of costs and targets for the 1988 phase.

Land development is necessarily a slow process because in mountain areas, it takes several years for a channel to become fully usable to its maximum purposes. The villagers take time to adjust, modify and accommodate a new system to its environment through a process of trial and error. And the new physical system must also stabilise before the full design discharge capacity can be put down the channel. It also takes time for saplings of willows and poplars planted along channel embankments to reinforce channel sides.

PIES is expected to work with other Programming Divisions to assist villagers with infrastructure for better water management and optimal physical layout for water distribution on new lands. To improve water management, there are several possible improvements to new irrigation systems such as desilting infrastructure, overnight storage facilities and seepage control. But all these have to be carefully evaluated to determine its economic returns before any specific recommendation can be made for general adoption.

In villages there is in existence a traditional system of water allocation called warabundi. This is to ensure irrigation turns particularly during periods of water scarcity. This is a complex system and can vary from one village to another. Its underlying principles and regional variations will have to be systematically studied before any suggestions for improvement can be made. As a start, AKRSP will be undertaking a water management case study in two villages in Gojal namely Sust and Khaiber. Both villages are currently developing new land as a result of new irrigation systems. Khaiber VO is developing land collectively while Sust VO has parcelled out the new land into individual plots but is developing it collectively. The study will compare the new land development approaches of these two VOs, its institutional development, water management practices as well as look into cropping patterns, soil, layout etc. The old land at Nazimabad (the upper hamlet of Sust) will also be compared against the new land.

One institutional development that has emerged is the chowkidar. Several VOs have employed chowkidar who carry out field level irrigation operations on the new land including minor irrigation channel maintenance. This is an important development and AKRSP will have to monitor to determine its success and prospects for extension.

III.2. Village Planning

While in the First Phase, the focus was on the land and water adjacent to the village itself, in the Second Phase the village, its summer and winter pastures, its common forests and its entire watershed will have to be viewed as an integrated resource base.

Village planning is seen as an evolving process over time. It is not meant to be restricted to a physical or a financial development plan, but rather to involve a continuing growth in the capacity of the villagers to anticipate change and opportunity. Thus the concept of village planning is meant to refer to the introduction of a modern and a sustainable management system at the village level. AKRSP has much to learn during the Second Phase about way in which village planning can be made an effective concept. A start has been made to develop simple techniques to improve the overall utilisation of the resources available to the village. Some aspects of the village planning exercise are likely to involve engineering skills. PIES would provide support and assistance on design and supervision for projects like poultry units, processing units and link roads between villages and their pastures.

III.3. Valley Planning

In the Second Phase, PIES is likely to be involved in a new type of work namely valley based planning. As the basic infrastructure at the village level begins to improve and production levels rise through a combination of intensification and land development, even greater importance will be attached to supra-village infrastructure.

AKRSP recognises the fact that for the concept of valley planning to materialise into concrete cooperative ventures between neighbouring villages of the same valley, local activists and management systems will have to precede AKRSP commitments. Although local experience with supra-village development cooperation has no major precedence, there are however several positive instances indicating a trend towards such cooperation. There are for instance several cases where different VOs have worked together to implement a common PPI project. Since 1986, AKRSP has also arranged monthly valley level meetings of VO representatives. In Chitral District in particular, there has been a positive development in the experience of valley based institutions called "Cluster Organisations", which were formed in Yarkhoon, Karim Abad and Garam Chasma valleys during 1987. These institutions comprise the presidents, managers and specialists of all member VOs who meet on monthly basis. Initial studies reveal that cluster VOs not only enable the member VOs to reap the benefits of economies of scale in common activities like procurement and distribution of various inputs, but that they also act as "collective social conscience" in pressuring non-conforming VOs to accept the prevention of loss package in livestock and agriculture. The cluster VOs in Chitral are also playing a leading role in resolving inter-village disputes. The Yarkhoon cluster resolved the dispute over protective works scheme and land boundary between Pawar and Dewser and Marthing and Bang Paeen respectively. It is premature to say, how the relationship between the VOs and Cluster Organisations will evolve. This development will be closely monitored in Chitral District and infact AKRSP is planning to implement the plantation campaign at both the VO and the cluster valley levels during 1988.

In general, villagers realise that there are obvious gains in cooperation at the village level in the following areas:

- (i) Input supply arrangement.
- (ii) Output marketing.
- (iii) Common property management at supra level for traditional modern common property such as pastures and modern common property like village roads.
- (iv) The valley area could be used as a recommendation domain for testing and demonstration and agricultural zoning.

The VOs could cut-down on their transportation cost and attain economies of scale by jointly arranging for the purchase and supply of fertilizer, medicines and vaccines. Villages that share water, pastures, forests and other common property resources will be able to come together in managing these resources. In face of the declining authority of traditional institutions, common property resources have been a subject of increasing conflict between villages. If the VO acquires legitimacy as a substitute management system within the village, it will become better placed to expand the scope of its management beyond village common property into a supra-village institution. AKRSP is currently preparing an outline of issues to conduct its very first dialogue for valley planning with seven VOs of Gojal in Gilgit District.

There are numerous possibilities for physical infrastructure at the supra-village level that will require input from PIES. Examples include inter-village roads, medium scale hydro electric development, warehouses and cold storage for marketing operations, repair and maintenance facilities for machinery, processing units and other small industrial enterprises etc. This kind of infrastructure can be viewed as modern common property resources for which the source of demand extends beyond any single village. PIES will be intensively involved in the development of an integrated infrastructure at the valley and watershed levels. AKRSP's engineering services will need to perform adaptive research functions for appropriate technology and the catalytic function for supra-village development on a continuing basis. Coordination and joint planning will have to be considerably strengthened with all the agencies operating in the project area. In Baltistan District, the cooperation between AKRSP and the local Union Council has facilitated "joint development ventures" for the district as a whole. In Gilgit District we have examples of AKRSP and local Government Union Council collaboration in cases of Shimshal link road and Aliabad where several VOs are involved in channel construction. In Chitral District, the VOs are also demonstrating a capacity to manage their own concerns and seem determined to involve other agencies in their activities: e.g. at Parkusap the District Council's compressor is being employed by VO members since last one and a half year. In Laspur valley, AKRSP built the Porth link road while the District Council is building the bridge over the Laspur river. In Sunich/Hinjeel when the VOs found that their

negotiated cost for the channel fell short of the actual expenditure incurred, they sought monetary help from the MPA which was granted.

IV. Appropriate Technology

IV.1. An Overview

A technology assessment cycle would comprise three stages, namely diagnosis, adaptive research and diffusion. The diagnosis stage would involve need assessment through a series of diagnostic and rapid appraisal surveys and a qualitative assessment. Once the need has been identified, a search for available technology/innovation from technical institutes would follow. The adaptive research stage would involve the process of screening out the technology through field testing in terms of its adaptability to local conditions, its technical and economic feasibility, followed by trials and necessary modifications. The final stage would then be diffusion which would involve demonstration of the technology at the village level, formulating and strengthening the input supply system, promoting widespread adoption and monitoring the feedback.

The appropriate technology package developed as a result of AKRSP's search for packages to integrate the women in the development process. The area for intervention centred on skill improvement and introduction of technologies to reduce the workload of women and to increase productivity in activities that fall within the domain of women. The appropriate technology package was thus essentially designed to benefit the women. The new technology would enhance the net incomes of households and improve the capacity of the women to better manage the resources at their disposal.

During the First Phase, PIES started the process of development and adaptation of appropriate technology for the farm and household. An essential step however would be a systematic assessment of the state of technology to identify options for improvement. Attempts were made for improvement in fruit dehydration, efficient stoves and wind power. There was some assessment of needs for women and the prescribed objective was to reduce their workload, but there has been no assessment of needs carried out for the project area as such. AKRSP began improving upon technology through outside quarters. On the one hand there was an incomplete assessment of needs, on the other hand AKRSP was overwhelmed by consultants promoting one or the other technology with PIES doing the adaptive research function and modification.

AKRSP also introduced new technology (e.g. dehydration chambers, spinning wheels). Most of the technology introduced by AKRSP can be said to be at the adaptive research stage and the question is how to reduce cost and staff time during experimentation / field testing.

In carrying out the adaptive research function, AKRSP has introduced technology at the household level (e.g. spinning wheel) on loan basis while those at the village level (e.g. dehydration chambers, micro hydel) on grant basis. But the ultimate test of an appropriate technology would be to see if the villagers are willing to purchase the technology. Obviously if there is value added (e.g. processing technology) or profit, then there should be few problems in diffusion. Response from villagers is biased when a technology is extended on grant basis. Scientific approach alone is not sufficient to determine whether the technology is appropriate or not if the economics is not taken into account. The latter is crucial when it comes to the ultimate objective namely diffusion.

Several key issues have emerged during our brief experience with appropriate technology, which are briefly discussed below:

1. The absence of a systematic approach to determine priorities for appropriate technology at both the household and the agro-processing level will ultimately cause a distortion reducing the package to a mere demand response exercise. The need assessment will thus be the all important priority that the PIES in collaboration with other sections will have to undertake. Recently a need was identified to control open grazing especially in those villages where the VO is undertaking land or pasture development. The local solution would be to construct heavy boundary walls, both an expensive and a labour intensive endeavour. PIES has obtained a few solar powered electric fencing systems which will be put on field trial during the coming free grazing season.
2. AKRSP has neither the capacity nor the resources to function as a full fledged research institute. The best bet lies in introducing those technologies that research institutes like PSCIR may have demonstrated effectively. It is thus felt that AKRSP staff should visit technical institutes more often for information and training.
3. AKRSP underestimated the training requirements associated with its appropriate technology package. There is little capacity at the village level to keep maintenance of technology or to fix small parts or carry out minor repairs. For instance, one of the main reasons for the breakdown of the nut-cracking machines is simply that lubrication is not carried out on regular basis. Demonstration of a technology in the field is no substitute for training. An increasing need is felt to provide more formal training at the extension centre (depending on the nature of technology). The very first such training is scheduled for early 1988. It has been recognised that although the appropriate technology package is geared towards the women, it cannot be implemented successfully without the participation of men.

The provision of spare parts and maintenance of the machine must be undertaken by men, thus both men and women would need to be trained. For women practicing purdah (social seclusion) or residing in remote areas, valley based training camps are being planned for 1988.

4. Managerial and institutional aspects of technology at the village level have to be looked into. Management is a specialised task and there is no reason why a manager should share profit equally with other VO members. Also some technologies do not invite cooperative behaviour.

All technology will need to be assessed in relation to technical feasibility, response to important needs, affordability, reliability and maintenance requirements. Gilgit District will continue to serve as a laboratory for the rest of the project area. The technology development function should be performed in close collaboration between PIES and other AKRSP sections. PIES would be responsible for prototype designs and construction, will perform the adaptive research function on a continuing basis and undertake demonstration efforts. Extension to the VOs would take place through the Social Organisation and Women In Development Sections, and the extension training and credit programmes.

IV.2 Status of Technologies Introduced

1. Clay Stoves

- Objective: To save fuel since it is a low fuel consuming stove.
- Performance: Deemed poor because it does not provide any heat and is very fragile.
- Replicability: Not recommended for replication due to poor performance and non availability of clay. The stoves were rejected during the adaptive research stage.

2. Metal Stoves

- Objective: Introduction of fuel efficient stoves.
- Performance: The Aga Khan Housing Board and GTZ introduced these stoves in the area and it has proved to be very efficient.
- Replicability: Recommended for replication which will be carried out by other agencies.

3. Nut Cracking Machines

Objective: To save time and effort for women.

Performance: There is a mixed response from the villagers. Those who have the machines have often complained about its performance while at the same time there is a demand from other villages. The VOs tend to expect AKRSP to provide maintenance services.

Replicability: It is still in the adaptive research stage and solutions will have to be sought for both its technical and managerial problems.

4. Butter Churners

Objective: To save time and effort for women.

Performance: It will be tested during the coming summer season when milk supply is plentiful.

Replicability: It is still in the adaptive research stage.

5. Solar Cookers:

Objective: To save fuel by using solar energy and to improve hygienic conditions, developed by PCSIR.

Performance: Provided there is sufficient sunlight, and the teething problems are overcome the performance is satisfactory.

Replicability: It is an expensive technology (costs Rs. 800 per cooker), and because of teething problems has not been accepted at household level.

6. Dehydration Chambers

Objective: To improve the value of dried apricots.

Performance: Its performance was poor due to both technical and managerial problems.

Replicability: It is still in the adaptive research phase and as yet not recommended for replication.

7. Micro Hydels

Objective: To provide power to the dehydration chambers and other devices.

Performance: In the majority of the cases, the micro hydels are functioning well. There is also a demand for micro hydels as PPIs in Chitral District. But maintenance is poor.

Replicability: It is in the adaptive research stage. It seems that VOs may lack the capacity to maintain the micro hydels, and this aspect will need special attention.

8. Sulphur Tents

Objective: To improve the value of dried apricots.

Performance: The performance has been excellent.

Replicability: Recommended for wider replication.

9. Oil Expellers

Objective: To save time and improve efficiency.

Performance: Still in initial stages and not yet fully tested.

Replicability: Still at the adaptive research stage.

10. Grain Grinders

Objective: To provide grinding facilities to villages which have no access to water mills.

Performance: Very much at the initial stages of testing.

Replicability: Still in the adaptive research phase.

11. Solar Fencing

Objective: To control free grazing.

Performance: It will be tested in the coming autumn season when free grazing starts.

Replication: It has not yet reached the adaptive research phase. The eventual adoption will depend on the VOs decision to control free grazing.

12. Wind Mills

Objective: To utilize wind energy for multi purposes.

Performance: Not favourable due to irregular winds.

Replicability: Not recommended for replication and it has also proved to be very expensive.

13. Waterlifting Pump (by donkeys)

Objective: To lift water for drinking purposes.

Performance: Still in the testing phase.

Replicability: Still in the adaptive research phase.

14. Solar Water Heater

Objective: To save fuel costs.

Performance: Under testing.

Replicability: Unlikely to be replicated at household level because of its high costs.

15. Maize Sheller

Objective: To save time and effort.

Performance: Under testing. It has only seasonal use i.e., after the maize harvest.

Replicability: It is still in the adaptive research phase and replicability will depend on costs.

16. Spinning Wheel

Objective: To save time and effort and improve quality.

Performance: Spinning wheels imported from New Zealand and Canada were tested and problems were experienced with carding. Local spinning wheels have been ordered through PCSIR.

Replicability: Subject to test results.

17. Biogas Units

Objective: To develop a low-cost alternative to traditional forms of energy for heating, cooking and lighting.

Performance: Small livestock holdings, the shortage of manure for crops, low temperatures in winter, significant capital costs per household, and problems with cultural acceptability combine to work against the adoption of biogas units.

Replicability: Practically zero.

Table 3.1

SELF-FINANCED PPIS FOR THE YEAR 1987

GILGIT DISTRICT

VO	Project	Date of Start	Date of Completion	Estimated Mandays		Estimated Cost (Rs.)
				Skilled	Unskilled	
Rahimabad-I	Irrigation Channel	10-02-87	13-10-87	65	260	69,620
Hoopay	Bridge	15-02-87	12-12-87	40	80	26,800
Nalter Paeen	Link Road	08-05-87	10-10-87	44	345	41,646
Barkulti Paeen	Link Road	02-10-87	01-11-87	-	600	15,000
Sultanabad	Protective Works	15-03-87	05-04-87	5	40	1,050
Hundur Bala	Protective Works	03-03-87	07-04-87	-	250	5,390
Gamis	Community Centre	12-08-87	15-11-87	50	91	18,400
Total:				204	1,666	177,906

Table 3.2

MAINTENANCE RECORD OF PPIs DURING 1987

GILGIT DISTRICT

VO	PPI	Cause of Damage	Month/ Year	Fully Repaired By:	Estimate of Repair Cost (Rs.)
Sub-Division Hunza					
Morkhoon	Irrigation Channel	Snow fall/Rain	08-87	08-87	94,040
Shishkat Centre	Irrigation Channel	Snow fall/Rain	02-87	04-87	10,000
Hussaini	Bridge	Heavy Storm	03-87	05-87	45,000
Mayon	Irrigation Channel	Rain	07-87	07-87	13,000
Khizerabad	Link Road	Rain	03-87	04-87	7,000
Gamisarat	Irrigation Channel	Rain	08-87	08-87	9,200

					178,240
Sub-Division Nagar					
Chayan	Irrigation Channel	Snow fall/Rain	01-87	05-87	8,148
Manalokushal	Irrigation Channel	Snow fall/Rain	01-87	05-87	8,162
Dadimal Bala	Link Road	Snow fall/Rain	01-87	06-87	6,835
Fikar	Irrigation Channel	Snow fall/Rain	01-87	05-87	6,987
Ghashoshal	Irrigation Channel	Snow fall/Rain	01-87	06-87	4,881
Sumair Khai	Irrigation Channel	Snow fall/Rain	01-87	04-87	9,004
Chatorkhand	Irrigation Channel	Snow fall/Rain	04-87	07-87	4,526
Hakuchar	Irrigation Channel	Snow fall/Rain	07-87	07-87	4,786
Mamubar	Link Road	Land Sliding	07-87	08-87	3,289
Rahbat Paen	Link Road	Rain	07-87	08-87	3,715
Pisson	Sedimentation Tank	Silt Settlement	03-87	04-87	321
Chaprote Bala	Irrigation Channel	Rain	08-87	08-87	1,530
Sadiqabad Bar	Pony Track	Snow fall/Rain	01-87	04-87	4,800
Moradabad Bar	Irrigation Channel	Snow fall/Rain	01-87	06-87	3,221
Ghulmit Bala	Irrigation Channel	Snow fall/Rain	01-87	04-87	3,129
Ghulmit Paen	Irrigation Channel	Snow fall/Rain	01-87	04-87	3,432
Minapin	Irrigation Channel	Snow fall/Rain	01-87	04-87	2,400
Sikandarabad	Irrigation Channel	Snow fall/Rain	01-87	04-87	3,600
Dass Giram	Irrigation Channel	Snow fall/Rain	07-87	07-87	2,730
Chaprote Paen	Irrigation Channel	Snow fall/Rain	01-87	04-87	2,820
Porshan	Link Road	Field Water	07-87	07-87	1,200

					89,516

Sub-Division Gilgit

Mohammadabad	Irrigation Channel	Flood	03-87	03-87	70,120
Hanuchal	Irrigation Channel	Flood	09-87	10-87	30,147
Shikyote	Irrigation Channel	Flood	04-87	04-87	55,340
Pari Old	Irrigation Channel	Flood	09-87	10-87	65,130

					<u>220,737</u>

Sub-Division Punyal-Ishkoman

Japuka	Link Road	Rain	04-87	05-87	10,230
Sherqilla Centre	Irrigation Channel	Snow fall/Rain	01-87	04-87	62,780
Dalnati	Protective Works	Flood	03-87	04-87	14,145
Bubar	Irrigation Channel	Snow fall/Rain	01-87	04-87	18,000
Thingdass	Irrigation Channel	Flood	03-87	04-87	16,130
Golodass	Irrigation Channel	Flood	03-87	04-87	20,127
Aishi Bala	Irrigation Channel	Flood	07-87	07-87	12,600
Gahkuch Centre	Irrigation Channel	Rain	08-87	08-87	24,000
Dass Japuka	Link Road	Rain	04-87	05-87	12,425
Hamuchal	Irrigation Channel	Snow fall/Rain	01-87	04-87	15,120
Aminabad	Protective Works	Flood	07-87	07-87	3,390

					<u>208,947</u>

Sub-Division Gupls-Yasin

Teru	Irrigation Channel	Avalanche	01-87	05-87	5,000
Hakis	Irrigation Channel	Land Sliding	07-87	10-87	2,000
Shamaran	Irrigation Channel	Avalanche	01-87	04-87	7,000
Bajyote	Irrigation Channel	Avalanche	01-87	05-87	1,000
Bajyote	Irrigation Channel	Rain	05-87	05-87	4,000
Nooh	Irrigation Channel	Flood	06-87	06-87	1,800
Barkulti Paeen	Protective Works	Flood	03-87	04-87	3,000
Sultanabad	Protective Works	Flood	03-87	03-87	1,200

					<u>25,000</u>
					<u>722,440</u>

TOTAL:

MAINTENANCE RECORD OF PPIs DURING 1987

CHITRAL DISTRICT

<u>VO</u>	<u>PPI</u>	<u>Cause of Damage</u>	<u>Month/ Year</u>	<u>Fully Repaired By:</u>	<u>Estimate of Repair Cost (Rs.)</u>
Manoor	Link Road	Surface Water	07-87	07-87	10,000
Manoor	Link Road	Snow fall	12-87	12-87	
Postiki	Link Road	Snow fall	07-87	07-87	3,000
Ouchgole	Link Road	Snow fall	08-87	08-87	3,000
Ucholasht	Link Road	Snow fall	09-87	09-87	5,000
Droneel	Irrigation Channel	Mud flow	06-87	06-87	15,000
Gram	Irrigation Channel	Mud flow	06-87	06-87	4,000
Susoom	Irrigation Channel	River Cutting	08-87	08-87	2,000
Shoghore	Protective Works	Flood	06-87	06-87	3,000
Breshgram	Link Road	Rain fall	08-87	08-87	10,000
Safed Arkari	Irrigation Channel	Rain fall	09-87	09-87	3,000
Basti Bala/Paen	Link Road	Rain fall	09-87	09-87	6,000

					<u>64,000</u>

TOTAL :

Table 3.4

SUB-DIVISION AND SECTOR WISE IDENTIFICATION AND
DISTRIBUTION OF SCHEMES AND COSTS
ENDING 31ST DECEMBER 1987

GILGIT DISTRICT

Sector	Sub-Division					Total Gilgit District
	Hunza	Nagar	Gilgit	Punyal- Ishkoman	Gupis- Yasin	
Irrigation Channel	5,625 (48)	3,087 (28)	9,932 (53)	2,864 (30)	10,020 (69)	31,528 (228)
Lift Irrigation	- -	- -	1,050 (5)	- -	- -	1,050 (5)
Link Roads	3,011 (26)	1,085 (12)	2,426 (21)	872 (6)	2,089 (16)	9,483 (81)
Protective Works	1,007 (6)	546 (4)	840 (6)	1,626 (13)	6,654 (39)	10,673 (68)
Storage Reservoirs	419 (4)	475 (5)	972 (6)	394 (3)	1,932 (16)	4,192 (34)
Sedimentation Tanks	131 (1)	88 (1)	136 (1)	180 (1)	-	535 (4)
Bridges	362 (3)	-	100 (1)	-	80 (2)	542 (6)
Total:	10,555 (88)	5,281 (50)	15,456 (93)	5,936 (53)	20,775 (142)	58,003 (426)

% of total:	18 21	9 12	27 22	10 12	36 33	100 100
=====						

Note: The upper figure denotes the cost in Rs. '000, while the lower figure in parenthesis denotes the number of schemes.

Table 3.5

**PRODUCTIVE PHYSICAL INFRASTRUCTURE
COMMITMENT, DISBURSEMENT AND COMPLETED PROJECTS
CUMULATIVE UPTO DECEMBER 1987**

GILGIT DISTRICT**A: BY TYPE OF PROJECT**

Type of project	No. of Projects	Cost (Rs '000)	Disbursement		Completed Projects
			(Rs '000)	As % of Cost	
Irrigation Channel	166	23,280	20,929	90	131
Syphon Irrigation	1	520	504	97	1
Pipe Line Irrigation	2	404	315	78	1
Lift Irrigation	3	501	296	59	2
Link Road	49	9,055	7,775	86	36
Protective Works	28	5,235	4,891	93	21
Storage Reservoir	22	3,432	2,772	81	13
Mud-flow Control	1	54	54	100	1
Sedimentation Tank	2	242	242	100	2
Pony Track	2	261	261	100	2
Bridge	7	1,383	1,215	88	5
Bridge/Link Road	2	204	185	91	2
Boundary Wall	3	276	203	74	2
Super Passage	1	189	189	100	1
Nursery	4	345	180	52	2
Total:	293	45,381	40,011	88	222

B: BY SUB-DIVISION

Hunza	59	10,470	9,294	89	44
Nagar	47	6,182	5,473	89	34
Gilgit	75	12,687	11,618	92	63
Punyal-Ishkoman	51	7,876	6,603	84	36
Gupis-Yasin	61	8,166	7,023	86	45
Total:	293	45,381	40,011	88	222

Table 3.6

PRODUCTIVE PHYSICAL INFRASTRUCTURE
SUB-DIVISION AND SECTOR WISE DISTRIBUTION OF SCHEMES AND COSTS
CUMULATIVE UPTO DECEMBER 1987

GILGIT DISTRICT

Sector	Sub-Division					Total
	Hunza	Nagar	Gilgit	Punyal-Ishkoman	Gupis-Yasin	
Irrigation Channel	5,760 (36)	2,841 (24)	6,580 (39)	4,114 (32)	3,985 (35)	23,280 (166)
Syphon Irrigation	-	520 (1)	-	-	-	520 (1)
Pipe Irrigation	-	82 (1)	322 (1)	-	-	404 (2)
Lift Irrigation	-	-	501 (3)	-	-	501 (3)
Link Road	3,590 (15)	610 (5)	3,903 (23)	757 (4)	195 (2)	9,055 (49)
Protective Works	179 (2)	265 (1)	237 (2)	1,888 (9)	2,666 (14)	5,235 (28)
Storage Reservoir	228 (2)	958 (6)	701 (4)	552 (3)	993 (7)	3,432 (22)
Mud-flow Control	-	-	-	-	54 (1)	54 (1)
Sedimentation Tank	-	88 (1)	154 (1)	-	-	242 (2)
Pony Track	98 (1)	-	163 (1)	-	-	261 (2)
Bridge	614 (3)	-	-	566 (3)	203 (1)	1,383 (7)
Bridge/Link Road	-	204 (2)	-	-	-	204 (2)
Boundary Wall	-	276 (3)	-	-	-	276 (3)
Super Passage	-	189 (1)	-	-	-	189 (1)
Nursery	-	149 (2)	126 (1)	-	70 (1)	345 (4)
Total:	10,469 (59)	6,182 (47)	12,687 (75)	7,877 (51)	8,166 (61)	45,381 (293)

Note: The upper figure denotes the cost in Rs. '000, while the lower figure in parenthesis denotes the number of schemes.

Table 3.7

**SUB-DIVISION AND SECTOR WISE IDENTIFICATION AND
DISTRIBUTION OF SCHEMES AND COSTS
ENDING 31ST DECEMBER 1987**

CHITRAL DISTRICT

<u>Sector</u>	<u>Sub-Division</u>		<u>Total Chitral District</u>
	<u>Chitral</u>	<u>Mastuj</u>	
Irrigation Channel	24,401 (161)	19,417 (118)	43,818 (279)
Syphon Irrigation	-	3,072 (3)	3,072 (3)
Link Road	5,087 (29)	3,188 (21)	8,275 (50)
Protective Works	8,425 (59)	5,675 (38)	14,100 (97)
Storage Reservoir	606 (3)	2,222 (11)	2,828 (14)
Bridge	1,365 (22)	558 (9)	1,923 (31)
Total:	39,884 (274)	34,132 (200)	74,016 (474)
<hr/>			
% of Total:	54 58	46 42	100 100

Note: The upper figure denotes the cost in Rs. '000, while the lower figure in parenthesis denotes the number of schemes.

Table 3.8

PRODUCTIVE PHYSICAL INFRASTRUCTURE
COMMITMENT, DISBURSEMENT AND COMPLETED PROJECTS
CUMULATIVE UPTO DECEMBER 1987

CHITRAL DISTRICT

A: BY TYPE OF PROJECT

Type of project	No. of Projects	Cost (Rs '000)	Disbursement		Completed Projects
			(Rs '000)	As % of Cost	
Irrigation Channel	105	16,518	12,246	74	54
Syphon Irrigation	1	1,024	1,024	100	1
Protective Works	28	4,225	3,670	87	22
Link Road	36	5,715	4,181	73	19
Bridge	3	189	189	100	3
Hydel Power	1	89	89	100	1
Storage Reservoir	3	506	269	53	-
Total:	177	28,266	21,668	77	100
=====					

B: BY SUB-DIVISION

Mastuj	82	14,048	10,465	74	45
Chitral	95	14,218	11,203	79	55
Total:	177	28,266	21,668	77	100
=====					

Table 3.9

PRODUCTIVE PHYSICAL INFRASTRUCTURE
SUB-DIVISION AND SECTOR WISE DISTRIBUTION OF SCHEMES AND COSTS
CUMULATIVE UPTO DECEMBER 1987

CHITRAL DISTRICT

Sector	Sub-Division		Total
	Chitral	Mastuj	
Irrigation Channel	8,276 (55)	8,242 (50)	16,518 (105)
Syphon Irrigation	-	1,024 (1)	1,024 (1)
Protective Works	1,858 (13)	2,367 (15)	4,225 (28)
Link Road	3,300 (20)	2,415 (16)	5,715 (36)
Bridge	189 (3)	-	189 (3)
Hydel Power	89 (1)	-	89 (1)
Storage Reservoir	506 (3)	-	506 (3)
Total:	14,218 (95)	14,048 (82)	28,266 (177)

Note: The upper figure denotes the cost in Rs. '000, while the lower figure in parenthesis denotes the number of schemes.

Table 3.10

SUB-DIVISION AND SECTOR WISE IDENTIFICATION AND
DISTRIBUTION OF SCHEMES AND COSTS
ENDING 31ST DECEMBER 1987

BALTISTAN DISTRICT

Sector	Sub-division				Total Baltistan District
	Skardu	Khaplu	Shigar	Kharmang	
Irrigation Channel	6,930 (45)	4,646 (45)	4,039 (30)	6,872 (43)	22,487 (163)
Pipe Line Irrig.	1,036 (5)	-	1,564 (7)	127 (1)	2,727 (13)
Lift Irrigation	-	875 (5)	-	350 (2)	1,225 (7)
Protective Works	1,684 (10)	3,041 (20)	2,315 (14)	2,168 (12)	9,208 (56)
Link Road	1,828 (15)	1,187 (8)	1,004 (8)	856 (6)	4,875 (37)
Pony Track	506 (4)	-	1,139 (9)	506 (4)	2,151 (17)
Storage Reservoir	1,089 (8)	120 (1)	739 (6)	1,166 (11)	3,114 (26)
Foot Bridge	254 (1)	508 (2)	508 (2)	-	1,270 (5)
Boundary Wall	206 (2)	558 (5)	103 (1)	887 (9)	1,754 (17)
Orchards	-	400 (4)	400 (4)	-	800 (8)
Total:	13,533 (90)	11,335 (90)	11,811 (81)	12,932 (88)	49,611 (349)
% of Total:	27.3 25.8	22.8 25.8	23.8 23.0	26.1 25.4	100 100

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Note: The upper figure denotes the cost in Rs. '000, while the lower figure in parenthesis denotes the number of schemes.

Table 3.11

**PRODUCTIVE PHYSICAL INFRASTRUCTURE
COMMITMENT, DISBURSEMENT AND COMPLETED PROJECTS
CUMULATIVE UPTO DECEMBER 1987**

BALTISTAN DISTRICT**A: BY TYPE OF PROJECT**

Type of project	No. of Projects	Cost (Rs '000)	Disbursement		Completed Projects
			(Rs '000)	As % of Cost	
Irrigation Channel	51	7,599	4,575	60	19
Pipe Line Irrigation	7	1,468	1,240	84	5
Protective Works	23	3,782	2,543	67	9
Link Road	15	2,013	1,430	71	10
Pony Track	4	506	506	100	4
Storage Reservoir	9	1,078	788	73	6
Foot Bridge	1	254	161	63	-
Boundary Wall	5	516	97	19	-
Total:	115	17,216	11,340	66	53

B: BY SUB-DIVISION

Skardu	35	5,377	4,350	81	24
Khaplu	23	3,138	1,707	54	5
Shigar	25	3,570	2,576	72	11
Kharmang	32	5,131	2,707	53	13
Total:	115	17,216	11,340	66	53

Table 3.12

PRODUCTIVE PHYSICAL INFRASTRUCTURE
SUB-DIVISION AND SECTOR WISE DISTRIBUTION OF SCHEMES AND COSTS
CUMULATIVE UPTO DECEMBER 1987

BALTISTAN DISTRICT

Sector	Sub-Division				Total
	Skardu	Khaplu	Shigar	Kharmang	
Irrigation Channel	2,162 (13)	1,082 (9)	1,506 (13)	2,849 (16)	7,599 (51)
Pipe Line Irrigation	616 (3)	-	725 (3)	127 (1)	1,468 (7)
Protective Works	533 (3)	903 (7)	1,000 (6)	1,346 (7)	3,782 (23)
Link Road	710 (6)	650 (4)	199 (2)	454 (3)	2,013 (15)
Pony Track	506 (4)	-	-	-	506 (4)
Storage Reservoir	850 (6)	-	140 (1)	88 (2)	1,078 (9)
Foot Bridge	-	254 (1)	-	-	254 (1)
Boundary Wall	-	249 (2)	-	267 (3)	516 (5)
Total:	5,377 (35)	3,138 (23)	3,570 (25)	5,131 (32)	17,216 (115)

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Note: The upper figure denotes the cost in Rs. '000, while the lower figure in parenthesis denotes the number of schemes.

Table 3.13

LAND DEVELOPMENT PROJECTS INITIATED ON MEDIUM-TERM LOANS IN GILGIT DISTRICT
ABSTRACT OF COSTS AND TARGETS
CUMULATIVE UPTO DECEMBER 1987

Tehsil	No. of Land Dev. Schemes	Total amount of loans taken Rs. '000	Member- ship	Terraces (ha)	Fodder (ha)	Affores- tation (ha)	Orchards (ha)	Total Area (ha)
Gojal	16	1,623.0	643	192.48	118.82	200.83	89.49	601.62
Hunza	4	260.0	145	6.93	5.82	25.50	13.41	51.66
Nagar	5	590.0	200	12.60	20.96	28.38	16.53	78.47
Sikandarabad	9	1,709.5	504	62.47	36.22	76.69	59.14	234.52
Gilgit	23	4,513.0	1,812	160.13	43.03	99.40	56.66	359.22
Punyal	16	2,469.3	1,438	40.62	75.78	121.76	43.56	281.72
Ishkoman	5	626.0	321	10.52	19.47	27.17	19.27	76.43
Gupis	10	777.0	492	82.25	98.45	90.75	6.17	277.62
Yasin	10	1,662.0	630	148.48	36.17	140.99	33.84	359.48
Total:	98	14,229.8	6,185	716.48	454.72	811.47	338.07	2,320.74

Table 3.14

MEDIUM-TERM LOANS

LAND DEVELOPMENT PLANS FOR 1988

ABSTRACT OF COSTS AND TARGETS

CHITRAL DISTRICT

S. No.	Name of VO	Crop Land (ha)	Fodder (ha)	Afforestation (ha)	Orchards (ha)	Nursery (ha)	Total Area (ha)	Cost Material	Cost Labour	(Rs.'000)
1.	Pashk	6.0		11.20			17.20	19.0		123.0
2.	Bombagh	26.0	10.0	18.00	7.6		61.60	112.0		264.0
3.	Shershal	8.0	2.0	40.00	1.0		51.00	99.0		28.0
4.	Purpuni A. Abad		30.0	21.00		0.06	51.06	80.0		115.0
5.	Momi-I	1.0	7.0	24.00		0.05	32.05	6.0		105.0
6.	Bilpok		6.0	2.00		0.05	8.05	19.0		45.0
7.	Chargolai	1.0	2.0	0.55	0.6		4.15			90.0
8.	Marthing	9.0	47.0	34.00	2.0		92.00	16.0		659.0
9.	Ochoqol		11.0	8.00			19.00	51.0		105.0
10.	Rabat Kosht	11.0	22.0	21.00			54.00	56.0		189.0
11.	Dardai	9.0	10.0	9.00			28.00	60.0		107.0
Total:		71.0	147.0	188.75	11.2	0.16	418.11	518.0		1,830.0

Table 3.15

MEDIUM-TERM LOANS
LAND DEVELOPMENT PLANS FOR 1988
ABSTRACT OF COSTS AND TARGETS

BALTISTAN DISTRICT

S. No.	Name of VO	Fodder (ha)	Afforestation (ha)	Orchards (ha)	Total Area (ha)	Cost (Rs.'000)	
						Material	Labour
1.	Sordass	0.6	0.6	3.0	4.2	21.2	62.0
2.	Sosar Sermik	1.3	1.3	-	2.6	5.3	11.9
3.	Ghasing	4.1	4.1	-	8.2	16.4	36.8
4.	Daltar Thalay	2.7	2.7	-	5.4	10.7	25.5
5.	Baltoro Thalay	1.4	1.3	-	2.7	5.3	12.0
6.	Bhordass	3.7	0.1	-	3.8	4.1	2.6
7.	Kanderik-I	1.0	1.0	-	2.0	4.0	9.0
8.	Arancho	0.8	0.8	-	1.6	3.3	4.5
9.	Yuno	1.0	1.0	-	2.0	4.0	9.0
10.	Sildhy	2.1	2.5	1.4	6.0	12.1	23.7
Total:		18.7	15.4	4.4	38.5	86.4	197.0

Table 3.16

LIST OF SLOW PPIsGILGIT DISTRICT

S.No.	Village Organisation	PPI Project	Physical Progress December 1987
1.	Hakis	Irrigation Channel	75%
2.	Holshal	" "	90%
3.	Dorkhand	" "	80%
4.	Darchi	Storage Reservoir	75%
5.	Zakirabad Misgar	Irrigation Channel	80%
6.	Gashumalling (Chalt Paeen)	" "	75%
7.	Atta Abad (Bala)	Link Road	90%
8.	Balas	Link Road	75%
9.	Ganish Kalan	Irrigation Channel	90%
10.	Faizabad	" "	90%
11.	Karimabad Thoi	" "	90%
12.	Nasirabad Bala Ph.2	" "	20%
13.	Nasirabad Bala Ph.1	" "	30%
14.	Shimshal	Link Road	30%
15.	Konakoi	Irrigation Channel	35%
16.	Gulmuti Paeen	Irrigation Channel	45%
17.	Darkute Dass	Protective Works	50%
18.	Broshal Honono	Irrigation Channel	65%
19.	Hassanabad	Link Road	75%
20.	Hatoon Paeen	Irrigation Channel	80%
21.	Shote Rahimabad	" "	75%
22.	Rahimabad Dahimal	" "	80%
23.	Thoi Dass	" "	90%
24.	Batkore	Link Road	90%
25.	Shahyar	Storage Reservoir	5%
26.	Yangal	" "	50%
27.	Barchi Haramosh	Irrigation Channel	60%
28.	Chilpi Bala	Protective Works	90%
29.	Zulfiqarabad	Storage Reservoir	80%
30.	Fhamani	Irrigation Channel	85%
31.	Dadimal Paeen	Storage Reservoir	90%

Table 3.17

APPROPRIATE TECHNOLOGY/INNOVATIONS AND THE
TECHNOLOGY ASSESSMENT CYCLE

<u>Innovation</u>	<u>Technology Assessment Cycle</u>		
	<u>Diagnosis</u>	<u>Adaptive Research</u>	<u>Diffusion</u>
Clay stoves	-	Rejected	-
Metal stoves	-	-	Diffusion
Nut cracking machines	-	AR	-
Butter churners	-	AR	-
Solar cookers	Rejected	-	-
Dehydration Chambers	-	AR	-
Micro hydels	-	AR	-
Sulphur tents	-	-	Diffusion
Oil expellers	-	AR	-
Grain grinders	-	AR	-
Solar fencing	To be tested		
Wind mills	Rejected		
Water lifting pump	-	AR	-
Solar water heater	-	AR	-
Maize sheller	-	AR	-
Spinning wheels	-	AR	-
Bio-gas	Rejected		

CHAPTER FOUR

AGRICULTURE AND RESOURCE MANAGEMENT

1. Major Challenges for the Second Phase

AKRSP's major achievement during the First Phase was the conceptualization of an effective institutional model. The aim of the Second Phase is to develop a production model to complement the institutional model, that incorporates infrastructural developments, production technologies and marketing possibilities. The production model, carefully conceptualized, is needed not only to generate increased production benefits but also to improve resource management. Thus, the marriage between the institutional and production models will enhance the scope for broader and integrated resource management at the farm, village and valley/ watershed levels. It is in this context that the Agriculture and Resource Management Division (ARM) has set for itself the overall aim of working with VOs towards more productive and sustainable use of scarce resources (land, water, biological and human) under varied agro-ecological conditions in the region.

ARM has four specific objectives:

1. Producing improved packages for intensified production of each of the major crops, tree and animal species in the project area, through adaptive research;
2. Technical assistance to improve the integrated management of resources at three levels farm, village and valley/watershed. This would include work on farming systems, integrated livestock-cropping - pasture systems at the village level and contributions to valley planning and watershed management;
3. Disseminating the results of the production package trials and resource management improvements to VOs, through:
 - a. incorporating new material into training curriculum;
 - b. widespread field demonstrations;
 - c. assistance with the establishment of input supply facilities;
 - d. organizing of and training for specialised villages for such activities as seed multiplication, potato seed production and forest and fruit plant nurseries;
 - e. collaboration with government research and extension services.
4. Increasing attention to the issues of sustainability of agricultural systems in the region, particularly where innovations are being introduced by AKRSP. The objective is to devise methods to reduce risks and threats to sustainability.

The stage is set for our review by the following section on crop-livestock interactions, describing how these interactions are managed by the farmers at present, and outlining possible interventions by AKRSP. Next, the three broad components of ARM are discussed separately and in detail, viz., food and fodder crop development, livestock and pasture development, and forestry development.

II. Crop-Livestock Interactions

II.1. Introduction

The region's farming systems have evolved over centuries to a high level of interdependence between crop and livestock activities. Livestock provide: draught power for ploughing and threshing; farm yard manure that is so critical to the young and unformed soils of the region; and supplementary income in case of crop failure. New products that are now becoming available in the market may reduce the dependence of cropping on livestock. At the same time, however, market substitutes have been slow in displacing the crop sector's contributions to livestock (i.e., different kinds of fodder). It is estimated that 70-80 percent of total digestible nutrients come from cereal straw. Although comprehensive data are not available for the project area, evidence from other mountain farming systems shows a heavy reliance of livestock on crops and crop residues, relative to pastures and rangelands. A qualitative description of the crop sector's fodder contributions to livestock follows next.

II.2. Present Crop-livestock Interactions Management

Wheat: is the most important crop in the region, both for its direct human consumption and feeding of residues to livestock. Wheat contribution to livestock takes the form of: straw feeding in winter, spring and autumn; wheat fields are thinned to provide fresh succulent feed in spring; wheat flour is mixed with straw and fed to lactating animals;

Maize: is a dual purpose crop. Its contributions to livestock are made in the form of: weeds from maize fields in late summer and early autumn in double crop areas and in late spring and summer in single crop areas; maize fields are sequentially thinned to provide fresh fodder; at harvest fresh stalks are chopped and fed as fresh fodder; stalks are dried and fed over winter; maize grain is used in making a local compound mixture and fed to vulnerable animals.

Alfalfa: This perennial crop is fed to livestock in the following forms: fresh in autumn and early winter; dried and fed over winter; mixed with straw and fed in autumn.

Shaftal (Clover): is grown on small areas and is used as green fodder in spring and summer.

Trees: provide a significant, perennial source of fodder. Willow, poplar, mulberry, and oak are particularly useful. Most tree fodder is obtained by pruning the branches of poplar, willow and Russian olive as required, and also by pollarding willows. Tree fodder supplies take the following forms: fresh leaves are fed in summer; dried leaves are collected and fed over winter; tree bark is fed to donkeys and goats.

11.3. Prospects for Improved Management

The most important factor limiting livestock productivity in the Northern Areas is the shortage of feed in general and particularly over the late winter to late spring period. FAO and AKRSP agronomists have visualised and realised a number of opportunities to improve the cropping system's contribution to livestock in a productive and sustainable way.

Wheat: AKRSP has introduced semi-dwarf wheat varieties which are resistant to rust and yield more grain than local varieties, as well as more straw with moderate - to - high applications of nitrogen. To improve the nutritive value of wheat straw, urea treatment of straw is being field-tested.

Maize

After maize varietal trials, a variety Kashmir Gold, has been selected for demonstration at VO level. This variety is high yielding, both for grain and stalks, and has higher disease and pest resistance. Silage making technique has also been demonstrated. Silage increases the nutritional status of chopped maize feed.

Alfalfa

Analysis of alfalfa production and harvesting practices has showed that protein content of the fodder is sacrificed for greater roughage. Recommendations on improved management practices are being prepared in Urdu for distribution to VOs.

Catch Crops

Vetch has been introduced as a fodder catch crop after maize (in double cropping areas) and wheat (in single cropping areas). However, for catch crops to be successfully grown, the age old tradition of free grazing in autumn has to be controlled.

Trees

Village forestry specialists are trained to impart knowledge of proper pruning and pollarding techniques to improve tree fodder yields.

III. Food and Fodder Crop Development

III.1. Wheat

ARM's interventions in the wheat farming system were made because wheat is the major food crop in the region, and wheat straw is the major feed for livestock. Previous research conducted by UNDP/FAO agronomist has shown that, while wheat productivity was above the national level, it was less than potential. Field level data had shown that disease and pest susceptibility of locally planted wheat varieties was a major constraint to realising the yield potential. Although newer varieties had been released in the region, their adoption rate had been low due to there being no systematic seed multiplication and distribution facilities. Thus ARM aimed to introduce new high-yielding disease and pest resistant wheat varieties and to set up seed multiplication and distribution facilities. ARM collaborated with regional, national and international research organisations to collect suitable material for testing in the region i.e. Cereal Diseases Research Institute (CDRI), Pirsabak; Pakistan Agricultural Research Council (PARC), Islamabad; International Maize and Wheat Improvement Centre (CIMMYT), Islamabad; and International Centre for Agricultural Research in Dry Areas (ICARDA), Aleppo, Syria.

After on-farm wheat varietal trials, a number of varieties were selected for demonstration and diffusion: Pak-81, Pirsabak and Suneen. These wheat varieties had significantly out yielded the locally planted varieties in grain, while their straw yields were not less than those of locally planted varieties under moderate fertiliser regime. After field verification under farmers own management, the diffusion and monitoring process began. For example, six hundred farmers were given 10 kg Pak-81 seed and fertiliser packages (a total of six tons Pak-81 seed) for planting in 1985/86 wheat season, in the Gilgit double cropping zone. Another one ton of Pak-81 seed was given for multiplication purposes to specialised seed production villages in Gilgit District, e.g. Khaiber, Sultanabad and Princeabad. To encourage seed multiplication, the new seed is sold at a premium. For example, one farmer from Sultanabad sold 960 kg of Pak-81 seed for sowing in 1987/88 crop season to 18 farmers from seven different villages. At a seed rate of 8 kg per kanal, this quantity would allow six hectares to be planted to Pak-81. However, over half of this seed was sold to farmers from Sultanabad itself.

In 1987 a wheat disease survey was initiated by ARM because of a severe rust epidemic caused by prolonged wet spells, in the double cropping zone. A team of wheat pathologists was invited from PARC to assess and identify the prevalent rust races. The team found that the intensity of stripe rust infection ranged from 20 to 100 percent, mainly in the local varieties. Pak-81 was performing very well, had no attack of any rust and the stand establishment was also good. Furthermore, a recent meeting of animal nutritionists, held under the auspices of International Livestock Centre for Africa (ILCA), Addis Ababa, agreed that crop residue quality in wheat has not suffered greatly from breeding

for increased grain yield or reduced height, i.e. the nutritional value of straw from new varieties is not much different from the local varieties.

Thus, it can be concluded that the introduction of Pak-81 was a significant move towards improving the region's wheat farming system. However, the present seed multiplication and distribution system is inadequate. As the example of Sultanabad indicated, even in specialised seed producing villages, not all the farmers are planting Pak-81. Hence, measures need to be taken to improve the seed system so that Pak-81 is widely and rapidly available. Furthermore, widespread adoption of Pak-81 does not necessarily imply the achievement of long-run production stability. Production stability over time requires a steady stream of new cultivars. Given the biological traits inherent in wheat cultivars, they lose yield potential overtime due to breakdown of disease resistance. Seed mixture takes place due to lack of proper on-farm seed management, as well as by using mechanical threshers.

III.2. Maize

Under the existing crop-livestock regime, maize is a dual purpose crop: mature grain is used for human consumption and stalks are fed to livestock. However, there is some evidence that wheat is replacing maize for human consumption. This opens up a number of possibilities: first, before maize maturity, to chop maize and feed it as green fodder; and second, before maturity, to make a silage of both unmatured grain and stalks. The result of this would be that maize fields would be cleared much earlier, hence allowing for the possibility of planting an additional fodder catch crop. However, in the short run, maize is likely to remain a dual purpose crop. Apart from stalks, maize fields also provide weeds and thinnings for livestock. Thinnings may amount to 8-15 t/ha of fresh green matter. To allow for thinnings, farmers use upto three times the recommended seedrate. The grain and stalks yields of local varieties are quite high. However, the potential grain and stalk yields of new high yielding varieties are higher still.

The local varieties are constrained by serious disease and pest problems. Smut (*Ustilago maydis*), streak virus, blight, army worms, white grub and cutworms represent major constraints. Also local varieties are not highly responsive to fertiliser.

A number of maize cultivars were received from the Pakistan Agricultural Research Council, Islamabad, for evaluation. On the basis of performance evaluation, Kashmir Gold variety will be demonstrated, by planting on-farm demonstration plots, during the 1988 kharif season. Before the start of the maize planting season, with the guidance of Social Organisers, dialogues will be held with interested VOs for them to specialise in seed production. Once a VO has agreed to become a specialist seed production village, ARM will provide the necessary technical input. This should help with the diffusion of Kashmir Gold.

Even under existing farmer technology, there are opportunities for raising maize productivity by introducing new management techniques. For instance, instead of growing the same crop for dual purposes, maize could be grown separately in appropriate proportions, with a part grown for grain production at optimum plant density and spacing and fertilisation, and another part managed purely for fodder production and sown at high densities. A latent advantage of adopting this management practice would be the earlier clearing of land for a following catch crop. This practice would most likely result in more grain and fodder production than when sown together as dual purpose crop.

III.3. Vegetables

Vegetables are currently grown for subsistence purposes, with the exception of a few farmers close to Gilgit Town who grow them mainly for the local market. Due to the favourable agro-ecological conditions prevalent in the region, almost all types of vegetables can be grown. But at present only a few types, like spinach, cabbage, onions, raddish, carrots, sonchal (*Malva* sp.) are grown in small fields close to the homestead. Turnips are grown and stored for consumption in winter months. Tomatoes are sold fresh and are also dried and sold in the form of tomato powder.

The Northern Areas have advantage in season of production, i.e. growing of vegetables which are out of season in down country. For example, winter vegetables down country can be grown during summer in the Northern Areas. Vegetables like onion, carrot, peas cabbage, cauliflower and beetroot could be marketed down country where prices are high due to non-production season. Because of longer shelf life characteristic of vegetables like onions, carrots, cabbage, etc., marketing would be less of a problem. However, in the short-term, existing local demand should be met and some form of import substitution take place. At present, during winter months, most vegetables are trucked to the region from down country.

Vegetable-growing is the domain of women. To encourage vegetable gardening on a commercial level, ARM has initiated training of women village specialists in selected villages. These village specialists would act as catalysts in their respective areas. They would impart information with regards to variety choice, seedbed management, transplanting techniques, extending the season through sequential sowing, and on marketing possibilities. This latter could be done in liaison with village marketing specialists. ARM has also laid out demonstration plots in these villages. A common vegetable seedlings nursery is established with the help of trained village women specialists for the whole village. Every household is encouraged to benefit from this facility. Vegetables like onion, carrot, raddish, pea, swiss chard, eggplant, pepper, garlic, beans, okra, beetroot, cauliflower, lettuce and cucumber are gaining popularity among the villages. Good quality imported seed of high yielding cultivars is arranged by ARM and supplied at cost. Short-term interest free credit (6-9 months) for the purchase of inputs like

fertiliser, seed and pesticides is also provided. Because of the climatic conditions, the yield potential of most vegetables is quite high.

Once local demand is met and efficient marketing channels established, vegetables, and in the longer term perhaps vegetable seeds too, could be shipped down country. Successful vegetable growing would not only improve household diet but also provide an important source of income to rural households.

III.4. Fodder Crops

There is a general shortage of fodder in the Northern Areas, particularly in late winter to late spring. Although all farmers plant some area to alfalfa (lucerne) and/or shaftal (clover), the fodder shortage still persists and affects livestock productivity. Agronomic data available indicate that in the double-cropping areas (after maize) and in the single-cropping areas (after wheat) enough of a growing period remains to plant a fodder catch crop. ARM has introduced vetch as an ideal fodder catch crop. This is a leguminous crop, that fixes nitrogen in the soil which helps to improve soil fertility. Like alfalfa, vetch can also be dried and fed to livestock as and when required.

In the single-cropping areas, vetch can be immediately sown after wheat or barley harvest in July or August. It is a rapidly growing crop, that continues to grow until November, and yields 10-25 tons/ha of fresh nutritious fodder. Vetch sowing should not be delayed beyond August, as insufficient growth will be made before being killed by frost in November. For seed production, it should be sown in March and 0.05 ha will yield 40 kg, which is enough to plant one hectare. In areas up to 2,200 m, vetch can be sown in late autumn; the crop germinates, becomes dormant and vigorously grows to provide a good cut of much needed fodder in April, prior to sowing maize in early May. Another possibility is growing of a temperate fodder crop like rye. There are two months of growing season for rye before maize planting in May. Rye could produce 30-40 tons/ha of green fodder over this period, provided it is sown in September.

In the double-cropping areas, there are four months of winter fallow, from mid-October to mid-February. Fodder catch crops can be planted over this period, without altering the present cropping pattern in vogue. Rye planted after maize harvest in October has the potential to yield 20 tons/ha in mid-February. If the first cut was delayed to the beginning of March, then yields would be 36 tons/ha. Another possibility is the planting of vetch in October and first cut in mid-December would yield 25-30 tons/ha.

After on-farm verification trials, a production package has been developed, both for the double cropping and single cropping zones. For rapid adoption of vetch, which is not grown in any part of the country, seed has been imported from abroad. Further demonstration plots will be planted in the region.

The success of this programme will depend crucially on farmers agreeing to change the age-old custom of free grazing in autumn. Indeed several VOs have banned or at least restricted free grazing in autumn. Vetch growing would not only increase cropping intensities but also lead to the provision of more nutritious fodder for the livestock.

III.5. Plant Protection

Although productivity of crops (both annual and perennial) is quite high, it is less than the potential. A major constraint is the incidence of disease and pests. Thus, in order to reduce yield losses, a plant production and protection (PPP) package was devised. This package consists of two parts: training and provision of kits. A VO selects an individual and nominates him/her for training at AKRSP Extension Training Centre. Training courses are of two kinds: regular course for new trainees and a refresher course for trainees who have already attended regular course.

The regular PPP course imparts knowledge about production practices for wheat, maize, potatoes, vegetables, catch crops and fruits. Trainees are also taught about identifying different fertilisers and about spray pump maintenance. Practical demonstrations with trainee participation is an integral part of the course.

Another important part of the PPP course is the management of pests and diseases that afflict different crops. Trainees are taught about disease and pests and as to which crops they affect. They are taught preventive measures (e.g., time of application/spray), name of the pesticide/insecticide, dilution, and the number of sprays. The basic paradigm is that the villages would pay these PPP specialists for services rendered, hence, this would be a sustainable activity.

However, although PPP package was one of the first initiatives taken by ARM, it has not been as effective as was thought. The main cause of PPP ineffectiveness is probably the farmers' perception that PPP does not significantly increase the value of their crop, hence their reluctance to pay the specialists. However, as the case of Chitral District indicates, there are other possible causes too.

During 1987, District Programme Office (DPO), Chitral, stressed the need to make PPPs more effective. The total PPPs trained were 77. DPO Chitral subsequently launched a programme to evaluate the performance of the PPPs. After detailed field visits and discussions the following results were obtained:

1. Only about one-third of the PPPs were found to be working effectively;
2. One-third were illiterate, hence unable to fulfill their duties meaningfully; and

3. One-third were not working/not-working effectively due to:
- they belonged to dormant VOs;
 - perceived low prestige;
 - had left VOs; and
 - not satisfied with remuneration.

Further, the experience of Gilgit District indicates that where fruit is being marketed, PPPs have had some success. However, near Gigit Town, PPPs have not worked effectively, as these specialists have other job opportunities available. Thus, there is an urgent need to reorient PPPs to provide specific services for which VOs see value added, e.g. 1) for apple marketing VOs, 2) for seed producing villages, and 3) budding/grafting linked with orchard development. Further to this reorientation, the VOs should also re-evaluate their criteria for selecting candidates to attend PPP training courses.

III.6. Fruit

Present pattern of fruit production in the region developed as a response to subsistence needs, and as such all rural households have fruit trees. The challenge is to reorient production towards new market opportunities that are opening up. In order to reorient fruit production and management, ARM has introduced two important packages. The first package is concerned with disease and pest control by spraying. For this purpose, village-based plant production and protection specialists are trained and provided with kits. This increases the standard of the fruit as it is free from blemishes caused by pests and diseases. The second package is related to the introduction of improved species which have the following characteristics: high yielding, disease and pest resistant, excellent culinary qualities, longer shelf-life and suited to long distance haulage.

Special attention was focussed on introducing new apple varieties, such as Golden Delicious, Red Delicious and Amri. Walnuts, apricots, grapes, pomegranates, almonds, mulberries, and cherries are also grown in nurseries where agro-ecological conditions are suitable. Also, training in nursery management has been given to nursery specialists in the following VOs: Khaiber, Ahmedabad, Roshanabad-Sherabad, Chatorkhand and Rahbat Bala.

Recently, another package has been developed for planting regular fruit orchards on scientific lines. Each orchard would not be less than one acre (0.4 ha) and would be the common property of the VO. The income may be used in the development programmes of the VO. In addition to these initiatives, other AKRSP Sections provide training as well as credit facilities for fruit marketing. Thus by the time new trees start bearing fruit, VOs would have sufficient experience to exploit new markets.

IV. Livestock and Pasture Development

IV.1. Introduction

In the Northern Areas there is a large population of livestock, which consists of non descript cattle, goats, sheep and yaks.

Most households also keep few scavenging poultry. The importance of livestock increases with elevation, as crop opportunities decline. Livestock numbers are limited by feed supplies, which come from alpine pastures, forage trees (notably poplar, hyppophae and willows), alfalfa, autumn stubble, and straw. Most alpine pastures appear to be over grazed and a very high proportion of winter diet comes from straw. Feed shortage is severest in late winter to late spring. This feed shortage results in disease, mortalities, abortions, delayed growth and lowered production. To improve livestock productivity in the region, ARM has developed a strategy with three major directions: disease control, feed improvement and breed improvement.

IV.2. Disease Control

Livestock diseases and parasites cause considerable losses. Major diseases are:

Cattle	Anthrax, black quarter, liver fluke, foot and mouth, lice, ticks and mange;
Sheep/Goat	Pleural pneumonia (goats only), enterotoxaemia, pox and mange; lice, ticks and liver fluke;
Poultry	Newcastle, coccidiosis, fowl pox, spirochaetosis and ticks.

To control livestock diseases and parasites, a cadre of village based experts was trained. These livestock experts (mahir-e-mal) were trained in disease prevention, diagnosis and management. Disease control programme's salient feature was for the mahir-e-mal to organise comprehensive vaccination and treatment against diseases on village basis. This was hypothesized to eliminate the disease on successive vaccinations. This programme has had a considerable impact. To further strengthen disease control programme, ARM has started collaboration with government agencies. The local Animal Husbandry Department (AHD) collaborates with ARM in disease control and training of mahir-e-mals. AHD has also pooled its supply of vaccines with ARM. This will have several beneficial effects. Firstly, AHD's compounders, who manage the government's field outlets for drugs and diagnosis, will now support the mahir-e-mals with a joint supply line for drugs. And, secondly, it also means that diagnosis and field support for the mahir-e-mal will be more rapid, with prospects for a wider coverage and lowering of costs.

Up to now it had been assumed that the number of vaccine doses procured by mahir-e-mal was equivalent to actual annual vaccinations. Now, for the first time, ARM will conduct follow-up visits to two selected VOs in each sub-division to monitor the actual vaccinations carried out within the village. This monitoring would ultimately be helpful in evaluating the prevention of losses package and determining the actual coverage of animals through vaccination. Realistic targets could then be set for the future.

IV.3. Feed Improvement

Feed shortage is the most important factor constraining livestock productivity in the region, particularly in the late winter to late spring period. Thus, it is imperative to increase feed availability and seasonality. Feed improvement would also strongly complement the disease control programme. The first priority is silage making; the second priority is urea straw treatment; the third priority is improving alfalfa production practices, and the fourth, preparing feed for home-based poultry.

Silage Making

The objectives of silage making are:

- to make feed available when shortages are severest.
- to improve the nutritional value of the feed prepared.
- indirectly increase the animals' water intake.

Silage making was introduced into the region by ARM. Silage can be made from maize, vetch or alfalfa. Green fodder crop is chopped and stored in a silo. If maize is used for silage purposes, the field is cleared one month earlier, thus providing extra growing period for a catch crop.

The silage is chopped either by an electric or diesel powered chopper, as manual chopping requires great strength and stamina. ARM started maize silage preparation in selected VOs in Hunza, Nagar and Gigit sub-divisions. The first silage was made at Sherabad-Roahanabad (Hunza) on September 27, 1986, when the corn was in late milk stage. The silos were opened in early December and samples were taken from these silos to show to other VOs. Out of 10 silos, six had silage varying from very good quality to excellent; four had some degree of mould in the first four inches, due to non-compliance with given directions for silage making, which made the silage merely fair to good quality. In all cases the silage was ensiled and palatable and consumed with relish by local animals. In Danyore, the participants reported milk increases of 25-50 percent; daily milk yields were 0.75-1 kg per milking, while after silage feeding milk yields were reported as 1.0 - 1.5 kg per milking. Also, participants reported that cattle fed on silage during the feed scarcity period were healthier throughout the winter as compared to other cattle which did not benefit from silage. However, there were minor problems as the farmers frequently ignored directions regarding feeding ratios, choosing instead to feed the animals as they usually did and giving silage as a supplement in the order of 4-9 kg per day. In spite of this underfeeding, the silage fed animals showed gains in milking and in body weight.

Due to the greater integration of the region into the national economic grid, and as a result of conscious government policy, increasing amounts of subsidized wheat is imported into the

region. To some extent this has led to change in local diets away from coarse grains, i.e. maize, to greater reliance on wheat. Also, with the introduction of improved technology, wheat productivity is rising. These trends indicate the growing availability of maize as fodder. This should improve livestock productivity, particularly when complemented by a catch crop. However, if food security issues are given a priority, then alfalfa could be used to make silage. This would further enhance nutritiousness of alfalfa, as it would be cut green. This would mean that leaves are also stored, whereas when alfalfa is dried and stored, most leaves fall by the way side.

Urea-straw Treatment

Straw is the most important feed source for cattle, particularly during the winter months. According to one estimate, 70-80 percent of total digestible nutrients come in the form of cereal straw. Straw has only 3.5 percent protein (and the energy value is low) as against actual requirement of 9 percent. Urea-straw treatment was the available technology to turn straw into a more proteinaceous feed. Basically, urea treatment consists of the following:

- 4 kg of urea fertiliser is dissolved in 65-70 litres of water and then sprinkled on 100 kg of straw. This should bring the moisture content to 45-50 percent. Quantities can be adjusted;
- the treated straw is packed down as tightly as possible to exclude air;
- after a month the treated straw is ready for use, being aired before being fed to the livestock.

This technology was tried in five VOs in Yasin, six VOs in Gupis and two VOs in Gilgit. Follow-up revealed that treatment was beneficial to animal live weights and nutrition where it was properly carried out. A few VOs were not thorough in their management, some leaving straw open, others letting it freeze, etc. In those VOs where there was enthusiasm for the treatment the results were generally positive. Urea-straw treatment package is now linked to silage making, i.e. to show VOs the treated straw as a complementary feed to silage. However, urea treated straw, if not properly managed may cause adverse affects. For example, too much feeding may cause kidney enlargement, which although quite suited for calf fattening, may prove fatal for dairy animals. Furthermore, urea treated straw requires careful mixing with other feed sources.

Alfalfa Production Management

The objectives of improving alfalfa production management is to improve the nutritional value of this important feed source. ARM examined the current methods of alfalfa cultivation and harvest.

The examination revealed several deficiencies: patchy poor established stand; very old stands of alfalfa (upto 8-100 years old); irrigation problems resulting in water stress; lack of fertiliser usage for increased yield; poor curing methods and over drying; and, poor storage methods.

In order to improve alfalfa production management, written guidelines have been produced and are being translated into Urdu for publication and distribution.

Poultry Feed

Local poultry breeds are scavenging types with poor productivity. New breeds, with relatively better performance, have been introduced. To maintain their performance in winter, it is essential that they be fed adequately. As commercial feed is expensive, an experiment is underway to produce poultry feed using locally available feed materials, e.g., maize, broad beans, and alfalfa leaves, processed by cheap solar drying and fermentation, to produce a durable high protein concentrate for winter feeding. Once the feed is ready, it will be tested, and if it is found suitable (both technically and financially) it will be demonstrated to VOs.

IV.4 Breed Improvement

The long-term strategy is to improve the genetic quality of the region's non-descript animal species. Priorities include: simple selection techniques for cattle; milch cattle; goats for milk, pashmina, hair and meat; sheep for multiparity and wool, and for meat and wintering ability; and, poultry.

Cattle

The cattle breed improvement programme has two sub-components: introduction of artificial insemination(A.I.), and introduction of semi-exotic crossbreeds with the support of Heifer Project International (HPI). The A.I. programme started in the Gilgit District at the end of June, 1986. The first Jersey-local cross was a male calf. The choice of Jersey semen was on the recommendation of nationally accredited experts; that, of all the exotic breeds, the Jersey was the most suited to the needs of the region. Further, the Jersey breed has been selected by Pakistan Agricultural Research Council (PARC) as the source of exotic blood to be used for dairy cattle improvements in Pakistan. The intent of using Jersey for A.I. is to improve production through hybrids. In the long run an animal with 50 percent, or less, exotic blood is desirable for the Northern Areas, so as to minimise possible problems. The new genes introduced into the gene pool of the region through AI are a permanent asset which will continue to contribute over generations, making its contribution over many local herds. The overall conception rate of the AI programme is 60 percent. However, recent follow-up by

ARM indicates that cost per conception is quite high, at about Rs. 1,600. At the moment, ARM is looking for possible alternative mechanisms. One possibility is the introduction of a bull to serve a cluster of VOs.

In 1987, ARM in collaboration with HPI, introduced cross-bred (Freisien-Sahiwal) cows in eight VOs in Gilgit District. The cows were given as a grant; another grant was given for the construction of livestock sheds. Both these grants were made available by Heifer International of USA to AKRSP. Under the agreement between VOs and AKRSP, VOs would manage the new herd of ten cows, on a collective basis. VOs were provided with a recommended "menu" to feed the cows. However follow-up visits indicated that there was some deviation from the menu. At the time of follow-up visits, which consisted of visits to five VOs, average daily milk yield per cow was three litres. Highest average yield is 5.6 litres in Khaiber, and the lowest is one litre in Paidandass. The relatively low yield of the cows is due, perhaps, to a number of inter-related factors, such as improper feeding, stress factor, acclimatisation and quality of management.

The performance of the semi-exotic cows is well below the expectations of the VOs; however, other data sources indicate that given the average yields of these crossbreds in irrigated areas, with plentiful feed supplies, their performance in the region is not inadequate, particularly in the VOs, which are well-managed, e.g., Khaiber and Rahimabad. However, a full evaluation can be made after the coming summer.

Sheep/Goats

Small ruminants constitute the bulk of the region's livestock population. In order to improve production, feed conversion, animal size and meat yield of sheep, ARM started a collaborative programme with PARC. This collaboration involved the introduction of Rambouillet rams into selected VOs in Gilgit and Chitral Districts. The project commenced with the import of four Rambouillet rams to Broshal, Morkhon and Rahbat Bala in Gilgit and Shaboon and Kargin in Chitral. The performance has been rather poor. In Gilgit District, two rams have died due to overfeeding of grain by villagers concerned for the well being of animals. In Chitral, in VO Kargin two of the three rams died in November. In Kargin the rams were managed on a collective basis. The rams had been healthy during the summer months when they lived in the open. But as the cold winter set in, the standard living conditions for the exotic breeds, which the VO had promised to provide were never provided. The VO members worked very slowly on the shed and displayed a total lack of interest. They even did not provide their share of fodder. In contrast to this, in VO Shanoon, where each VO member keeps the ram for a fortnight, the ram is doing very well. This indicates that at adaptive research stage, both technology and management systems should be adapted, so that there is no contradiction between the

two. Communications between participating VOs and AKRSP, via the SO network, should be encouraged.

As for goat breeding, particularly of dairy breeds, ARM is currently attempting to link up with PARC in a common strategy for the development of dairy goats for the Northern Areas. Under this joint strategy, ARM should be able to obtain breeding males (bucks) from PARC for use in the region. For its part, ARM is currently attempting to import Swiss Alpine and Anglo-Nubian semen for use in breeding with the high yielding local goats by PARC. The bucks issuing from this common breeding strategy will be used by AKRSP in the same way as the Rambouillet rams. However, given the experience of the rams, a conscious attempt will be made to recommend a management system that is compatible with VO members' aspirations and capacities. In Baltistan, some teddy goats have been introduced on a trial basis to test their suitability to the local environment.

Poultry

Backyard poultry rearing is a common practice in the Northern Areas, and it is traditionally in the women's domain. The local, non-descript breeds hardly produce more than 50-60 eggs per year. These birds have a high scavenging habit. They are quite resistant to local diseases, except for Newcastle which decimates the population at times and is a major constraint. Given that poultry disease control programme is being implemented, it was decided to introduce improved breed of poultry for rural households that would perform better under local conditions. After checking various breeds and their characteristics, as well as their rapid availability, ARM decided to introduce Rhode Island Red chicks.

In view of fast increasing imports of eggs and broilers, ARM in collaboration with Women-in-Development Section, decided to set up two commercial poultry farms, in Garelth and Princeabad, as part of the Integrated Farming Programme (IFP). This involved 0.1 ha, on which poultry farm for about 5-600 chicks would be constructed; also there would be vegetable plot and an orchard. In 1987, IFP Garelth made a profit of Rs. 2,300 from vegetable gardening. Cherry and apple trees have been planted. IFP Garelth managed two flocks of chicks. The first consisted of 600 chicks and after deducting all costs, the IFP made a profit of approximately Rs.5,000. However, for the second flock, despite ARM's caution, 1,000 chicks were brought. Given that main hall had space for 5-600 chicken, this larger flock led to over crowding. There was 35 percent mortality rate. This was most probably due to the fact that because of break in the delivery system, i.e., KKH was closed in October by landslides due to heavy rains, commercial poultry feed was unavailable, and the flock was fed on local 'desi' feed compound. IFP just managed to break even. However, an important lesson was learnt: during the coming season commercial feed will be stocked for at least four weeks requirements. No chicks were brought over the winter as there is no local demand, as it is off-season for tourism. Next flock will be brought in March, at the beginning of the tourist season.

To help women in their income generating activities, ARM has designed a new poultry package: home based poultry. Under this package, initially, four selected VOs will be provided with 10 birds (9 pullets and one cockrell) of Neera breed, which can produce 150 eggs per year per bird. Forty households in each village would be provided with birds; the cost of birds will be recovered through sale of eggs. The package includes vaccination of all poultry in the village, preparation of feed for winter and habitat construction. Marketing of eggs would be done through the VO marketing specialist.

IV.5 Pasture Development

ARM has started pasture improvement dialogues with two VOs, Chaprote and Morkhon, as it is recognized that pasture improvement (PI) cannot occur in an institutional vacuum. The PI programme commences with a survey of the pasture with respect to grass types, soils, slopes, spring water, etc. For this purpose, local knowledgeable people collaborate with ARM technical staff. Once the survey has been completed, VO would start PI programming. The important step is for VOs to organise for the management of the pasture, i.e. opening and closing of grazing season, rotational grazing etc. By adopting proper grazing system, existing forage yield can be increased by one-third. In addition, experiments on re-seeding, fencing, fertilising will show potential production under natural conditions. Other measures may include irrigating pastures where it is economical, pasture development on new lands, improvement of springs, and constructing of paths to improve accessibility to remote pastures. ARM recognizes that intensive efforts made in Chaprote and Morkhon will not only improve the pasture productivity in these VOs, but also yield results for future research and extension efforts, both technical and institutional, to be replicated in other areas.

V. Forestry Development

V.1. Introduction

Forestry development has a much larger priority in the Second Phase. This is due to the multi-purpose nature of forestry: (fuelwood, timber and fodder) as well as its contribution to environmental stabilisation. There is a tremendous shortage of forestry products in the region, and correspondingly prices are high. Existing forestry resources are being depleted rapidly.

New plantations would provide timber and fuel, thus taking pressures off natural forests, with beneficial effects on watershed management. In addition, forestry plantations provide a permanent source of fodder for livestock, and for developing the soil profile upon which agriculture depends. With the successful completion of irrigation PPIs, landholdings have increased tremendously, thus opening up the possibility of an accelerated programme of forestry development.

Part of the new land can be devoted to forestry. Major advantages of perennial cropping are:

- plants which are already established are able to make full use of the short growing season;
- they are less labour-intensive than annual crops;
- the soil is cultivated few times, and is thus less susceptible to dessication and organic matter oxidation; and,
- the comparatively greater height of a tree is able to capture more incident radiation than an annual crop covering the equivalent land area.

Forestry development, apart from meeting basic needs, would act as a major contribution to local community development.

In order to promote forestry development, ARM is following a number of approaches to facilitate these endeavours:

- arranging suitable plant species from government nurseries for VOs;
- promoting village level sapling nurseries and training village based cadre of specialists;
- encouraging plantation developments on newly reclaimed and marginal lands;
- planting the saplings along water channels;
- improved management of natural forests; and,
- starting a pilot Sustainable Forestry Development Project with the collaboration of the International Union for Conservation of Nature and Natural Resources (IUCN).

V.2. Sustainable Forestry Development Project

In 1987, ARM and IUCN, initiated the Sustainable Forestry Development Project (SFDP) in the Gujal area of the Upper Hunza Valley. The aim of SFDP is to assist the people of Northern Areas to bring about the sustainable development of forestry, within the context of sound resource management. This pilot project officially took off during October, 1987, and activities have been initiated in all major components of SFDP.

Forestry Training

The essential parts of a training package are under development and will be applied in the February 1988 training programme consisting of three courses: (i) a general forestry course for DPOs and SOs, (ii) a forestry management course for the seven

village forestry specialists (VFSs) and (iii) a nursery training course in connection with the establishment of the Khaiber nursery. Complementary to this, WID Coordinators attended a two week training course at Pakistan Forest Institute (PFI), Peshawar.

Demonstration Plants

In collaboration with PFI arrangements have been made to establish clonal banks of *populus deltoides*, *P. nigra* and *P. alba*. Clonal trials will be initiated in Gilgit at 1,400 m (4,700 ft) and attempts are underway to include Khaiber at 2,590 m (8,500 ft.) This would cover two altitudinal ranges and would be an excellent starting point for further selection of suitable clonal material for afforestation.

Integrated Land Development

A discussion paper has been submitted to the Space and Upper Atmospheric Research Commission (SUPARCO) outlining the contents of a proposed collaboration between SUPARCO and AKRSP/IUCN in the Gujal/Khunjerab area. The aim is to quantify the resource base at village, watershed and regional levels. This assessment will make it possible to initiate integrated and sustainable management of the scattered natural resources; introducing and coordinating the rehabilitation of grassland, forest and wildlife habitat at lowest possible cost for village communities.

V.3. Nursery Development

The nursery development programme was initiated by ARM in view of the inability of government nurseries to meet the demand for forestry and orchard saplings and cuttings. Traditionally, farmers are using cuttings that are poor. A poor plant costs about the same as a good one, but produces a far lower yield. There is economic payoff to using good planting material. As afforestation is increasing and is likely to accelerate, VOs can run nurseries on commercial scale, provided only three or four are set up per valley.

Nurseries need to be reasonably close to the planting site, so that young plants do not have to make the change to a very different soil and climate. At planting time, it can be difficult bringing sets, which had to be cut for example in February, to a higher altitude site where they should be planted in April. AKRSP provides training to village nursery specialists. ARM has set up a mother nursery in Gilgit. This serves as a dual fruit-cum-forestry nursery. Selected plant material is generated at this nursery for establishing VO nurseries. Six VOs managed nurseries have also been set up in Chatorkhand, Rahbat Bala, Khaiber, Barkulti Paeen, Roshanabad-Sherabad and Ahmadabad.

Technical guidance, training, seed and plant material were provided by ARM. A mother plot of three varieties each of pomegranates and grapes was established in each nursery. Mother stool beds with dwarf apple root stocks MM-106 and M-127 were also established. Cuttings of poplar deltoides were also planted in the nurseries to serve as mother plants for further propagation. Successful management of these nurseries should provide an important source of income for WOs.

Table 4.1

ARM INNOVATIONS AND THE TECHNOLOGY ASSESSMENT CYCLE (TAC)

<u>Technology</u>	<u>Phase of the TAC</u>
A: <u>Food and Fodder Crops</u>	
Pak-81 wheat variety	Diffusion
Vetch	AR / Diffusion
Vegetables	Diffusion
Regular orchards	Diffusion
Kashmir gold - Maize variety	Diffusion
Nurseries	Diffusion
B: <u>Livestock Development</u>	
Urea-straw treatment	Diffusion
Silage making	Extension
Poultry - Scavenging	Diffusion
- Commercial	Adaptive Research
Cattle - A.I.	Diffusion
- Heifer Project	Adaptive Research
Sheep/goats	Adaptive Research

Table 4.2

HUMAN RESOURCE DEVELOPMENT
DURING 4TH QUARTER, 1987
(October - November - December)

LIVESTOCK, POULTRY AND AGRICULTURE TRAINING COURSES.

GILGIT DISTRICT

No. of Training	No. of Days	No. of Participants	Honorarium (Rs.)	Direct Cost to Trainees			Total (Rs.)
				TA/DA (Rs.)	Transport (Rs.)	Training kit (Rs.)	
1.	15	32	1,300	20,730	-	35,840	58,870
2.	3	20	-	6,919	-	-	6,919
3.	5	5	4,796	1,430	-	-	6,246
4.	15	22	1,950	12,910	-	47,850	63,710

- (1. 11th regular course for livestock specialists w.e.f. 28th November to 12th December, 1987)
 (2. 11th refresher course for livestock specialists w.e.f. 10th October to 12th October 1987).
 (3. Poultry management training course w.e.f. 18th November to 22nd November, 1987).
 (4. 12th regular course on plant production and protection w.e.f. 4th October to 18th October, 1987).

Table 4.3

**PESTICIDES/FUNGICIDES PURCHASED BY VO
PPP SPECIALISTS DURING 4TH QUARTER, 1987**
(October - November - December)

GILGIT DISTRICT

Sub-Division	Pesticides/ Fungicides	Quantity ltr/kg	Cost (Rs.)	Seed (kg)	Expected Coverage Trees (No.)
Hunza	Pesticides/ Fungicides	305 kg	945	1,750	-
Nagar	Pesticides/ Fungicides	-	-	-	-
Gilgit	Pesticides/ Fungicides	0.4 kg	108	200	-
Punyal- Ishkoman	Pesticides/ Fungicides	1 ltr. 4.0 kg	138 1,080	- 2,000	400 -
Gupis- Yasin	Pesticides/ Fungicides				
Total	Pesticides/ Fungicides	1 ltr 7.9 kg	138 2,133	- 3,950	400 -

Table 4.4

**VACCINES AND MEDICINES PROCURED BY VO LIVESTOCK SPECIALISTS
DURING 4TH QUARTER 1987
(October - November - December)**

GILGIT DISTRICT

S.No.	Quantity	Cost (Rs.)	Projected No. of Animals Vaccinated/Treated		
			Cattle	Sheep/Goats	Poultry
1. Newcastle	84 vials	294	-	-	8,400
2. Enterotoxaemia	97,600 ml	4,387.50	-	32,500	-
3. Black Quarter	-	-	-	-	-
4. Foot and Mouth	73,800 ml	5,166	14,760	-	-
5. Pleuropneumonia	12 vials	60	-	1,200	-
6. Goat Pox	-	-	-	-	-
7. Anthrax	2,700 ml	576	1,350	2,700	-
8. Haemorrhagic Septicemia	5,400 ml	255	1,080	-	-
Total for Vaccines			10,678.50	17,484	36,400
					8,400
1. Gamatox	5 kg	1,350	5,000	4,000	10,000
2. Oxytetracycline	133 vials	1,729	166	7,000	-
3. Dertil-B Tabs	18	2,970	1,800	-	-
4. Dertil-O Tabs	22	1,694	-	2,200	-
5. Sulfadiazine	7,000 ml	910	250	200	-
6. Penicillin	39 vials	429	19	40	-
7. Combiotic	77 vials	868	17	75	-
8. Ducoxine	1,100 gm	308	-	-	20,000
9. ESB-3	100 gm	56	-	-	1,500
10. Neoterra	375 gm	51	-	-	800
Total for Medicines			10,365	7,184	13,515
					32,300

Table 4.5

STATEMENT SHOWING THE AI WORK FOR THE QUARTER ENDING 31.12.87

GILGIT DISTRICT

S.No.	Description	Hunza	Nagar	Gilgit	Punyal-Ishkoman	Gupis Yasin	Total
1.	No. of animal checked	11	25	34	-	-	70
2.	No. of animal injected with Estrumate	-	-	1	-	-	1
3.	Successful effect of Estrumate after 72 hours	-	-	1	-	-	1
4.	No. of cows inseminated	-	-	4	-	-	4
5.	No. of bufallows inseminated	-	-	-	-	-	-
6.	No. of AI pregnancy checked	-	-	-	-	-	-
7.	No. of cases found pregnant	-	-	-	-	-	-
8.	No. of inseminated cows sold off	-	-	-	-	-	-
9.	No. of inseminated cows dead	-	-	-	-	-	-
10.	No. of inseminated cows aborted	-	-	-	-	-	-
11.	AI birth record confirm and recorded	-	-	5	2	1	8
	Male	-	-	2	-	-	2
	Female	-	-	3	2	1	6
12.	No. of genital diseases cases treated	1	-	-	-	-	1

Table 4.6

HUMAN RESOURCE DEVELOPMENT
DURING 4TH QUARTER, 1987
(October - November - December)

LIVESTOCK AND POULTRY TRAINING COURSES.

CHITRAL DISTRICT

No. of Training	No. of Days	No. of Participants	Honorarium (Rs.)	Direct Cost to Trainees				Total (Rs.)
				TA/DA (Rs.)	Transport (Rs.)	Training kit(Rs.)	Prizes (Rs.)	
1.*	15	15	3,500	11,230	500	NA	1,000	18,230
2.**	18	27	20,360	2,850	500	NA	1,000	30,440
3.***	7	19	3,990	-	7,700	NA	-	12,520
							830	

* (4th Livestock Training Course).

** (5th Livestock Training Course).

*** (1st Poultry Training Course).

Table 4.7

VACCINES AND MEDICINES PROCURED BY VO LIVESTOCK SPECIALISTS
DURING 4TH QUARTER 1987
(October - November - December)

CHITRAL DISTRICT

S.No.	Quantity	Cost (Rs.)	Projected No. of Animals Vaccinated/Treated		
			Cattle	Sheep/Goats	Poultry
1. B.Q.V.	58,200 ml	2,328	11,640	-	-
2. C.C.P.V.	19,000 ml	570	-	19,000	-
3. E.T.V.	42,000 ml	4,900	-	14,000	-
4. N.D.V.	42,400 doses	1,272	-	-	42,400
Total for Vaccines			11,640	33,000	42,400
1. Oxytetracycline	502 Bottle	7,560			
2. Combiotic	252 "	2,122			
3. Mag. Selfa	43 Kg.	348			
4. Milzon	4 litres	1,100			
5. Meguan	17 Kg	2,890			
6. Dertil-O Tabs	6900 tabs	4,725			
7. Dertil-B Tabs	4900 tabs	8,315			
8. Gamatox	17 Kg.	2,300			
9. Pottasium per Magnat	1800 gm	75			
Total for Medicines					
			29,435		

Table 4.8

ARTIFICIAL INSEMINATION

CHITRAL DISTRICT

<u>S.No.</u>	<u>Particular</u>	<u>Total</u>
1.	No. of VOs visited	26
2.	Total animals checked	406
3.	No. of Animals inseminated	28
4.	No. of pregnancies checked	25
5.	No. of inseminated cows cold off	1
6.	No. of inseminated cows dead	1
7.	No. of inseminated cows aborted	1
8.	No. of inseminated cows found pregnant	18

Table 4.9

HUMAN RESOURCE DEVELOPMENT
DURING 4TH QUARTER, 1987
(October - November - December)

LIVESTOCK, POULTRY AND AGRICULTURE TRAINING COURSES.

BALTIKISTAN DISTRICT

No. of Training Days	No. of Participants	Honorarium (Rs.)	Direct Cost to Trainees			Prizes (Rs.)	Total (Rs.)
			TA/DA (Rs.)	Transport (Rs.)	Training kit (Rs.)		
1.	21	2,250	16,390	0	41,883	0	60,523
2.	5	0	4,120	0	0	0	4,120

Note. 1. Third regular course on Livestock Development: November to 22nd December, 1987)
2. Second Refresher Course for PPPs.

Table 4.10

**VACCINES AND MEDICINES PROCURED BY VO LIVESTOCK SPECIALISTS
DURING 4TH QUARTER 1987
(October - November - December)**

BALTISTAN DISTRICT

S.No.	Quantity	Cost (Rs.)	Projected No. of Animals Vaccinated/Treated		
			Cattle	Sheep/Goats	Poultry
1. Newcastle	57 btls	385	-	-	5,928
2. Black Quarter	40 "	600	2,545	-	-
3. Caprine Contagious Pleuropneumonia	113 "	565	-	8,807	-
Total for Vaccines			2,545	8,807	5,928
1. Bilvom M.	100 tabs	110			
2. Mag. sulph.	7 Kg.	91			
3. Oxytetracycline	16 vial	160			
4. Dertil-B Tabs	1,100 tabs	1,870			
5. Distodine	400 tabs	220			
6. Penicillin	21 vials	231			
7. Terramycine	6 tubes	39			
8. Systamex	9 btls	387	1,211	2,331	337
9. Pet. Permenqanate	400 gm	32			
10. Asuntol	2 kgs	440			
11. Koaline	800 gm	17			
12. Acid Boric	400 gm	21.50			
13. Gamaxine	11 Kg	660			
Total for Medicines			1,211	2,331	337
Total			3,756	11,138	6,265

CHAPTER FIVE

COMMERCIAL AND INDUSTRIAL DEVELOPMENT

I. Major Markets for the Agricultural Produce of the Project Area

The project area of AKRSP has had a subsistence economy for centuries and even after the opening of the Karakorum Highway (KKH), the region's exports remain a fraction of its purchases from the plains. While the opportunities for input availability and agricultural marketing have expanded considerably as a result of the KKH, it has also become cheaper to transport among other things, subsidised wheat grain, fertiliser, edible oil, wheat flour, kerosene, timber, fruits and vegetables, milk substitute products, cattle for slaughter, etc. During the past few years, the volume of imports has expanded considerably. In Chitral alone, about 7,500 tons of grain is imported annually by the food security agency. The volume of exports from the project area form a very small proportion of the total trade transactions. The region's exports are mainly in the form of fresh and dried fruits and nuts, seed potatoes, precious stones and hides and skins of the slaughtered animals.

It is interesting to see how the rural commercial network has responded to changes over the last few years. The closure of borders have mostly affected the pastrolists. The Kirghiz no longer bring their livestock, butter and wool across the Wakhan from the Pamirs. Surplus apricots from Baltistan are no longer traded into Ladakh. The disbursement of huge amounts of forest royalties in the Chilas District has led to the establishment of a commercial link between the sub-divisions of Darel-Tangir and Gupis-Yasin. The growth of the army cantonment in the project area has generated considerable demand for provisions, thus offering an excellent market for livestock, fruits, vegetables and fuel wood. In the Gilgit District the first major change in the traditional commercial network came with the seasonal jeep road over Babusar pass in 1958, bringing in cheap supplies of rice and fabric. With the result that rice growing has declined considerably and cotton once grown in Gilgit has disappeared altogether. Twenty years later, the Karakoram Highway began its transforming influences. This has facilitated the supply of provisions and has also given the District an access to the markets operating in the plains. Associated with this has been an increase in the employment opportunities, both within the villages, in Gilgit and outside. The last few years have seen the rise of a large number of tourists due to the opening of the Chinese border for foreign nationals. Hotels, traders and bus transporters plying through upper Hunza have been first to benefit from this large inflow of tourists. In the Chitral District the influx of the Afghan refugees has had a considerable impact on the traditional commercial network. Demand for fruits, vegetables, livestock and its products within the district has

registered a positive trend. Off-farm employment opportunities have become more competitive, thus squeezing somewhat the cash alternative for the local Chitralis. The hotel business has expanded in the district.

The foregoing discussion points out towards the fact that in the project area there are dual agricultural production marketing sub-systems, one oriented towards export markets and other towards domestic requirements. The internal marketing mechanism which has been in place for centuries is relatively better organised in terms of pricing and handling procedures. Nevertheless, the potential for further growth and refinement has to be exploited in order to derive optimum returns to investments. As far as the export oriented sub-system is concerned, it is taking the area much longer to respond to the influence of roads on access to markets in the plains. Currently, apples, walnuts, almonds, dried apricots and kernels, seed potatoes and hides and skins are being marketed in the plains. The border trade agreement with China also offers an excellent market for the dried fruits produced in the region. There is a tremendous potential for the supply of off season vegetables in the plains. On the other hand marketing of fresh fruit to the plains is difficult. Experience has shown that due to the distances involved and the environmental hazards, the region cannot compete successfully with other relatively better placed sources of production. The further development of an effective export oriented marketing sub-system would entail the development of a large scale concern with vertically coordinated production marketing programme. It is well recognised that the export sub-system will play an important role in bringing new technologies and managerial innovations into the upcoming rural economic sector.

II. Review of Packages with Particular Attention to Alternate Institutional Arrangements

Through the establishment of a network of village-based commercially oriented institutions, AKRSP has initiated a consciousness raising effort throughout the project area regarding the true parameters and the potential benefits of collectively managed village-based private enterprises which are in the process of being adequately capitalised, professionally managed and which can provide services needed by members, affordable and readily available to them, and which increase farmers' income, productivity and returns on investment. These emerging marketing institutions provide incentives to farm households in a variety of ways by liberating and expanding the scope of individual marketing action.

The marketing package being offered by AKRSP in the project area is in different stages of diffusion and refinement. During the past few years some very interesting models of collectivised commercial transactions have emerged in the project area. Through these endeavours, the Village Organisations have clearly demonstrated their capacity to carry out commercial transactions in a profitable manner.

Initially the major focus of the programme was placed on the development of regional models of collective commercial marketing in the project area. The concept is basically one of how the marketing opportunity evolves and how to use marketing institutions and services to accelerate development and encourage agricultural production. Through this mechanism, the VOs become aware of others experiences. This essentially helps to avoid mistakes rather than to identify ready made solutions.

From the onset, AKRSP realised the fact that it is important to standardise fruits and vegetables concerning the quality, size and unit of weight in order to realise exact transactions. Supply of packaging material was arranged and initial training in picking, grading and packaging technique was provided to a selective number of VO representatives. But since grade standardisation is a communications device which becomes useful as a market economy develops, greater returns would only be derived with further advancement in the degree of commercialisation of the local markets. With the development of the transportation network (e.g. Ghizar road) there would be a need to upgrade market handling facilities.

During the last five years AKRSP sponsored collective agricultural marketing activities in the project area have expanded considerably. In the following section a preliminary analysis of the growth of agricultural marketing activities in Gilgit will be discussed. Information available on the marketing process generated by AKRSP indicates collective actions to be more prevalent and widespread in the case of fruits and nuts. One explanation of this phenomenon is that the prices of these products fluctuate widely and hence generate very unstable income streams. These actions essentially reduce the variability of farmers income through the pooling of farm households returns and expenses across products, time and space. Whereas in sub-sectors like livestock and fuelwood there are relatively fewer models of collective action, essentially due to the fact that members have a variety of options available.

Livestock in the project area provides a broad range of products and services: farm yard manure, fibre, milk products, draft power, meat and store of wealth. The expanding market for meat in Gilgit town is largely satisfied by animals trucked up the Karakoram Highway and sold at administered prices, limiting the opportunities for local farmers. This has led to changes in the traditional livestock trading network. The disbursement of forest royalties in the Chilas District has led to the generation of livestock demand in the area. New trade links have been established between the sub-divisions of Darel-Tangir and Gupis-Yasin. In the Gupis tehsil the Village Organisations are playing a vital role in the promotion of collective marketing by creating commercial awareness amongst the farmers. Committees have been constituted in order to provide market information and credit to the participating members.

Similarly in other high elevation areas of Shimshal and Chapurson there exists a tremendous potential for the promotion of collective marketing. In Shimshal alone about 500 animals worth Rs. 400,000 are traded annually by 130 households residing in the area.

Information available on the livestock marketing carried out by the Village Organisations indicates that over the last three years, VO participation in livestock marketing has increased considerably. In addition to this the turnover has also registered a positive increase.

III. Overview of Activities

With the continuous progress the VOs are adopting the marketing package with enthusiasm. During the year 1987, the VO members have followed the vision of marketing package to a greater extent. The VOs have undertaken cooperative marketing through their trained marketing specialists and their services were compensated through commission or paying them an agreed amount as remuneration in addition to the transportation charges.

The VOs utilized the 6 month interest free marketing loan in purchasing the surplus produce of the VOs and in adjusting other trading expenses (transportation, collection and packaging etc.). The major advantage of the loan was its timely availability to the needy members enabling them to stock their produce till the time the market rates of the commodities increased.

In order to minimize the wastage of fresh apricots the dehydration technique, through chambers, was tried but the results were not encouraging because of both managerial and technical problems. However the sulphuring technique has proved beneficial and the package was adopted. During the year 14 VOs also availed the sulphur tent loans against the construction of the sulphur tents.

The village based fruit processing technique was also exercised at some villages. A local entrepreneur (equipped with relevant training) was encouraged for this purpose. The advantage of this practice was multiple i.e. minimizing of wastage and utilization of inferior quality produce. Efforts were being made to produce consumer oriented products through improved skills.

IV. Marketing Progress

1. Marketing of Fruit and Agricultural Products

During the quarter (October-December) 48 Village Organisations reported their participation in cooperative marketing. The volume marketed was 255,211 kg, comprising fresh fruits (apricot, apple, pears etc.) dry fruits (kernel, almond, walnut) and agricultural produce (potatoes, onion, fuelwood, fodder, vegetable and butter oil etc.).

The total return for the year was Rs. 1,391,686 with marketing expenses of Rs. 88,884 and an amount of Rs. 1,302,802 was received as farmgate income by the VO members.

The marketing had taken place both in Gilgit market and at the village level. A model of marketing was adopted by all the VOs, i.e. the produce of the members was purchased by the VO at the village level at the prevalent village rates and then marketed jointly on behalf of the VO. The profit thus earned was distributed to the VO members.

2. Livestock Marketing

During the quarter under review 13 VOs have undertaken cooperative marketing of livestock and marketed 1,159 animals (cattle, yak, goats/sheep). The gross sales were Rs. 561,390 with marketing expense of Rs. only 3,468 i.e. 0.62 of the sales. The members got an amount of Rs. 557,922 as farmgate income.

The overall return for the year was Rs 865,619 of which 64% was contributed by the last quarter.

V. Marketing Intelligence and Information Dissemination

Market intelligence was regularly collected from down country mandis and markets, through reliable agents and disseminated to VOs through Marketing Supervisors.

VI. Marketing Loan

During the quarter under review 22 VOs availed of interest free production loan amounting to Rs. 570,400. The loanee VOs submitted their plans of operation for the loans. The loan was mainly for livestock and agricultural produce, however dry fruits have also been marketed with the same loan amounts.

VII. Medium Term Loan

During the year 1987, 14 VOs availed the medium term loan amounting and Rs. 442,500 at 7.5% service charges. The loans were mainly taken in June-July period and none of the VOs availed the loan during the last quarter.

The utilization of the loan amount in constructing the sulphur tents has not been upto the mark. The tents constructed comprised of both wooden and iron frames and the average cost/tent has been Rs. 550 at the village level.

The loan amount which could not be utilized by the members was either distributed to the VO members intending to construct the tents or was deposited in the bank.

The quality of the sulphured apricots was predictably good and the average price was Rs. 15 per kg in Gilgit District, which was double the price of the apricots dried traditionally.

VIII. Central Purchasing and Processing Unit (CPPU)

The fruits especially apricots with different qualities are in abundance in almost all the villages of Gilgit District. The villagers dry part of their produce traditionally whereas large quantities are either wasted or used as livestock feed. This resulted in lower incomes for the growers.

To minimize the losses and increase the value of the produce through its conversion, AKRSP encouraged a local entrepreneur to organise a central processing and purchasing unit at Gilgit with full assistance both financially and technically. By the end of December the total investment in this unit was Rs. 150,000 of which 29% was the equity capital of the entrepreneur. The amount was utilised in purchasing of machinery, packing material, laboratory equipments and in purchasing of fruits (fresh and dry). In the first season about 12,000 kg of fresh fruit was converted into pulp at the village level, of this pulp 6,000 bottles of jam and squash were sold at the local market and there was a stock for 20,000 bottles in the unit.

In the coming fruit season a workable system would be developed under which more VOs would be linked with the processing/purchasing unit.

IX. Sulphuring and Dehydration Technology

During the year 1987 AKRSP initiated the construction of dehydration chambers in 8 VOs. The dehydration chamber at Nomal was the first one and was monitored closely during the fruit season. The result of the chambers was not found satisfactory.

The major problem encountered by the members was that it consumed more time in drying the apricots. It took 10 days in drying a batch of apricots and the dried apricots turned out to be of inferior quality. It was also concluded that the trays inside the chamber were of large size and were difficult to handle especially for women.

The utilisation of the sulphur tents on the other hand proved beneficial and the members adopted the technique.

During the year 43 VOs were given demonstrations in the field and trained 1,066 members in total were trained, out of which 160 members also received training in the packaging of dry fruits.

The SOU wise details were as follows:

<u>SOU</u>	<u>Participating VOs</u>	<u>Members Trained</u>		<u>Members trained in packaging</u>	
		<u>Men</u>	<u>Women</u>	<u>Men</u>	<u>Women</u>
Gilgit	9	20	25	12	12
Hunza	9	43	87	22	32
Nagar	4	39	Nil	Nil	Nil
Punyal/Ishkoman	3	65	73	33	30
Gupis	8	51	184	Nil	Nil
Yasin	10	217	258	10	6
Total	43	439	627	77	83

In most of the cases the VO members got double returns on the apricots compared to the apricots dried traditionally.

In 1987 AKRSP has also provided imported sulphur to the needy VOs on a cash payment. This facilitated the VOs in obtaining the inputs in time at cheaper rates.

X. Test Marketing

No test marketing was undertaken in view of the discouraging results of pulp and vinegar test marketing last year.

XI. Marketing Training

During the year 2 regular courses were held. As part of the course, the trainees were taken to urban markets (fruit, vegetable and livestock) to make them familiar with repercussions on prices. To make the course more effective, the course content was also reviewed and the services of the specialised personnel of AKRSP were utilised.

The total number of specialists trained so far is 105, the breakdown is as under.

<u>SOU</u>	<u>Specialists Trained</u>
Gilgit	12
Hunza	23
Nagar	26
Punyal/Ishkoman	21
Gupis	8
Yasin	15
Total	105

XII. Performance of Marketing Supervisors

The role of the marketing supervisors within the framework of their job description was studied and concluded that few of them were not functioning properly. During the fourth quarter it was decided that in future the services of the supervisors would be made seasonal linking them with their performance. It is expected that this strategy would ensure better performance of the supervisors. The services of a supervisor were terminated and two others were replaced with active persons with the consent of the Social Organiser concerned.

XIII. Data Collection and Record Keeping

In 1987 a modified income statement regarding gross sales, marketing expenses and net profit for both fruit and agricultural produce and a new format for livestock marketing in Urdu were prepared. These formats facilitated the VOs in reporting their marketing figures. The figures now reported were detailed and more reliable.

XIV. Hide and Skin Preservation Techniques

More or less all the VOs had the hides and skins with them in Gilgit district. The VO members were not taking interest in marketing the skin because of their ignorance and ultimately the produce was marketed at the village level at nominal returns in cash or kind. In order to minimize the losses of the skins, the Marketing Section planned to organize its marketing through the VOs. As a preliminary step the services of a local expert were hired for training in hides and skin preservation.

During the quarter under review the technique was demonstrated in 48 VOs of the district. The expert also explained the marketing procedure to the members. Follow-up visits were also made to see the impact of these demonstrations. It was observed that the members were taking keen interest in cooperative marketing of hides and skins. Next year, efforts will be extended to link more VOs with the purchasers both in Gilgit and down country markets.

Table 5.1

COOPERATIVE MARKETINGGILGIT DISTRICTA: Cumulative upto December 1987

No. of participating VOs	267
Gross sales (Million Rs.)	6.18
Marketing expenses (million Rs.)	0.47
Farmgate income (million Rs.)	5.71
Beneficiary households	9,132
Marketing loans(million Rs.)	5.43
No. of Group Loans to VOs	258
No. of beneficiary households for loans	13,759

B: For October - December, 1987

No. of participating VOs	61
Gross sales (million Rs.)	1.52
Marketing expenses (million Rs.)	0.07
Farmgate income (million Rs.)	1.45
Beneficiary households	2,629
Marketing loans(million Rs.)	0.57
No. of Group Loans to VOs	22
No. of beneficiary households for loans	1,049

C: Marketing Training

No. of regular marketing courses	6
No. of marketing specialists trained	105
No. of refresher marketing courses	4

Table 5.2

MARKETING OF FRUITS AND AGRICULTURAL PRODUCE
October - December 1987

GILGIT DISTRICTA: Fruit Marketing

No. of participating VOs	48
Gross sales (million Rs.)	0.96
Marketing expenses (million Rs.)	0.06
Farmgate income (million Rs.)	0.90
Beneficiary households	2,061

B: Livestock Marketing

No. of participating VOs	13
Gross sales (Rs.)	561,390
Marketing expenses (Rs.)	3,468
Farmgate income (Rs.)	557,922
Beneficiary households	568

Table 5.3

COOPERATIVE MARKETINGCHITRAL DISTRICTA: Cumulative upto December 1987

No. of participating VOs	55
Gross sales (Rs. '000)	838
Marketing expenses (Rs. 000)	44
Farmgate income (Rs. 000)	794
Beneficiary households	2,199
Marketing loans(Rs. 000)	974
No. of Group Loans to VOs	54
No. of beneficiary households for loans	2,906

B: For October - December, 1987

No. of participating VOs	21
Gross sales (Rs. '000)	124
Marketing expenses (Rs. 000)	20
Farmgate income (Rs. 000)	104
Beneficiary households	317
Marketing loans(Rs. 000)	359
No. of Group Loans to VOs	19
No. of beneficiary households for loans	866

C: Marketing Training

No. of regular marketing courses	1
No. of marketing specialists trained	14

Table 5.4

COOPERATIVE MARKETINGBALTISTAN DISTRICTA: Cumulative upto December 1987

No. of participating VOs	61
Gross sales (million Rs.)	0.57
Marketing expenses (million Rs.)	0.05
Farmgate income (million Rs.)	0.52
Beneficiary households	1,457
Marketing loans(million Rs.)	0.61
No. of Group Loans for VOs	29
No. of beneficiary households for loans	1,179

B: For October - December, 1987

No. of participating VOs	41
Gross sales (Rs. '000)	0.52
Marketing expenses (Rs. 000)	0.02
Farmgate income (Rs. 000)	0.50
Beneficiary households	1,097
Marketing loans(Rs. 000)	0.35
No. of Group Loans to VOs	20
No. of beneficiary households for loans	653

C: Marketing Training

No. of regular marketing courses	1
No. of marketing specialists trained	17

CHAPTER SIX

HUMAN RESOURCES DEVELOPMENT: TOWARDS A REGIONAL STRATEGY

I. AKRSP's Evolving Programme for Skill Development

AKRSP's training programme has evolved over the last five years in response to the skill development needs of villagers, AKRSP staff, and the staff of development projects elsewhere in Pakistan. The training programme has expanded rapidly; this is the result of extending the initial skill development activities to larger numbers of villagers; of discovering new needs for the VOs; of responding to requests for orientation study tours by some development agencies; and of the growing opportunities for AKRSP staff to participate in workshops and in formal training overseas. Much of AKRSP's systematic planning and reporting has focussed on the training of villagers. At present, villagers are given training in the following subjects: social organisation, basic accounting, marketing (including sales and processing), appropriate technology (including civil works and labour-saving devices), plant protection, crop production (including vegetables), agroforestry, livestock disease control, livestock feed improvement and poultry rearing.

The basic model for the development of practical skills at the village level is as follows: Village Organisation nominees, as recommended by the concerned Social Organiser, are trained at the district headquarters by AKRSP staff in collaboration with concerned government departments; residential facilities and some of the trainers are provided by AKRSP, while other trainers and some of the facilities for the practical sessions are provided by government departments; the costs of training are borne by AKRSP; on returning to their villages, the trainees begin to receive remuneration for services provided to the VO. For women who cannot come to Gilgit, training is provided in the villages, usually by AKRSP's women coordinators, but occasionally in active collaboration with experts from government departments.

The basic organisational model for villager training has worked well, in that: (1) villagers have responded positively by selecting and supporting trainees; (2) AKRSP has been able to respond to significant opportunities in a cost-effective and replicable manner; (3) a model has emerged for the sharing of resources between AKRSP and government departments; and, (4) the feedback provided by VOs has led to a process of ongoing course corrections, adding subjects or changing an approach whenever appropriate.

Requests have been received periodically from development projects elsewhere in Pakistan for training their staff at AKRSP. Such training usually includes: orientation lectures and intensive discussions with AKRSP senior management; field visits including, possibly, attachment with a Social Organiser; participation in VO meetings, VO conferences in Gilgit, and AKRSP workshops. In most cases, the trainee's project bears the cost of

his/her travel and lodging; AKRSP's major cost is in terms of staff time and vehicle operations.

Staff training for AKRSP personnel has developed to the point where a systematic effort is now needed to establish priorities and selection criteria in order to benefit from available opportunities. Contributions to staff training have been made on a case-by-case basis by OXFAM, the Ford Foundation and, most notably, the Aga Khan Foundation. Generous commitments have been received recently from the Netherlands and British governments. In addition, AKRSP staff have the opportunity to benefit from the private sector scholarships programme announced nationally by the U.S. Agency for International Development.

In the First Phase, AKRSP's training programme dealt almost exclusively with training for (mostly male) villagers; it was managed by AKRSP's agriculture section. In its Second Phase, the training programme expanded to cover training for village women, AKRSP staff and staff from other projects. At the beginning of the Second Phase, a proposal was put forward to create a new programming division within AKRSP, called the Human Resources Development Division (HRDD), headed by a training specialist responsible for the entire range of AKRSP's training needs. AKRSP has not yet been able to recruit the head of HRDD, and that role remains with the head of the agriculture section. At the same time, proposals for human resources development have been mooted within the network of Aga Khan institutions operating in the Northern Areas. There is general agreement on the need to examine the region's training needs comprehensively, and to devise a common strategy aimed at skill formation. While AKRSP is not in a position to anticipate the priorities and constraints of other agencies, the following lines are offered as a preliminary assessment of the almost unlimited training needs of the project area.

II. A General Strategy for Human Resources Development

AKRSP's project area has been experiencing rapid and pervasive change characterised by: (1) evolving institutions; (2) improved infrastructure; (3) growing integration of markets; and (4) AKRSP's own village-level initiatives. Patterns of life and of economic activity are undergoing transformation after centuries of stability. Externally - induced change is creating the potential for new sources of wealth, and new skills are required to capitalise on new ways of creating wealth. But, while externally - induced change has been rapid and substantial, the knowledge that is needed to manage this change in a productive, equitable and sustainable manner has accumulated only slowly and selectively. This is natural for a learning process. At the same time, there appear to be opportunities for investing in human capital, so that the human capacity to respond to change may begin to match the challenge of the changing environment: this is perhaps the general mandate for a strategy for human resources development.

Perhaps the most important feature of the strategy that is required is its long-term, institution-building role. This requires a long-term commitment by managers and donors. To begin with, a specified level of commitment for at least ten years should be considered, subject to strategic review during this period.

If a programme is to sustain the long-term interest of users, donors and administrators, it would need to demonstrate a consistently high level of contribution to the region's development. Briefly, this requires an innovative training programme working in direct association with innovative programmes for rural development, business development and /or administrative development. More specifically, a programme for human resources development should:

- o provide training (at all relevant levels) that is manifestly useful to the trainee and the users of his/her services;
- o demonstrate responsiveness to changing institutions, technology and markets;
- o demonstrate flexibility in responding promptly and adequately to changing needs;
- o cultivate a management ethic for equitability issues, including, particularly, a concern for women;
- o develop an ability for learning from in-house review and formal and informal external assessments; and,
- o demonstrate innovation in the design and implementation of training programmes.

Perhaps the most important relationships for a vital training programme would be those it can establish with innovative enterprises in the fields of development, business and administration. Such symbiotic relationships can demonstrate concrete links between human resources development and the effective utilisation of available or potential resources. Accordingly, an effective training programme should be expected to address the following broad concerns:

- o a small group of administrators and village activists would benefit from exposure that broadens and deepens their vision of the possibilities for the region's development; this concern can be addressed through on-the-job training, participation in workshops and conferences in Gilgit and elsewhere, and formal training;

- o a large number of technical staff and villagers engaged in fields such as engineering, agriculture, town planning, education, health, resource management, etc. need practical skills to assist them with the implementation of specific programmes; such skills can be imparted through both formal training and participation in specific projects that have set high professional standards;
- o an even larger number of general managers, resource planners and social organisers (from villages and development agencies) need improved organisational skills to plan for, mobilise and manage available resources in a changing environment; this kind of skill formation can be addressed through a combination of conceptual orientation and case studies of notable experiences;
- o particularly at the lower tiers of various hierarchies (e.g., the village level), development workers and entrepreneurs need communication skills with which to operate effectively within the prevailing organisation of development, administration and business activity; this can perhaps be achieved most directly through familiarisation sessions with each of the major actors, focussing on how their services can be made available more widely.

The preceding concerns can be clarified to the desired level of specificity once mechanisms are in place to implement a training strategy. The first step for AKRSP is to recruit a training specialist for HRDD, who will then liaise with potential clients and donors to propose mechanisms for implementation.

III. Important Functions for a Training Programme

In the following lines, we propose a minimal set of management functions which need to be incorporated into future directions for training. This set of functions is proposed with a view towards the long-term sustainability of a training programme.

(i) Networking

It is clear that even a large training facility will not have an in-house capacity to address the entire range and depth of its mandate. It is important, therefore, that the programme have the capacity to secure access to resource bases and individuals anywhere in the world, specifically for the functions mentioned below.

(ii) Identification of Training Needs

The programme should identify the priorities for training, in terms of subject matter, and according to user groups; and it should be able to identify changes in training needs over time, across the project area, or up and down hierarchies.

(iii) Definition of Selection Criteria for Trainees

Many training courses are viewed as paid vacations. The programme should devise appropriate selection criteria for use in each type of training (for example, standardised tests, willingness to pay, etc.).

(iv) Design of Effective Utilisation Strategies

Many trainees return to their host organisations to find that their newly-acquired skills are not put to use. The programme would need to work out post-training utilisation strategies with each of the major clients/users.

(v) Curriculum Development

Trainees, especially experienced individuals, often complain of the irrelevance of routinised training courses. The programme should be able to invest in the development of curricula that address the needs and expectations of the trainees and their host organisations.

(vi) Pedagogical Approaches

Many teachers in Pakistan over-emphasized teaching by lectures, or use of techniques not understandable to an illiterate audience. The programme should develop, review and adapt its methods of instruction to suit the clientele.

(vii) Preparation of Training Calender/Course Catalogue

The programme should prepare and publicise its annual training calander well in advance, and with a measure of flexibility. The training calendar can be viewed simultaneously as a work plan and as a promotional brochure (or catalogue of courses).

(viii) Monitoring and Evaluation

Many programmes become driven by numerical targets soon after they are established. The programme should have the capacity to monitor and evaluate the performance of trainers and trainees, and to re-assess its objectives and targets periodically.

(ix) Action Research and Experimentation

Particularly with respect to its relationships with implementing agencies, the programme should be able to sustain a high level of action research and experimentation, with the over-riding objective of improving the management of specific development programmes and project.

(x) Options for Self-Financing

Many government departments and other agencies have training budgets, while others are prepared to make ad hoc payments for training courses attended by their staff. Likewise, funds are often available for contract research and evaluation. The programme should examine such possibilities and propose options for financing the work plan through payments made by users.

Several of these functions are being performed by AKRSP's present training programme. There is, however, an unmistakable need to consolidate priorities systematically, and to add depth to our capacity for training administration. In time, it is possible that the AKRSP experience could be generalised and extended with suitable modification to address the human resources development needs of a much larger clientele.

CHAPTER SEVEN

CREDIT AND SAVINGS

I. Mobilisation and Utilisation of Cooperative Capital

Through the establishment of village-based financial institutional network, AKRSP has clearly demonstrated a mechanism for generating cooperative capital. The process of the accumulation of cooperative capital is linked with a comprehensive rural credit programme which provides an incentive to the rural farmers by enhancing their command over resources. Moreover, linkages have also been established with the growing cash income flows. These income flows can mainly be attributed to proceeds derived from the sale of agricultural produce and livestock, financial returns on longer term investments made by the VOs and transitory income generated through off-farm employment opportunities and VO PPI grants.

A wide range of AKRSP sponsored activities is now linked with the VO's financial resource base. AKRSP's comprehensive rural credit programme is firmly structured on the financial base generated by the village-based network. Through its credit programme, AKRSP provides a variety of short-term and medium-term loans to the Village Organisations. Moreover, AKRSP's agreement to finance a PPI project is contingent upon a VO saving at least Rs. 300 per member. The project in itself is a substantial incentive provided to the Village Organisations. With the implementation of an income generating project, the VO establishes a capital base in the village, which serves as a source of future income streams. Moreover, a considerable proportion of the transitory income generated through labour payments is also saved by the farm households during the implementation of the project.

Apart from serving as collateral for loans, the group savings accumulated by the Village Organisations are also utilised for on-lending purposes within some VOs. In certain instances, banking committees are formed within some VOs. These committees are made responsible for reviewing individual applications and for sanctioning loans. In addition to this, the responsibility for monitoring the loans also rests with this committee. These loans are essentially given out for a short-term period on the prevailing market interest rates for meeting various contingencies. Through this in-house banking facility, the VOs are essentially augmenting the rural farm household's liquidity pool. Many rural households find it difficult to manage their liquidity because of disease and weather risk associated with farming. Generally speaking, farm production is characterised by surges in liquidity following harvests and illiquidity before harvests. The liquidity gap is being bridged by the VOs in some instances.

A large majority of the VOs maintain their accounts with the nationalised commercial banks operating in the region. A small percentage of VOs maintain their accounts with the National Saving Centre, Pakistan Post Offices and Northern Areas Cooperative Bank. The bulk of the deposits (about 75%) are kept in the form of savings and term deposit accounts with Habib Bank Limited.

An aspect of the composition of VO accounts that stands out is the limited importance of longer-term investments. Overall, VOs seem to have a preference for relatively short-term deposits. Out of the total savings of Rs. 23.75 million in Gilgit, Rs. 10.09 million or 43 percent is kept in the form of term deposit accounts maintained with VO savings. Recent trends, however, indicate that the preference of the VOs is gradually shifting towards longer-term investments. The most popular national saving instrument- the khas deposit-seems to be catching on with the VOs.

II. Sources of Agricultural Credit in the Project Area

In the project area, both institutional and non-institutional sources of credit serve the interests of the rural clientele. The non-institutional sources of credit are dominant suppliers of credit in the rural areas. Within the non-institutional sources of credit, shopkeepers and traders are the most important source of credit for all categories of households. The credit obtained from the non-institutional sources is of a short-term nature and is primarily utilised for meeting various consumption requirements between harvests. The seasonal nature of borrowing confirms that farmers encounter liquidity shortages during the farming cycle.

The findings from the 1980 Agriculture Census for Gilgit District point out four interesting features:

- only 11% of the average debt of Rs. 1,149 came from institutional sources.
- the largest farmers obtained 28% of their loans from institutional sources.
- the largest farmers (constituting 16% of the total) acquired 47% of the total institutional credit.
- non-institutional credit market makes loan available without discrimination between large and small farmers, while institutional sources are dominated by large farmers.

It is interesting to note that the dependence on the informal credit market is a decreasing function of the size of farm. Of the non-institutional sources, most of the loans are without explicit interest rates. Large number of transactions and a large volume of rural credit disbursed by the local shopkeepers and

traders on surface are interest free. Whether implicit interest is charged or not, and what is its level, can only be found out by an in-depth study.

Institutional credit is available from four principal sources in Gilgit District. The Agricultural Development Bank of Pakistan (ADBP), the Federal Bank for Cooperatives, the agricultural credit programme of four nationalised banks, and AKRSP. A review of the last financial year indicates that as far as development loans are concerned, ADBP was the major financier. This is in harmony with the basic function of ADBP. Being a development bank, it is required to lend primarily for fixed outlays and investment capital. At the national level, ADBP financed 86 percent of the development loans during the financial year 1986-1987. During the same period, ADBP disbursed development loans amounting to Rs. 36.34 million in the Northern Areas (1,360 individual borrowers), while AKRSP's contribution towards development loans (medium-term) was Rs. 10.53 million in Gilgit District (3,791 households). The Federal Bank for Cooperatives, which offers the most attractive terms of loaning for its registered cooperative societies, disbursed a total of Rs. 18 million for short-term production purposes in the Northern Areas (8,458 loanees).

The Federal Bank for Cooperatives provides short-term production loans free of any service charge. In addition to this, cooperative societies are reimbursed at the rate of 3% of the total loan on timely recovery. Longer term development loans carry a mark-up of 11% per annum. On timely recovery, the cooperative is reimbursed at the rate of 3% of the loan. The effective mark-up is 8% per annum.

III. AKRSP's Credit Programme

The establishment of a village-based rural credit network in the project area has facilitated the flow of production and development credit to the small farmers who dominate the agrarian structure of the Northern Areas. Through this innovation in the existing rural financial market, AKRSP has been able to reduce the credit transaction costs of its rural clientele significantly. By transacting individual loans through a group, farm households save time, transportation costs and registration of collateral. This approach has strengthened group cohesion, reduced risk and has facilitated financial management within the rural institutional network.

AKRSP's loan portfolio can be divided into a variety of production and development loans which it provides to the Village Organisations; these are discussed next.

III.1 Agricultural Production and Marketing Loans

These are short-term interest free loans (for 6-9 months) for the purposes of meeting VO requirements of input supply, marketing

and poultry development.

After one month's grace period for repayment (i.e. after the 7th month) a penalty is charged on the outstanding balance at the rate of 1% per month from the date of disbursement. Short-term loan provided for collective marketing operations require 100% cash collateral.

III.2 Medium-Term Development Loans

Medium-term development loans can be divided into the following two broad categories.

Land Development Loans

These are provided to VOs for the purpose of development of land which entails clearing, levelling, walling etc., on the basis of a maximum of Rs. 2000 per participating member. These loans are given out for a period of five years including a moratorium of two years. A service charge is levied at 5% per annum and the first repayment becomes due after 2 years. Out of the service charges 2% is disbursed to the VO managers for effecting recoveries. In order to further expand the range of incentives offered to the Village Organisations, AKRSP has recently initiated a policy of charging differential service charges on the medium-term loans being provided to the VOs. The land development loan is limited to Rs. 2000 per participating member at 5% per annum service charges. An additional loan upto a maximum of Rs. 3000 per participating member can be taken at 10% per annum service charge.

Agricultural Machinery Loan

The loan is provided on the basis of cost of the machinery and ancillary equipment and is loaned out for a period of five years. The loan is recovered in 5 equal instalments together with service charges of 7.5% calculated on the diminishing balance. Out of the service charges, 2% is disbursed to the VO managers for effecting the recoveries.

Procedural Requirements

In order to qualify for medium-term loans, VOs must furnish a collateral of 30% of the amount of loan in the form of term deposit certificate. The collateral is deposited for a 5-year period and is expected to be doubled at maturity.

All the loan applications require a VO general body resolution with a list of loanees seeking loans.

These loan applications are verified and recommended by the concerned Social Organisers. These in turn are submitted and approved at the District Programme Offices.

IV. Effectiveness of AKRSP's Credit Programme

By the end of the year 1987, in Gilgit District, AKRSP had given out a total of 1432 production loans (inclusive of multiple loans) amounting to Rs. 19.90 million benefiting 73,465 rural households. The major component of AKRSP's production loan programme is the loan given out for fertiliser purchases which accounts for 69 percent of the total production loan disbursed by AKRSP.

Since the inception of the programme, AKRSP has extended a total of Rs. 13.55 million as fertiliser credit. This amount has been utilised by 54,233 rural households (including multiple counts). So far this facility has been extended to 336 VOs operating in Gilgit, which account for 88% of the total VOs formed so far in the district.

The major accomplishment of the fertiliser credit programme has been to make fertiliser accessible to the distant villages in high elevation areas with extremely poor infrastructural base.

IV.1 Distributional Pattern

Distributional patterns of AKRSP's fertiliser credit programme indicates that in Gilgit District, Hunza and Nagar sub-divisions' VOs rate of participation has increased; while in the other three sub-divisions participation rates have varied around a positive trend. The VOs operating in Gilgit sub-division have been the recipients of larger share of credit than their proportion in total VOs.

In the case of other sub-divisions this share of loaned amount is more or less in harmony with their participation rates. It is interesting to note that Nagar happens to be a perfect example of this relationship. On the whole the data does indicate an even distribution and the creation of accessibility in the remote areas of the district.

In order to further analyse the equitability issue, a data set on credit distributed by farm size will have to be collected.

IV.2 Production Loaning Cycle

So far AKRSP has disbursed nine cycles of short-term fertiliser credit amounting to Rs. 13.55 million to 54,233 farm households. The financial data available on the production loan cycles clearly indicate an inverse relationship between the increase in the number of cycles and the amount of loan disbursed in each credit cycle. As the number of cycles increase, production loan registers a downward trend. Similarly the number of beneficiaries and the number of participating VOs also register a downward trend with the increase in the number of cycles. A plausible

explanation of this trend could be the expansion of institutional credit availability in the District. This needs further investigation on the working of the rural financial system.

IV.3 Marketing Loans Programme

The marketing loan programme of AKRSP aims at promoting the collective marketing operations of the Village Organisations. These loans essentially serve the purpose of bridging the liquidity gap of the farmers and provide the VO with the working capital to initiate the collective marketing process. These loans have a consumptive element as well as a commercial dimension. The VOs have added the third dimension to them by using these loans for trading purposes. Many VOs have to provide their members and other interested individuals with firewood and animals bought from other sources. The returns to such ventures have yielded very high returns to these VOs.

A recent study carried out by CIDD, calculated the returns on a total of 63 marketing loans. The major findings of the study were the following:

- 19% of the VOs reported a return of under 8% per annum.
- 25% of the VOs reported a return of under 10% per annum.
- 8% of the VOs reported a return of under 6% per annum.
- 5% of the VOs reported a loss.

These findings do suggest that on average VOs do derive reasonable rates of return on marketing loans.

A comparison of the loans utilised for trading and non-trading activities could be a future possibility of research in this field.

IV.4 Development Loans

In 1984, AKRSP launched a land development programme financed by loans to the VOs to capitalise on the new land being opened by irrigation channels. Engineering staff work with the VO and other AKRSP personnel to survey the new land and to prepare physical and financial plans. So far 103 VOs have taken out land development loans amounting to Rs. 14.29 million. These loans would benefit a total of 6288 farm households. It is estimated that these loans would assist in the development of 2,320 hectares of barren land.

Over time AKRSP's development loan portfolio has been expanded to include loans for agricultural machinery, saw mills, drill machines and sulphur tents. A total of 22 VOs have taken out agricultural machinery loans worth Rs. 3.69 million.

At this stage the returns to these loans have not been clearly quantified.

AKRSP's performance in terms of the production and development loans certainly improves upon the previous institutional system in terms of equitability. A comparison of AKRSP's production loan component with that of Federal Bank for Cooperatives loan operations in the Northern Areas indicates that AKRSP far exceeded in providing broader access and relatively small loans to numerous borrowers in the project area.

The major contribution of AKRSP's credit programme is the accessibility created by it for the region's small farmers.

Since loan funds are fungible, the true impact of loans is hard to determine without an integrated household model and extensive data on the household's sources and uses of liquidity. Because of fungibility, there are instances when these loans have been simply substituted for savings.

IV.5 Repayments and Disbursal Summary

A total of 1574 loans have been extended so far in the District. Out of these 1432 are for short-term purposes and 142 for medium-term purposes, benefiting 73,465 and 8,704 households respectively. The total amount of disbursal has been of Rs. 38.53 million. Out of this, 52% is for short-term and 48% for medium-term.

V. Additional Challenges for Mobilisation of Capital

Through its village-based financial institutional network, AKRSP has established an efficient mechanism for cooperative capital mobilisation. In order to sustain this process firm linkages have to be established with agricultural growth and increase in rural income flow. Through the coordination of agricultural credit activities with other productive services which include provision of inputs, marketing and processing of agriculture production and a wide range of other income generating activities, useful gains could be derived.

Long-term sustainability of this component depends on the innovations that can be brought about in the existing rural financial scene. The accumulation of cooperative capital by the VOs would depend on the range of the financial assets available in the market. A broad variety of financial instruments can be introduced. The terms and conditions of these financial assets

should be suitably diverse. Returns on these assets should vary inversely with their degree of liquidity. Presently, AKRSP's approach does not address the issue of liquidity of the farmers. The future course should address farmers' short-term and long-term financial requirements. In addition to this, issues pertaining to in-house banking operations within the VOs need to be addressed more systematically.

In certain cases the VOs have demonstrated a capacity to carry out this function. The VOs should be encouraged to generate a reserve fund for insurance and for crop or marketing failure. This reserve fund would essentially act as a stabiliser for the village economies.

In his letter of 3rd January 1988 to the General Manager, His Highness commented on the second phase strategy pertaining to the multiplication of activities under AKRSP leadership. He envisaged "the creation and support of new institutions which could be developed with specific and specialised mandate, and which in due course could become resource bases to the services. I am thinking of specialised finance institutions which would not only manage and invest appropriately the newly created capital of the Village Organisations, but which would also offer specialised material support for activities such as cooperative farming, or venture capital for agro industry, or specialised finance for housing, or insurance for agricultural or industrial production".

During the briefing and debriefing sessions on his recent visit to the Northern Areas, His Highness underlined that acceleration of resource mobilisation, rather than extension of services, is the issue which should be looked at strongly in the Second Phase of AKRSP activities.

In fact, there are resources available in the cooperative sector, and substantial funds, including very low cost loans, which can be channeled to the Northern Areas. AKRSP now has Rs. 34.34 million being used as loan collateral. How might those funds be leveraged? AKRSP's major challenge in the Second Phase would be the expansion of the capital resource base of the VOs and the development of specialised finance institutions with a diversified range of income generating activities.

Table 7.1

VILLAGE ORGANISATIONS' BANK DEPOSITS
Cumulative, up to December 1987
Gilgit District (Rs. '000)

Sub-Division	Men		Women	Total
	Saving Account	Term Deposit	Saving Account*	
Hunza	1,944	1,812	1,342	5,080
Nagar	2,026	1,043	18	3,267
Gilgit	2,401	3,324	1,059	6,784
Punyal-Ishkoman	1,499	1,342	434	3,275
Gupis-Yasin	2,424	2,572	340	5,336
Total	10,474	10,093	3,175	23,742

* Includes term deposits of Rs. 665,741

Table 7.2

LOAN-TO-DEPOSIT RATIOS
October - December 1987

	Total Loans Outstanding		Total	Deposits	Loan/Deposit Ratios*
	Short-term	Medium-term			
Hunza	475,983	2,695,639	3,171,622	5,080,565	0.62
Nagar	269,953	1,239,956	1,509,909	3,267,282	0.46
Gilgit	751,132	4,755,344	5,506,476	6,784,012	0.81
Punyal-Ishkoman	1,080,466	3,129,584	4,210,050	3,273,840	1.28
Gupis-Yasin	1,870,059	3,182,366	5,052,425	5,336,459	0.94
Total	4,447,593	15,002,889	19,450,482	23,742,158	0.81

* For all outstanding loans.

Table 7.3

SHORT-TERM CREDIT, DISBURSEMENT SUMMARY*

Giligt District

	No. of Borrowing**		Amount	Average	(Rs.) Per
	VOs	Household	Disbursed(Rs.)	Loan	Household
A. Cumulative up to December 1987*					
Fertiliser	1,080	54,846	13,801,559	12,779	252
Marketing	258	13,729	5,450,600	21,126	410
Plants	11	644	105,440	9,585	164
Seed	45	2,715	307,959	6,844	113
Poultry	38	1,531	230,315	6,061	150
Total	1,432	73,465	19,895,873	13,894	271
B. For October - December 1987					
Fertiliser	24	1,437	542,638	22,610	378
- in kind	1	30	6,475	6,475	216
- by cheque	23	1,407	536,163	23,311	381
Marketing	22	1,049	570,400	25,927	544
Plants	0	0	0	0	0
Seed	1	5	1,040	1,040	208
Poultry	0	0	0	0	0
Total	47	2,491	1,114,078	23,704	447

* Subject to revision during on-going verification procedures.

** Borrowing VOs and households include multiple loans to the same VO.

Table 7.4

MEDIUM -TERM CREDIT, DISBURSEMENT SUMMARY

Giligt District

	No. of Borrowing** VOs	Household	Amount Disbursed(Rs.)	Average Loan	(Rs.) Per Household
A. Cumulative up to December 1987*					
Land Development	103	6,288	14,291,833	138,756	2,273
- land reclamation	97	5,973	14,054,833	144,895	2,353
- nursery	5	229	172,000	34,400	751
- mix-farming	1	86	65,000	65,000	756
Agri. Machinery	22	1,664	3,692,000	167,818	2,119
Marketing	1	86	55,000	55,000	988
Saw-mills	1	35	100,000	100,000	2,857
Drill Machines	1	51	50,000	50,000	980
Sulphur Tents	14	580	442,500	31,607	763
Total	142	8,704	18,631,333	131,207	2,141

B. For October - December 1987

Land Development	13	950	3,126,000	240,461	3,291
- land reclamation	13	950	3,111,000	239,308	3,275
- nursery	0	0	0	0	0
- mix-farming	1	86	15,000	15,000	174
Agri. Machinery	0	0	0	0	0
Marketing	0	0	0	0	0
Saw-mills	0	0	0	0	0
Drill Machines	0	0	0	0	0
Sulphur Tents	0	0	0	0	0
Total	14	1,036	3,126,000	223,286	3,017

* Subject to revision during on-going verification procedures.

** Borrowing VOs and households include multiple loans to the same VO.

Table 7.5

CREDIT SUMMARY FOR ALL LOANS

GILGIT DISTRICTA. Disbursements, Cumulative up to December 1987

	Short-term Loans	Medium-term Loans	All Loans
No. of Borrowing			
- VOs	1,432*	142	1,574
- Households	73,465*	8,704	82,169
Amount Disbursed (Rs.)	19,895,873	18,631,333	38,527,206

* including multiple loans

B. Short-term CreditDefault (Not repaid 12 months after Disbursement)

1. Amount disbursed from Jan '86 - Dec '86	Rs.	5,073,000
2. Default for amount disbursed during Jan '86 - Dec '86	Rs.	63,813
3. Default as a % of amount disbursed the above year	Rs.	1.26%
4. Short-term Credit disbursement to date	Rs.	19,895,873
5. Default outstanding from previous years	Rs.	35,717
6. Total Default (2 + 5)	Rs.	99,530
7. Cumulative default as a % of total Short-term credit disbursement		0.50%

C. Medium-term CreditRepayment, Cumulative up to December 1987

1. Amount due	Rs.	2,024,655
2. Amount repaid	Rs.	1,719,017

Table 7.6

SHORT-TERM CREDIT, SUMMARY OF DISBURSEMENTCHITRAL DISTRICT

<u>Type of Loan</u>	<u>No. of</u>	<u>Borrowing</u>	<u>Amount</u>	<u>Average Loan (Rs)</u>	
	<u>VOs</u>	<u>Households</u>	<u>Disbursed</u>	<u>Per VO</u>	<u>Per H.holds</u>
A: Cumulative, upto December 1987					
Fertiliser	488	22,045	5,594,551	11,464	254
Marketing	54	2,906	973,956	18,036	335
Seed	11	450	30,645	2,786	68
Trees/Plants	4	187	7,960	1,990	43
Total:	557	25,588	6,607,112	11,882	258
=====					

B: Additions During October - December 1987					
Fertiliser	106	4,047	997,445	9,410	246
Marketing	19	866	359,000	18,895	415
Seed	1	32	350	350	11
Trees/Plants	-	-	-	-	-
Total:	126	4,945	1,356,795	10,768	274
=====					

Table 7.7

CREDIT SUMMARY FOR ALL LOANS

CHITRAL DISTRICTA. Disbursements, Cumulative up to December 1987

	Short-term Loans	Medium-term Loans	All Loans
No. of Borrowing			
- VOs	557*	28	585
- Households	25,588*	1,631	27,219
Amount			
Disbursed (Rs.)	6,607,112	2,724,126	9,331,238

(* includes multiple loans)

B. Short-term CreditDefault (Not repaid 12 months after Disbursement)

1. Amount disbursed from Jan '86 - Dec '86	Rs.	2,256,000
2. Default for amount disbursed during Jan '86 - Dec '86	Rs.	9,694
3. Default as a % of amount disbursed during the above year	Rs.	0.43%
4. Short-term Credit disbursement to date	Rs.	6,607,112
5. Default outstanding from previous years	Rs.	-
6. Total Default (2 + 5)	Rs.	9,694
7. Cumulative default as a % of total Short-term credit disbursement		0.15%

Table 7.8

CREDIT SUMMARY FOR ALL SHORT-TERM LOANSCHITRAL DISTRICTFertiliser Credit

<u>Sub-Division</u>	<u>No. of Loans</u>	<u>No. of Loanee Members</u>	<u>Amount Advanced (Rs.)</u>	<u>Amount Recovered (Rs.)</u>	<u>Amount Overdue (Rs.)</u>	<u>Amount Default (Rs.)</u>
A: Cumulative upto December 1987						
Chitral	266	9,756	2,040,541	1,519,374	68,300	9,088
Mastuj	222	12,289	3,554,010	2,482,013	37,763	606
Total:	488	22,045	5,594,551	4,001,387	106,063	9,694
=====						

B: For October - December 1987

Chitral	55	1,530	325,377	134,912		
Mastuj	51	2,517	672,068	371,229		
Total:	106	4,047	997,445	506,141		
=====						

Table 7.9

MEDIUM-TERM CREDIT, SUMMARY OF DISBURSEMENTCHITRAL DISTRICT

<u>Type of Loan</u>	<u>No.of</u>	<u>Borrowing</u>	<u>Amount</u>	<u>Average Loan (Rs)</u>	
	<u>VOs</u>	<u>Households</u>	<u>Disbursed</u>	<u>Per VO</u>	<u>Per H.holds</u>
A: <u>Cumulative, upto December 1987</u>					
Land Development	16	909	787,126	49,195	866
Nursery	1	100	46,000	46,000	460
Sheep Breeding	1	45	60,000	60,000	1,333
Agri. Machinery	10	577	1,831,000	183,000	3,173
Total:	28	1,631	2,724,126	97,290	1,670
=====					

B: <u>For October - December 1987</u>					
Land Development	3	166	220,000	73,333	1,325
Total:	3	166	220,000	73,333	1,325
=====					

Table 7.10

LOAN-TO-DEPOSIT RATIOS
For October - December 1987

CHITRAL DISTRICT

Sub- division	Total Loans Outstanding			Deposits	Loan/ Deposit Ratios
	Short-term	Medium-term	Total		
Chitral	874	1,108	1,982	3,447	0.57
Mastuj	1,008	1,575	2,583	4,457	0.58
Total:	1,882	2,683	4,565	7,904	0.58

Table 7.11

VILLAGE ORGANISATIONS, BANK DEPOSITS
Cumulative, upto December 1987

(Rs '000)

BALTISTAN DISTRICT

<u>Sub-division</u>	<u>Saving Account</u>	<u>Term Deposit</u>	<u>Total</u>
Skardu	909,542	100,500	1,010,042
Shigar	463,849	45,000	508,849
Kharmang	586,405	0	586,405
Khaplu	385,923	29,000	414,923
Total:	2,345,719	174,500	2,520,219
=====			

Table 7.12

LOAN-TO-DEPOSIT RATIOS
For October - December 1987

BALTISTAN DISTRICT

<u>Sub-division</u>	<u>Total Loans Outstanding</u>			<u>Deposits</u>	<u>Loan/Deposit Ratios*</u>
	<u>Short-term</u>	<u>Medium-term</u>	<u>Total</u>		
Skardu	392,021	335,000	727,021	1,010,042	0.72
Shigar	311,992	162,000	473,992	508,849	0.93
Kharmang	84,225	0	84,225	586,405	0.14
Khaplu	22,271	160,000	182,271	414,923	0.44
Total:	810,509	657,000	1,467,509	2,520,219	0.58
=====					

* For all outstanding loans.

Table 7.13

SHORT-TERM CREDIT, SUMMARY OF DISBURSEMENTBALTISTAN DISTRICT

<u>Type of Loan</u>	<u>No. of</u>	<u>Borrowing</u>	<u>Amount</u>	<u>Average Loan (Rs)</u>	
	<u>VOs</u>	<u>Households</u>	<u>Disbursed</u> (Rs.)	<u>Per VO</u>	<u>Per H.holds</u>

A: Cumulative, upto December 1987

Fertiliser	85	3,697	1,615,415	19,005	437
Marketing	29	1,179	613,800	21,165	520
Total:	114	4,876	2,229,215	19,555	457
=====					

B: For October - December 1987

Fertiliser	7	202	77,707	11,101	385
Marketing	10	283	144,900	14,490	512
Total:	17	485	222,607	13,095	459
=====					

Table 7.14

MEDIUM-TERM CREDIT, SUMMARY OF DISBURSEMENTBALTISTAN DISTRICT

<u>Type of Loan</u>	<u>No. of</u>	<u>Borrowing</u>	<u>Amount</u>	<u>Average Loan (Rs)</u>	
	<u>VOs</u>	<u>Households</u>	<u>Disbursed</u> (Rs.)	<u>Per VO</u>	<u>Per H.holds</u>
A: <u>Cumulative, upto December 1987</u>					
Land Development	1	40	12,000	12,000	300
Agri. Machinery	4	220	645,000	161,250	2,931
Total:	5	260	657,000	131,400	2,527
=====					

B: For October - December 1987

No new medium-term loans were issued during the quarter

Table 7.15

CREDIT SUMMARY FOR ALL LOANSBALTIKISTAN DISTRICTA: Disbursements, Cumulative upto December 1987

	Short-term Loans	Medium-term Loans	All Loans
No. of Borrowing			
- VOs	114	5	119
- Households	4,876	260	5,136
Amount Disbursed (Rs)	2,229,215	657,000	2,886,215

B: For October - December 1987

No. of Borrowing			
- VOs	7	-	7
- Households	485	-	485
Amount Disbursed (Rs)	222,607	-	222,607

C: Short-term CreditDefault (Not repaid 12 months after Disbursement)

1. Amount disbursed between Jan - Dec. 1986	Rs.	341,354
2. Default for amount disbursed during Jan - Dec. 1986	Rs.	0
3. Default as a % of amount disbursed during the above year		0%
4. Short-term credit disbursed todate	Rs.	2,229,215
5. Default outstanding from previous years	Rs.	0
6. Total default (2+5)	Rs.	0
7. Cumulative default as a % of total short-term credit distributed todate		0%

CHAPTER EIGHT

MONITORING, EVALUATION & RESEARCH: PREPARING FOR A YEAR OF CHANGE

I. Evolution of MER Functions & Staffing

In the first five years of AKRSP, its MER Section has been most active in: (1) coordinating a system of regular monitoring and quarterly and donor reports; (2) collaborating with AKRSP and AKF staff in the preparation of donor proposals; (3) conducting village-level case studies for ongoing evaluation; and, (4) initiating a small number of impact assessment exercises, agro-economics surveys, and experiments in rapid and cheap rural appraisal techniques for development.

On balance, MER staff's allocation of time has been in favour of reporting and ongoing evaluation, and has generally had an outward orientation (i.e., towards donors, advocacy and networking, rather than towards VOs). Much of the remaining chapter explores how a more balanced set of priorities can be constituted for MER, and how MER can develop an effective dual orientation.

In addition to its intrinsic functions, the MER Section has also evolved an in-house O&M role for itself within AKRSP. This has largely taken four forms: (1) professional staff recruited to MER's core group in Gilgit have performed important middle-management functions, as part of the core group as well as from their subsequent positions outside the core group; (2) MER has assisted with activities aimed at imparting new (particularly diagnostic) skills to AKRSP field staff; (3) MER is responsible for a wide range of functions associated with the introduction of microcomputers at AKRSP; and, (4) MER is responsible for the development of the AKRSP library.

Given the range of MER's intrinsic and O&M functions, there is a need to articulate a clear work plan to commence in 1988. At the same time, there is a need to recognise that MER's specific role is a derivative one - its work plan has to reflect overall AKRSP priorities as they evolve over time. Accordingly, the following sections distinguish between MER's medium-term orientation, and its current work plan. This approach seeks to define a specific role for MER within AKRSP, while recognising that MER's thematic priorities will need to change in step with AKRSP needs.

II. Articulating a Dual Orientation

MER's specific role within AKRSP can be illustrated as a challenge, with reference to Janus, the Roman god of doors. Like Janus, MER needs to operate with one mind and two faces, one oriented towards the villages of the project area, the other towards the rest of the world. The challenge for MER is to serve as a small and effective intellectual core for AKRSP that can stimulate the creation of a body of knowledge for the region's development. The accumulation of knowledge needs to be pursued as a vital part of AKRSP's incremental, learning approach to

development. At the same time, the process of accumulation of knowledge needs to be checked periodically for its effective contribution to development.

Through trial and error, MER is approaching a dual orientation that can, indeed, help it meet its role within AKRSP. For purposes of exposition, one can distinguish between MER's VO-orientation and its outward-orientation; this evolving dual orientation is articulated explicitly in the succeeding lines.

MER's VO-orientation is addressed through two kinds of interaction. MER interacts with professional colleagues at AKRSP to determine priorities for MER as derived from the priorities of the programming divisions. This can be referred to as the indirect component of MER's VO-orientation. Simultaneously, MER interacts directly with villagers to provide feedback to professional colleagues for purposes of programme development. The numerous mechanisms for both kinds of interaction are, by now, well-established. They include, for indirect interaction, informal staff meetings, weekly Programme Planning Meetings, Monthly Review Workshops, joint field trips, Notes for Record, etc. For direct interaction with the villagers, MER has depended on VO Conferences, informal field visits, and farmer interviews and surveys. MER's VO-oriented output has included Discussion Notes for programme development, Evaluation Notes, Regional Statistics Notes, village case studies, research reports for the management, Notes for Record, etc. For the future, MER needs to participate more actively in village dialogues and villager training, and assist with the preparation of extension material that can be used directly in the villages (e.g., leaflets, AV material, etc.)

MER's outward-orientation is, in effect, an attempt to establish support networks for AKRSP management; it can be described in terms of MER's participatory and liaison roles. In its liaison role, MER seeks to identify resource bases and resource persons who can contribute to the work of AKRSP, and works to involve them in the specific activities for which their expertise is needed at AKRSP. More directly, MER staff participate actively in formal and informal networks, training programmes, workshops, etc. In its outward-orientation, MER benefits from its frequent contact with visitors to AKRSP, its reporting functions for donors, and communication with a large number of individuals within the Aga Khan network and at national and international resource bases. MER's outward-oriented output is also well-established and includes quarterly reports and annual reviews, donor reports, workshop and conference papers and presentations, contributions to professional journals and books, support for interns and visiting scholars, etc.

By virtue of their considerable outward-orientation, MER staff are subject to a specific occupational hazard: almost every contact brings with it a challenge to explore new dimensions of rural life. At the same time, the attractions of an outward-orientation can distract even discerning professionals from MER's VO-orientation. The fine balance that needs to be

maintained can be best accomplished with periodic reference to the current work plan; this is attempted next.

III. Current Work Plan

The work plan for MER is discussed thematically in this section; this plan needs to be assessed periodically within the evolving context of regional development.

In terms of strategic planning, MER needs to lead the follow-up actions required for Second Phase objectives. In specific terms, greater intellectual effort than before needs to be brought to bear upon issues relating to human resources development, savings and credit policies, commercial and industrial development, and the issue of formalisation of institution-building initiatives. In recent months, some of these issues have been examined by outside consultants; however, greater initiative from MER is needed to utilise the consultants effectively for strategic planning.

The current priorities for programme development appear to lie within the broad subjects of resource management and technological innovation. Both of these play a substantial role in the implementation of AKRSP's Second Phase. Within resource management, the current order of priorities for MER is: pasture management, sustainable forestry, land development, and water management. Within the vast domain of technological innovation, the current priorities for MER are: field crops, appropriate technology for women, winterfeed for livestock, and fruit-processing technologies.

Programmes that have been on the ground for a significant period of time need to be examined through impact assessment studies. Considerable documentation and analysis has been done on some of these programmes. Based on the likely impact on the project area, and with a consideration for management costs, MER's priorities for impact assessment are: productive physical infrastructure (irrigation channels and link roads only), credit for fertiliser and tractor purchases, the programme for livestock disease control, the diffusion of agricultural innovations, and the performance of village livestock and agriculture specialists.

Concurrently with its programme development and impact assessment priorities, MER will continue to experiment with attractive diagnostic approaches for development. AKRSP's past work in this area has been dominated by ecological and sociological paradigms. While these will continue to be important, AKRSP's Second Phase priorities in resource management and technological innovation, as well as the current emphasis on impact assessment, require the explicit incorporation of paradigms from economics.

Finally, in its in-house O&M role for AKRSP, MER needs to complete the computerisation of project records as a matter of priority. While the basic software is now in place, it needs to be refined and used extensively with proper staff training. A second priority in computerisation is the introduction of advanced software, e.g., for engineering design, land use planning, etc. MER also needs to assist HRDD with systematic

planning for staff development. Finally, the AKRSP library needs to be rehabilitated in the main office, and procedures devised for speedier cataloguing and better retrieval of books and other printed matter.

The preceding work plan directly implies the priorities for the kind of VO-orientation that is required of MER, as well as the nature of the outside expertise that needs to be mobilised. As regards the latter, MER needs to actively pursue individuals who can assist AKRSP as participants in:

IV. Support Networks for the Second Phase

Given the work plan outlined above, MER's efforts should be directed at obtaining outside assistance for:

- (i) strategic planning for human resources development, savings and credit policies, commercial and industrial development, and the issue of the formalisation of institution-building initiatives;
- (ii) programme development in the fields of pasture management, sustainable forestry, land development and water management, and for technological innovation in field crops, appropriate technology for women, winterfeed for livestock, and fruit-processing technologies;
- (iii) impact assessment studies of irrigation channels, link roads, credit for fertiliser and tractor purchases, livestock disease control, diffusion of agricultural innovations, and the performance of village livestock and agriculture specialists;
- (iv) parsimonious diagnostic approaches pertaining to the agenda outlined above in (ii) and (iii), with particular attention to paradigms from economics;
- (v) computerisation of project records, especially aspects of software development for data base management and related staff training.

CHAPTER NINE

BUDGET AND ACCOUNTS

I. Overview

57 PPIs were initiated during the quarter under review in the entire project area, bringing the total number of PPIs committed to 585 costing Rs. 90.863 million. The PPI breakdown by district is as follows:

a. October - December 1987

	<u>No. of PPI</u>	<u>Cost (Rs.) Million</u>
Gilgit	10	2.155
Chitral	20	3.779
Baltistan	27	3.061
Total:	<u>57</u>	<u>8.995</u>

b. January - December 1987

Gilgit	32	5.542
Chitral	58	9.511
Baltistan	75	9.731
Total:	<u>165</u>	<u>24.784</u>

c. Cumulative

Gilgit	293	45.381
Chitral	177	28.266
Baltistan	115	17.216
Total:	<u>585</u>	<u>90.863</u>

The total disbursements against the above cumulative commitment was Rs. 73.019 million by the end of 1987.

II. AKRSP Donors

The year 1987 was marked with satisfying achievements on the funding front.

Our heartfelt thanks are due to the Royal Netherlands Government, the Canadian International Development Agency and the Overseas Development Administration (UK) for approving another round of multi-year funding. In addition, our thanks are due to the Alberta Aid (Canada), Government of Pakistan Women's Division, the Commission of European Communities, and the AKF network for their support which enabled AKRSP to extend its activities to more villages. Donor-wise receipt of funds during the year is reported in sources and application of funds 1987.

III. Management of Accounts

The process of computerisation of AKRSP accounts remained smooth during the year, both men and machine behaved positively. Mr. Jean Pierre Naz, Finance Manager, AKF Geneva, visited Gilgit to see that the operation of accounts was going smoothly. He commented favourably on the progress to date. His other two scheduled visits in connection with the integration of the receivable package with the main accounting programme could not materialise because of bad weather despite his attempts overland. Due importance is being given to the receivables package in view of the expanding credit programme. The Credit Officer Mr. M. Nisar is scheduled to proceed to Geneva for training on the receivables package. With the establishment of the District Programme Office Gilgit, three accounts personnel were transferred to the new set up with the arrangement that all the disbursements and receipts pertaining to the Village Organisations and DPO staff would be looked after by the DPO accounts staff, whereas its accounting in the computer would be done at the Core Office on the basis of vouchers prepared and sent by the DPO accounts section on a daily basis. The Core Office accounts section after computerising the daily transactions will send the daily printouts of the cash and bank accounts to the DPO for reconciliation purposes. This arrangement is also in vogue in respect of the DPOs Chitral and Baltistan with the only difference that in the latter cases it is on fortnightly basis.

IV. Programme Accounts

A summary of sources and application of funds (unaudited) as of December 31, 1987 is given in Table 9.1.

Table 9.1

SOURCES AND APPLICATION OF FUNDS 1987 (Unaudited)

<u>Project Area</u>		
<u>Rs. '000'</u>		
<u>Sources</u>		104,575.4
<u>Balance brought forward from 1986</u>		24,215.8
<u>Donor Receipts in 1987</u>		80,359.6
- CIDA	18,594.7	
- ODA	181.6	
- OXFAM	1,700.9	
- A. AID	4,061.7	
- USAID	5,820.6	
- DUTCH	20,584.0	
- CEC	2,390.6	
- Govt of Pak WD	3,048.0	
- Other Govt Sources	195.0	
- AKF network*	12,282.5	
- Banks	11,500.0	
<u>Applications</u>		74,263.2
General Administration	8,827.5	
Agriculture Extension	8,232.5	
Social Organisation	4,426.1	
Engg., Survey & Research	4,978.4	
Marketing Research	1,044.4	
Monitoring Eval. Research	2,828.3	
Audio Visual Unit	697.8	
WID	4,219.5	
PPI Grants	20,374.9	
Credit Programme	15,081.0	
Changes in working capital	3,552.8	
Carry forward to 1988**		30,312.2

* AKF funds includes generous contribution from AKF Geneva, AKF Canada, AKF (UK) and AKF (USA).

** This carry forward will be utilised to finance outstanding commitments, mostly PPI projects, in 1988.

Appendix A:	Statistical Appendix for the Project Area
Appendix B:	Statistical Appendix for Gilgit District
Appendix C:	Statistical Appendix for Chitral District
Appendix D:	Statistical Appendix for Baltistan District
Appendix E:	Visitors to AKRSP and Project Area-based Friends
Appendix F:	List of Members of the Board of Directors and the Staff of AKRSP.

APPENDIX A
STATISTICAL APPENDIX FOR THE PROJECT AREA

APPENDIX A: STATISTICAL APPENDIX FOR THE PROJECT AREA

Table A.1	Social Organisation, Members and Bank Deposits
Table A.2	Productive Physical Infrastructure. Summary
Table A.3	Total Costs and Dimensions. Selected PPI Sectors
Table A.4	Average Costs, Physical Dimensions and Unit Costs. Selected PPI Sectors
Table A.5	The Training Programme. Number of Courses
Table A.6	The Training Programme. Number of Trainees
Table A.7	The Training Programme. Number of Training Days.
Table A.8	The Credit Programme. Summary of Disbursements
Table A.9	The Credit Programme. Short-term Credit
Table A.10	The Credit Programme. Medium-term Credit
Table A.11	Cooperative Marketing by Village Organisations

Table A.1

SOCIAL ORGANISATION, MEMBERSHIP AND BANK DEPOSITSAdditions During the Year in:PROJECT AREA

<u>Year</u>	<u>No. of VOs</u>	<u>Membership</u>	<u>Bank Deposits* (Rs million)</u>
A. <u>Village Organisations</u>			
1983	180	15,449	0.84
1984	233	15,655	5.16
1985	74	4,665	4.55
1986	84	4,225	5.35
1987	191	5,198	15.09
Total	762	45,192	30.99
=====			
B. <u>Women's Organisations**</u>			
1983	10	578	0.04
1984	62	3,578	0.48
1985	28	1,695	0.86
1986	33	919	0.74
1987	41	1,538	1.23
Total	174	8,308	3.35
=====			

* Excluding Women's Deposits

** For Gilgit and Chitral Districts only.

Table A.2

PRODUCTIVE PHYSICAL INFRASTRUCTURE
SUMMARY

(ENTIRE PROJECT AREA)

Additions During the Year In:

PROJECT AREA

<u>Year</u>	<u>PPIs Initiated</u>	<u>Cost (Rs. million)</u>	<u>Completed PPIs</u>	<u>Yearwise</u>
1983	104	13.9	98	23
1984	116	16.7	101	91
1985	106	18.8	73	81
1986	94	16.7	60	62
1987	165	24.7	43	118
Total:	585	90.8	375	375
=====				

Table A.3

TOTAL COSTS AND PHYSICAL DIMENSIONS OF SELECTED PPI SECTORS

(ENTIRE PROJECT AREA)

Additions During the Year in:

A. No of Projects

Year	Irrigation Channels		Link Roads	Protective Works	Reservoirs and Tanks
	Widening & extension	All New			
1983	38	27	15	14	4
1984	31	35	19	15	9
1985	27	38	18	13	5
1986	21	23	15	14	7
1987	40	42	33	23	11
Total	157	165	100	79	36

B. Physical Dimensions

	Length (km)		Length (m)	Volume (m ³)
1983	122.7	92.1	33.1	4,197.0
1984	98.6	105.5	59.8	3,668.6
1985	101.4	131.6	105.5	3,951.3
1986	78.0	74.3	42.4	4,396.4
1987	90.6	106.4	99.4	6,267.3
Total	491.3	509.9	340.2	22,480.6

C. Total Costs (Rs '000)

1983	3,524	4,884	1,912	2,136	544
1984	3,686	5,636	2,865	2,539	1,211
1985	3,167	6,972	2,923	2,127	879
1986	3,236	4,482	2,481	2,679	1,215
1987	5,070	6,614	5,599	3,762	1,408
Total	18,683	28,588	15,780	13,243	5,257

Table A.4

AVERAGE COSTS, DIMENSIONS & UNIT COSTS OF SELECTED PPI SECTORS

(ENTIRE PROJECT AREA)

A. Average Costs (Rs '000)

Year	Irrigation Channels		Link Roads	Protective Works	Reservoirs and Tanks
	Widening & extension	All New			
1983	92.7	180.9	127.5	152.6	136.0
1984	118.9	161.0	150.8	169.3	134.6
1985	117.3	163.5	162.4	163.6	175.8
1986	154.1	194.9	165.4	191.4	173.6
1987	126.7	197.5	169.7	163.6	128.0
Total	119.0	173.3	157.8	167.6	146.0

B. Average Dimensions

	Length (km)		Length (m)	Volume (m ³)
1983	3.2	3.4	299.8	1,261.4
1984	3.2	3.0	244.6	892.7
1985	3.7	3.5	303.9	2,720.0
1986	3.7	3.2	314.0	872.8
1987	2.3	2.5	272.5	42,037.2
Total	3.1	3.1	284.6	13,755.5

C. Unit Costs (Rs '000)

	(Per Km)		(Per 100 m)	(Per 100m ³)
1983	28.7	53.0	50.9	10.8
1984	37.4	53.4	69.2	15.1
1985	31.2	53.0	53.8	6.5
1986	41.5	60.3	60.9	19.9
1987	56.0	62.2	60.0	0.3
Total	38.0	56.1	58.9	1.0

Table A.5

THE TRAINING PROGRAMME. NUMBER OF COURSES

PROJECT AREA

A. Regular Courses

Year	Livestock	Agriculture	Subject			Marketing	Accounts	All subjects
			Poultry	Poultry	Marketing			
1983	2	2	0	0	0	0	0	4
1984	3	2	3	3	0	0	0	8
1985	4	5	3	3	2	0	0	14
1986	5	8	1	1	2	0	0	16
1987	6	9	4	4	4	1	1	24
Total	20	26	11	11	8	1	1	66

B. Refresher and Other Courses

1983	0	0	0	0	0	0	0	0
1984	3	2	0	0	0	0	0	5
1985	5	3	1	1	0	0	0	9
1986	6	6	1	1	2	0	0	15
1987	4	6	2	2	2	0	0	14
Total	18	17	4	4	4	0	0	43

Table A.6

THE TRAINING PROGRAMME. NUMBER OF TRAINEES

PROJECT AREA

Year	A. Regular Courses				
	Subject				All subjects
	Livestock	Agriculture	Poultry	Marketing	
1983	45	46	0	0	91
1984	65	45	69	0	179
1985	88	77	72	38	275
1986	88	152	58	49	347
1987	136	142	58	49	401
Total	422	462	257	136	1293

B. Refresher and Other Courses				
1983	0	0	0	0
1984	60	89	0	149
1985	68	27	14	109
1986	141	97	18	288
1987	159	98	15	296
Total	428	311	47	842

Table A.7

THE TRAINING PROGRAMME. NUMBER OF TRAINING DAYS

PROJECT AREA

A. Regular Courses

Year	Livestock	Agriculture	Subject			Marketing	Accounts	All subjects
			Poultry					
1983	37	16	0			0	0	53
1984	80	31	46			0	0	157
1985	81	105	27			19	0	232
1986	94	117	17			21	0	249
1987	97	132	34			43	4	310
Total	389	401	124			83	4	1,001

B. Refresher and Other Courses

1983	0	0	0			0	0	0
1984	9	8	0			0	0	17
1985	47	19	4			0	0	70
1986	59	47	5			7	0	118
1987*	39	38	14			6	0	97
Total	154	112	23			13	0	302

Table A.8

THE CREDIT PROGRAMME, SUMMARY OF DISBURSEMENTS

PROJECT AREA

<u>Year</u>	<u>Short-term Credit</u>	<u>Medium-term Credit</u>	<u>Total</u>
A. <u>Amount Disbursed (Rs '000)</u>			
1983	994	0	994
1984	2,753	473	3,226
1985	4,533	3,734	8,267
1986	8,024	4,484	12,508
1987	12,428	13,321	25,749
Total	28,732	22,012	50,744

B. <u>No. of VO Loans*</u>			
1983	73	0	73
1984	207	3	210
1985	380	30	410
1986	635	47	682
1987	808	95	903
Total	2,103	175	2,278

C. <u>No. of Borrowing Households*</u>			
1983	5,166	0	5,166
1984	13,401	432	13,833
1985	21,074	2,224	23,298
1986	29,681	2,700	32,381
1987	34,607	5,239	39,846
Total	103,929	10,595	114,524

* Includes multiple loans to the same VO.

Table A.9

THE CREDIT PROGRAMME, SHORT-TERM CREDIT DISBURSEMENTS

PROJECT AREA

Year	Loans for:				Total
	Fertiliser	Marketing	Women*	Plants/ Seed	
A. Amount Disbursed (Rs '000)					
1983	994	0	0	0	994
1984	2,537	196	10	10	2,753
1985	3,623	813	58	39	4,533
1986	5,904	1,734	40	109	7,787
1987	7,699	4,289	404	273	12,665
Total	20,757	7,032	512	431	28,732
=====					
B. No. of VO Loans***					
1983	73	0	0	0	73
1984	196	8	2	1	207
1985	314	48	11	7	380
1986	485	119	5	26	635
1987	554	165	55	34	808
Total	1,622	340	73	68	2,103
=====					
C. No. of Borrowing Households**					
1983	5,166	0	0	0	5,166
1984	12,643	579	44	135	13,401
1985	16,636	3,592	344	502	21,074
1986	22,265	5,924	114	1,378	29,681
1987	23,265	7,687	1,832	1,823	34,607
Total	79,975	17,782	2,334	3,838	103,929
=====					

* To women's organisation for fertiliser, plants, seeds, marketing and poultry (Gilgit District only).

** Includes one project maintenance loan of Rs. 5,395 for 120 beneficiaries.

*** Include multiple loans to the same VOs.

Table A.10

THE CREDIT PROGRAMME, MEDIUM-TERM CREDIT DISBURSEMENTS

PROJECT AREA

Year	Loans for:				Total
	Land Development*	Agriculture Machinery	Sulpher tents	Others**	

A. Amount Disbursed (Rs. '000)

1984	473	0	-	-	473
1985	2,499	1,235	-	-	3,734
1986	2,457	2,027	-	-	4,484
1987	9,768	2,906	442	205	13,321
Total:	15,197	6,168	442	205	22,012

B. Number of VO Loans***

1984	3	0	-	-	3
1985	21.5	8.5	-	-	30
1986	32.5	14.5	-	-	47
1987	65	13	14	3	95
Total:	122	36	14	3	175

C. Number of Borrowing Households**

1984	432	0	-	-	432
1985	1,443	781	-	-	2,224
1986	1,804	896	-	-	2,700
1987	3,703	784	580	172	5,239
Total:	7,382	2,461	580	172	10,595

* Includes land reclamation, nursery and mix-farming.

** Includes marketing, saw mills and drill machines.

*** Includes multiple loans for different purposes to the same VO; a 50% instalment is counted as half-loan.

Table A.11

COOPERATIVE MARKETING BY VILLAGE ORGANISATIONS

A. Volumes, Incomes and BeneficiariesPROJECT AREA

<u>Year</u>	<u>Participating VO</u>	<u>Volume Marketed (tonnes)</u>	<u>Value of sales (Rs.'000)</u>	<u>Marketing expenses (Rs.'000)</u>	<u>Farmgate Income (Rs.'000)</u>	<u>Beneficiary Households</u>
1983	11	45.5	324	55	269	514
1984	8	22.3	159	27	132	251
1985	45	176.2	940	133	807	1,070
1986	128	293.0	2,735	172	2,564	4,372
1987	191	430.7*	3,432	180	3,251	6,581
Total:	383	967.7	7,590	567	7,023	12,788

* Only Gilgit and Chitral Districts.

B. Marketing Loans

<u>Year</u>	<u>No. of Borrowing</u>		<u>Amount Disbursed (Rs. '000)</u>
	<u>VOs</u>	<u>H.Holds</u>	
1983	0	0	0
1984	8	579	196
1985	48	3,592	823
1986	119	5,924	1,961
1987	166	7,719	4,058
Total:	341	17,814	7,038

APPENDIX B
STATISTICAL APPENDIX FOR GILGIT DISTRICT

APPENDIX B: STATISTICAL APPENDIX FOR GILGIT DISTRICT

Table B.1	Social Organisation, Members and Bank Deposits
Table B.2	Productive Physical Infrastructure. Summary
Table B.3	Total Costs and Dimensions. Selected PPI Sectors
Table B.4	Average Costs, Physical Dimensions and Unit Costs. Selected PPI Sectors
Table B.5	The Training Programme. Number of Courses
Table B.6	The Training Programme. Number of Trainees
Table B.7	The Training Programme. Number of Training Days.
Table B.8	The Credit Programme. Summary of Disbursements
Table B.9	The Credit Programme. Short-term Credit
Table B.10	The Credit Programme. Medium-term Credit
Table B.11	Cooperative Marketing by Village Organisations

Table B.1

SOCIAL ORGANISATION, MEMBERSHIP AND BANK DEPOSITSAdditions During the Year in:GILGIT DISTRICT

<u>Year</u>	<u>No. of VOs</u>	<u>Membership</u>	<u>Bank Deposits*</u> <u>(Rs million)</u>
<u>A. Village Organisations</u>			
1983	131	12,050	0.67
1984	158	11,070	4.48
1985	27	1,830	2.96
1986	33	1,462	2.48
1987	27	88	9.98
Total	376	26,500	20.57
=====			
<u>B. Women's Organisations</u>			
1983**	10	578	0.04
1984	62	3,578	0.48
1985	28	1,695	0.86
1986	33	919	0.74
1987	15	530	1.06
Total	148	7,300	3.18
=====			

* Excluding Women's Deposits

** Estimates

Table B.2

PRODUCTIVE PHYSICAL INFRASTRUCTURE
SUMMARY

Additions During the Year In:

GILGIT DISTRICT

<u>Year</u>	<u>PPIs Initiated</u>	<u>Cost (Rs. million)</u>	<u>Completed PPIs</u>	<u>Yearwise</u>
1983	80	11.1	76	23
1984	96	13.6	84	70
1985	56	9.9	40	55
1986	29	5.2	20	36
1987	32	5.5	2	38
Total:	293	45.3	222	222
=====				

Table B.3

TOTAL COSTS AND PHYSICAL DIMENSIONS OF SELECTED PPI SECTORSAdditions During the Year in:A. No of ProjectsGILGIT DISTRICT

<u>Year</u>	<u>Irrigation Channels</u>		<u>Link Roads</u>	<u>Protective Works</u>	<u>Reservoirs and Tanks</u>
	<u>Widening & extension</u>	<u>All New</u>			
1983	30	18	15	10	4
1984	30	29	15	7	9
1985	23	12	9	6	3
1986	8	3	2	2	7
1987	5	8	8	3	1
Total	96	70	49	28	24

B. Physical Dimensions

	<u>Length (km)</u>		<u>Length (m)</u>	<u>Volume (m³)</u>
1983	101.1	59.6	33.1	3,782.0
1984	97.7	69.3	46.2	1,601.6
1985	90.6	31.1	82.5	1,878.3
1986	28.8	11.9	2.4	731.4
1987	6.3	28.3	34.4	975.3
Total	324.5	200.2	198.6	8,968.6

C. Total Costs (Rs '000)

1983	2,719	3,614	1,912	1,624	544
1984	3,615	4,425	2,426	1,236	1,211
1985	2,652	2,357	1,589	1,129	538
1986	1,412	432	312	643	1,215
1987	432	1,495	1,816	603	165
Total	10,830	12,323	8,055	5,235	3,673

Table B.4

AVERAGE COSTS, DIMENSIONS & UNIT COSTS OF SELECTED PPI SECTORS

A. Average Costs (Rs '000)GILGIT DISTRICT

Year	<u>Irrigation Channels</u>		<u>Link Roads</u>	<u>Protective Works</u>	<u>Reservoirs and Tanks</u>
	<u>Widening & extension</u>	<u>All New</u>			
1983	90.6	200.8	127.5	162.4	136.0
1984	120.5	152.5	161.7	176.6	134.6
1985	115.3	196.3	287.6	188.2	179.2
1986	176.4	144.1	156.0	321.3	173.6
1987	86.3	186.9	227.0	200.9	165.3
Total	112.81	176.04	164.39	186.96	153.04

B. Average Dimensions

	<u>Length (km)</u>		<u>Length (m)</u>	<u>Volume (m³)</u>
1983	3.37	3.31	2.20	378.2
1984	3.25	2.39	3.08	228.8
1985	3.93	2.60	9.16	313.0
1986	3.60	3.97	1.21	365.8
1987	1.26	3.55	4.30	325.1
Total	3.38	2.86	4.05	320.31

C. Unit Costs (Rs '000)

	<u>(Per Km)</u>		<u>(Per 100 m)</u>	<u>(Per 100m³)</u>
1983	26.80	60.6	57.70	42.9
1984	37.00	63.8	52.50	77.2
1985	29.20	75.7	31.30	60.1
1986	49.00	36.3	130.00	87.9
1987	68.57	52.8	52.70	61.8
Total	33.37	61.55	40.56	58.37

Table B.5

THE TRAINING PROGRAMME. NUMBER OF COURSES

GILGIT DISTRICT

A. Regular Courses

Year	Livestock	Subject				Accounts	All subjects
		Agriculture	Poultry	Marketing			
1983	2	2	0	0		0	4
1984	3	2	3	0		0	8
1985	3	2	3	2		0	10
1986	2	5	1	2		0	10
1987	2	5	3	2		1	13
Total	12	16	10	6		1	45

B. Refresher and Other Courses

1983	0	0	0	0		0	0
1984	3	2	0	0		0	5
1985	4	3	1	0		0	8
1986	4	4	1	2		0	11
1987	2	3	2	2		0	9
Total	13	12	4	4		0	33

Table B.6

THE TRAINING PROGRAMME. NUMBER OF TRAINEES

GILGIT DISTRICT

A. Regular Courses

Year	Livestock	Agriculture	Subject			Marketing	Accounts	All subjects
			Poultry					
1983	45	46	0			0	0	91
1984	61	45	69			0	0	175
1985	61	29	72			38	0	200
1986	33	111	58			38	0	240
1987	46	75	39			29	16	205
Total	246	306	238			105	16	911

B. Refresher and Other Courses

1983	0	0	0			0	0	0
1984	60	89	0			0	0	149
1985	55	27	14			0	0	96
1986	112	62	18			32	0	224
1987	131	58	15			24	0	228
Total	358	236	47			56	0	697

Table B.7

THE TRAINING PROGRAMME. NUMBER OF TRAINING DAYS

GILGIT DISTRICTA. Regular Courses

Year	Livestock	Agriculture	Subject			Accounts	All subjects
			Poultry	Marketing			
1983	37	16	0	0	0	0	53
1984	60	31	46	0	0	0	137
1985	45	30	27	19	0	0	121
1986	30	66	17	21	0	0	134
1987	22	60	27	22	4	4	135
Total	194	203	117	62	4	4	580

B. Refresher and Other Courses

1983	0	0	0	0	0	0	0
1984	9	8	0	0	0	0	17
1985	26	19	4	0	0	0	49
1986	24	17	5	7	0	0	53
1987	13	21	14	6	0	0	54
Total	72	65	23	13	0	0	173

Table B.8

THE CREDIT PROGRAMME, SUMMARY OF DISBURSEMENTS

GILGIT DISTRICT

Year	Short-term Credit	Medium-term Credit	Total
A. Amount Disbursed (Rs '000)			
1983	856	0	856
1984	2,619	473	3,092
1985	3,764	3,734	7,498
1986	5,073	3,894	8,967
1987	7,584	10,530	18,114
Total	19,896	18,631	38,527
=====			
B. No. of VO Loans*			
1983	66	0	66
1984	201	3	204
1985	307	30	337
1986	395	39	434
1987	463	70	533
Total	1,432	142	1,574
=====			
C. No. of Borrowing Households*			
1983	4,806	0	4,806
1984	13,054	432	13,486
1985	16,999	2,224	19,223
1986	17,733	2,257	19,990
1987	20,873	3,791	24,664
Total	73,465	8,704	82,169
=====			

* Includes multiple loans to the same VO.

Table B.9

THE CREDIT PROGRAMME, SHORT-TERM CREDIT DISBURSEMENTS

GILGIT DISTRICT

Year	Loans for:				Total
	Fertiliser	Marketing	Women*	Plants/ Seed	
A. Amount Disbursed (Rs '000)					
1983	856**	0	0	0	856
1984	2,403	196	10	10	2,619
1985	2,854	813	58	39	3,764
1986	3,239	1,718	40	76	5,073
1987	4,195	2,717	404	268	7,584
Total	13,547	5,444	512	393	19,896
=====					
B. No. of VO Loans***					
1983	66**	0	0	0	66
1984	190	8	2	1	201
1985	241	48	11	7	307
1986	277	95	5	18	395
1987	275	106	55	27	463
Total	1,049	257	73	53	1,432
=====					
C. No. of Borrowing Households***					
1983	4,806**	0	0	0	4,806
1984	12,296	579	44	135	13,054
1985	12,561	3,592	344	502	16,999
1986	12,141	4,455	114	1,023	17,733
1987	12,429	5,071	1,832	1,541	20,873
Total	54,233	13,697	2,334	3,201	73,465
=====					

* To women's organisation for fertiliser, seed, plants, marketing and poultry.

** Includes one project maintenance loan of Rs. 5,395 for 120 beneficiaries.

*** Includes multiple loans to the same VOs.

Table B.10

THE CREDIT PROGRAMME, MEDIUM-TERM CREDIT DISBURSEMENTS

GILGIT DISTRICT

Loans for:					
Year	Land* Development	Agricultural Machinery	Sulphur tents	Others**	Total
A. <u>Amount Disbursed (Rs. '000)</u>					
1983	-	-	-	-	-
1984	473	0	-	-	473
1985	2,499	1,235	-	-	3,734
1986	2,167	1,727	-	-	3,894
1987	9,153	730	442	205	10,530
Total:	14,292	3,692	442	205	18,631

=====					
B. <u>Number of VO Loans***</u>					
1983	-	-	-	-	-
1984	3	0	-	-	3
1985	21.5	8.5	-	-	30
1986	26.5	12.5	-	-	39
1987	52	1	14	3	70
Total:	103	22	14	3	142

=====					
C. <u>Number of Borrowing Households***</u>					
1983	-	-	-	-	-
1984	432	0	-	-	432
1985	1,443	781	-	-	2,224
1986	1,473	784	-	-	2,257
1987	2,940	99	580	172	3,791
Total:	6,288	1,664	580	172	8,704

=====

* Includes land reclamation, nursery and mix-farming.

** Includes marketing, saw mills and drill machines.

*** Includes multiple loans to the same VO; a 50% instalment is counted as half-loan.

Table B.11

COOPERATIVE MARKETING BY VILLAGE ORGANISATIONS

GILGIT DISTRICT

A. Volumes, Incomes and Beneficiaries

Year	Participating VOs	Volume Marketed (tonnes)	Value of sales (Rs. '000)	Marketing expenses (Rs. '000)	Farmgate Income (Rs. '000)	Beneficiary Households
1983	11	45.5	324	55	269	514
1984	8	22.3	159	27	132	251
1985	45	176.2	940	133	807	1,070
1986	108	225.0	2,487	158	2,329	3,560
1987	95	339.7	2,268	100	2,168	3,737
Total:	267	808.7	6,178	473	5,705	9,132

B. Marketing Loans

Year	No. of Borrowing:		Amount	
	VOs	H.Holds	Disbursed (Rs. '000)	
1983	0	0	0	
1984	8	579	196	
1985	48	3,592	823	
1986	95	4,455	1,708	
1987	107	5,103	2,723	
Total:	258	13,729	5,450	

APPENDIX C

STATISTICAL APPENDIX FOR CHITRAL DISTRICT

APPENDIX C: STATISTICAL APPENDIX FOR CHITRAL DISTRICT

Table C.1	Social Organisation, Members and Bank Deposits
Table C.2	Productive Physical Infrastructure. Summary
Table C.3	Total Costs and Dimensions. Selected PPI Sectors
Table C.4	Average Costs, Physical Dimensions and Unit Costs. Selected PPI Sectors
Table C.5	The Training Programme. Number of Courses
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Table C.7	The Training Programme. Number of Training Days.
Table C.8	The Credit Programme. Summary of Disbursements
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Table C.10	The Credit Programme. Medium-term Credit
Table C.11	Cooperative Marketing by Village Organisations

Table C.1

SOCIAL ORGANISATION, MEMBERSHIP AND BANK DEPOSITSAdditions During the Year in:CHITRAL DISTRICT

<u>Year</u>	<u>No. of VOs</u>	<u>Membership</u>	<u>Bank Deposits*</u> <u>(Rs million)</u>
<u>A: Village Organisations</u>			
1983	49	3,399	0.17
1984	66	4,093	0.68
1985	34	2,123	1.36
1986	19	1,052	2.24
1987	56	1,716	3.45
<u>Total</u>	<u>224</u>	<u>12,383</u>	<u>7.90</u>
=====			

B: Women's Organisation

1987	26	1,008	0.17
<u>Total:</u>	<u>26</u>	<u>1,008</u>	<u>0.17</u>
=====			

* Excluding Women's Deposits

Table C.2

PRODUCTIVE PHYSICAL INFRASTRUCTURE
SUMMARY

Additions During the Year in:

CHITRAL DISTRICT

<u>Year</u>	<u>PPIs Initiated</u>	<u>Cost (Rs. million)</u>	<u>Completed PPIs</u>	<u>Yearwise</u>
1983	24	2.8	22	-
1984	18	2.9	15	21
1985	44	7.8	29	25
1986	33	5.3	19	18
1987	58	9.5	15	36
Total	177	28.3	100	100
=====				

Table C.3

TOTAL COSTS AND PHYSICAL DIMENSIONS OF SELECTED PPI SECTORS

Additions During the Year in:

A. No of ProjectsCHITRAL DISTRICT

Year	Irrigation Channels		Link Roads	Protective Works	Reservoirs
	Widening & extension	All New			
1983	8	9	0	4	0
1984	0	6	3	8	0
1985	4	24	9	6	0
1986	11	10	7	5	0
1987	15	18	17	5	3
Total	38	67	36	28	3

B. Physical Dimensions

	Length (km)		Length (m)	Volume (m ³)
1983	21.6	32.5	0	415.0
1984	0	36.2	8.9	2,067.0
1985	10.8	95.0	23.0	1,738.0
1986	44.0	32.6	21.4	1,119.0
1987	39.8	49.6	45.7	1,522.0
Total	116.2	245.9	99.0	6,861.0

C. Total Costs (Rs '000)

1983	805	1,270	0	512	0
1984	0	1,211	292	1,303	0
1985	515	4,123	1,334	821	0
1986	1,579	1,588	1,382	717	0
1987	2,280	3,148	2,704	872	506
Total	5,179	11,340	5,712	4,225	506

Table C.4

AVERAGE COSTS, DIMENSIONS & UNIT COSTS OF SELECTED PPI SECTORS

A. Average Costs (Rs '000)CHITRAL DISTRICT

Year	<u>Irrigation Channels</u>		<u>Link Roads</u>	<u>Protective Works</u>	<u>Reservoirs</u>
	<u>Widening & extension</u>	<u>All New</u>			
1983	100.6	141.1	-	128.0	-
1984	-	201.8	97.3	162.9	-
1985	128.7	171.8	148.2	136.8	-
1986	143.5	158.8	197.4	143.4	-
1987	152.0	174.9	159.1	174.4	168.7
Total	136.3	169.2	158.7	150.9	168.7

B. Average Dimensions

	<u>Length (km)</u>		<u>Length (m)</u>	<u>Volume (m³)</u>
1983	2.70	3.61	-	103.7
1984	-	6.03	2.97	258.4
1985	2.70	3.96	2.56	259.7
1986	4.00	3.26	3.06	323.8
1987	2.65	2.76	2.69	304.4
Total	3.06	3.67	2.75	245.0

C. Unit Costs (Rs '000)

	<u>(Per Km)</u>		<u>(Per 100 m)</u>	<u>(Per 100m³)</u>
1983	37.3	39.1	-	123.0
1984	-	33.5	29.8	63.0
1985	47.7	43.4	48.0	47.0
1986	35.0	48.7	64.6	64.0
1987	57.3	63.5	59.2	57.0
Total	44.6	46.1	57.7	61.6

Table C.5

THE TRAINING PROGRAMME, NUMBER OF COURSES

CHITRAL DISTRICT

Year	Subject					All subjects
	Livestock	Agriculture	Poultry	Marketing	Accounts	
A. Regular Courses						
1983	0	0	0	0	0	0
1984	0	0	0	0	0	0
1985	1	3	0	0	0	4
1986	2	2	0	0	0	4
1987	2	2	1	1	0	6
Total	5	7	1	1	0	14
=====						
B Refresher and Other Courses						
1983	0	0	0	0	0	0
1984	0	0	0	0	0	0
1985	1	0	0	0	0	1
1986	1	2	0	0	0	3
1987	1	1	0	0	0	2
Total	3	3	0	0	0	6
=====						

Table C.6

THE TRAINING PROGRAMME, NUMBER OF TRAINEES

CHITRAL DISTRICT

Year	Subject					
	<u>Livestock</u>	<u>Agriculture</u>	<u>Poultry</u>	<u>Marketing</u>	<u>Accounts</u>	<u>All subjects</u>
A. <u>Regular Courses</u>						
1983	0	0	0	0	0	0
1984	4*	0	0	0	0	4
1985	24	47**	0	0	0	71
1986	33	27	0	7*	0	67
1987	41	28	19	7	0	95
Total	102	102	19	14	0	237
=====						
B. <u>Refresher and Other Courses</u>						
1983	0	0	0	0	0	0
1984	0	0	0	0	0	0
1985	13	0	0	0	0	13
1986	15	35	0	0	0	50
1987	18	12	0	0	0	30
Total	46	47	0	0	0	93
=====						

* Training provided in Gilgit

** Includes 2 specialists trained in Gilgit

Table C.7

THE TRAINING PROGRAMME, NUMBER OF TRAINING DAYS

CHITRAL DISTRICT

<u>Year</u>	<u>Subject</u>					<u>All subjects</u>
	<u>Livestock</u>	<u>Agriculture</u>	<u>Poultry</u>	<u>Marketing</u>	<u>Accounts</u>	
A. <u>Regular Courses</u>						
1983	0	0	0	0	0	0
1984	20*	0	0	0	0	20
1985	21	60	0	0	0	81
1986	32	30	0	0	0	62
1987	33	30	7	7	0	77
Total	106	120	7	7	0	240

B. <u>Refresher and Other Courses</u>						
1983	0	0	0	0	0	0
1984	0	0	0	0	0	0
1985	21	0	0	0	0	21
1986	32	30	0	0	0	62
1987	21	7	0	0	0	28
Total	74	37	0	0	0	111
=====						

* Training provided in Gilgit.

Table C.8

THE CREDIT PROGRAMME, SUMMARY OF DISBURSEMENTS

CHITRAL DISTRICT

Year	Short-term Credit	Medium-Term Credit	Total
A. Amount Disbursed (Rs '000)			
1983	138	0	138
1984	134	0	134
1985	769	0	769
1986	2,256	590	2,846
1987	3,310	2,134	5,444
Total	6,607	2,724	9,331
=====			
B. No. of VO Loans*			
1983	7	0	7
1984	6	0	6
1985	73	0	73
1986	207	8	215
1987	264	20	284
Total	557	28	585
=====			
C. No. of Borrowing Households*			
1983	360	0	360
1984	347	0	347
1985	4,075	0	4,075
1986	10,235	443	10,678
1987	10,571	1,188	11,759
Total	25,588	1,631	27,219
=====			

* Includes multiple loans to the same VO.

Table C.9

THE CREDIT PROGRAMME, SHORT-TERM CREDIT DISBURSEMENTS

CHITRAL DISTRICT

Year	Loans for:			Total
	Fertiliser	Marketing	Plants/ Seed	
A. <u>Amount Disbursed (Rs '000)</u>				
1983	138	0	0	138
1984	134	0	0	134
1985	769	0	0	769
1986	2,207	16	33	2,256
1987	2,347	958	5	3,310
Total	5,595	974	38	6,607
=====				
B. <u>No. of VO Loans</u>				
1983	7	0	0	7
1984	6	0	0	6
1985	73	0	0	73
1986	182	17	8	207
1987	220	37	7	264
Total	488	54	15	557
=====				
C. <u>No. of Borrowing Households</u>				
1983	360	0	0	360
1984	347	0	0	347
1985	4,075	0	0	4,075
1986	8,874	1,006	355	10,235
1987	8,389	1,900	282	10,571
Total	22,045	2,906	637	25,588
=====				

Table C.10

THE CREDIT PROGRAMME, MEDIUM-TERM DISBURSEMENT

CHITRAL DISTRICT

Year	Land Development	Agriculture Machinery	Total
A. <u>Amount Disbursed (Rs. '000)</u>			
1986	290*	300	590
1987	603	1,531	2,134
Total:	893	1,831	2,724
=====			
B. <u>Number of VO Loans</u>			
1986	6*	2	8
1987	12	8	20
Total:	18	10	28
=====			
C. <u>Number of Borrowing Households</u>			
1986	331	112	443
1987	723	465	1,188
Total:	1,054	577	1,631
=====			

* Includes Rs. 60,000 for Sheepbreeding and Rs. 46,000 for Nursery Development.

Table C.11

COOPERATIVE MARKETING BY VILLAGE ORGANISATIONS

A. Volumes, Incomes and BeneficiariesCHITRAL DISTRICT

<u>Year</u>	<u>Participating VO</u>	<u>Volume Marketed (tonnes)</u>	<u>Value of sales (Rs. '000)</u>	<u>Marketing expenses (Rs. '000)</u>	<u>Farmgate Income (Rs. '000)</u>	<u>Beneficiary Households</u>
1986	20	68.0	248	14	235	812
1987	35	91.0	590	30	559	1,387
Total:	55	159.0	838	44	794	2,199

B. Marketing Loans

<u>Year</u>	<u>No. of Borrowing</u>		<u>Amount Disbursed (Rs. '000)</u>
	<u>VOs</u>	<u>H.Holds</u>	
1986	17	1,006	16
1987	37	1,900	958
Total:	54	2,906	974

APPENDIX D

STATISTICAL APPENDIX FOR BALTISTAN DISTRICT

APPENDIX D: STATISTICAL APPENDIX FOR BALTISTAN DISTRICT

Table D.1	Social Organisation, Members and Bank Deposits
Table D.2	Productive Physical Infrastructure. Summary
Table D.3	Total Costs and Dimensions. Selected PPI Sectors
Table D.4	Average Costs, Physical Dimensions and Unit Costs. Selected PPI Sectors
Table D.5	The Training Programme. Number of Courses
Table D.6	The Training Programme. Number of Trainees
Table D.7	The Training Programme. Number of Training Days.
Table D.8	The Credit Programme. Summary of Disbursements
Table D.9	The Credit Programme. Short-term Credit
Table D.10	The Credit Programme. Medium-term Credit
Table D.11	Cooperative Marketing by Village Organisations

Table D.1

SOCIAL ORGANISATION, MEMBERSHIP AND BANK DEPOSITSAdditions During the Year in:BALTISTAN DISTRICTVillage Organisations

Year	No. of VOs	Membership	Bank Deposits
			(Rs million)
1985	22	1,194	0.23
1986	32	1,711	0.63
1987	108	3,394	1.66
Total	162	6,309	2.52
=====			

* Estimates.

Table D.2

PRODUCTIVE PHYSICAL INFRASTRUCTURE
SUMMARY

Additions During the Year in:

BALTIKSTAN DISTRICT

<u>Year</u>	<u>PPIs Initiated</u>	<u>Cost (Rs. million)</u>	<u>Completed PPIs</u>	<u>Yearwise</u>
1985	8	1.3	6	1
1986	32	6.2	21	8
1987	75	9.7	26	44
Total	115	17.2	53	53
=====				

Table D.3

TOTAL COSTS AND PHYSICAL DIMENSIONS OF SELECTED PPI SECTORS

Additions During the Year in:

A. No of ProjectsBALTISTAN DISTRICT

<u>Year</u>	<u>Irrigation Channels</u>		<u>Link Roads</u>	<u>Protective Works</u>	<u>Reservoirs</u>
	<u>Widening & extension</u>	<u>All New</u>			
1985	1	2	1	1	2
1986	2	10	6	7	0
1987	20	16	8	15	7
Total	23	28	15	23	9

B. Physical Dimensions

	<u>Length (km)</u>		<u>Length (m)</u>	<u>Volume (m³)</u>
1985	0.9	5.5	4.7	335.0
1986	5.2	29.8	18.6	2,546.0
1987	44.5	28.5	19.3	3,770.0
Total	50.6	63.8	42.6	6,651

C. Total Costs (Rs '000)

1985	71	492	147	177	341
1986	245	2,462	787	1,319	0
1987	2,358	1,971	1,079	2,287	737
Total	2,674	4,925	2,013	3,783	1,078

Table D.4

AVERAGE COSTS, DIMENSIONS & UNIT COSTS OF SELECTED PPI SECTORS

A. Average Costs (Rs '000)BALTISTAN DISTRICT

Year	<u>Irrigation Channels</u>		<u>Link Roads</u>	<u>Protective Works</u>	<u>Reservoirs</u>
	<u>Widening & extension</u>	<u>All New</u>			
1985	71.0	246.0	147.0	177.0	177.0
1986	122.5	246.2	131.2	188.4	0
1987	117.9	123.2	251.6	152.5	105.3
Total	116.3	175.9	134.2	164.5	119.8

B. Average Dimensions

	<u>Length (km)</u>		<u>Length (m)</u>	<u>Volume (m³)</u>
1985	0.90	2.75	4.70	4,760.0
1986	2.60	2.98	3.10	0
1987	2.23	1.78	2.41	65,740.0
Total	2.20	2.28	2.84	52,188.9

C. Unit Costs (Rs '000)

	<u>(Per Km)</u>		<u>(Per 100 m)</u>	<u>(Per 100m²)</u>
1985	78.9	89.4	52.8	3.6
1986	106.3	82.6	51.8	0
1987	52.9	69.1	60.7	0.2
Total	52.8	77.2	56.5	0.23

Table D.5

THE TRAINING PROGRAMME, NUMBER OF COURSES

BALTIKISTAN DISTRICT

Year	Subject					All subjects
	Livestock	Agriculture	Poultry	Marketing	Accounts	
A. Regular Courses						
1986	1	1	0	2	0	2
1987	2	2	0	1	0	5
Total	3	3	0	1	0	7
=====						
B. Refresher and Other Courses						
1986	1	0	0	0	0	1
1987	1	2	0	0	0	3
Total	2	2	0	0	0	4
=====						

Table D.6

THE TRAINING PROGRAMME, NUMBER OF TRAINEES

BALTISTAN DISTRICT

Year	Subject					All subjects
	Livestock	Agriculture	Poultry	Marketing	Accounts	
A. <u>Regular Courses</u>						
1985	3*	1*	0	0	0	4
1986	22**	14	0	4***	0	40
1987	49	39	0	13****	0	101
Total	74	54	0	17	0	145
=====						
B. <u>Refresher and Other Courses</u>						
1986	14	0	0	0	0	14
1987	10	28	0	0	0	38
Total	24	28	0	0	0	52
=====						

* Training provided in Gilgit

** Includes 2 specialists trained in Gilgit

*** Trained in Gilgit.

**** Includes 3 specialists trained in Gilgit

Table D.7

THE TRAINING PROGRAMME, NUMBER OF TRAINING DAYS

BALTISTAN DISTRICT

Year	Subject					All subjects
	Livestock	Agriculture	Poultry	Marketing	Accounts	
A. Regular Courses						
1985	15	15	0	0	0	30
1986	32	21	0	0	0	53
1987	42	42	0	14	0	98
Total	89	78	0	14	0	181
=====						
B. Refresher and Other Courses						
1986	3	0	0	0	0	3
1987	5	10	0	0	0	15
Total	8	10	0	0	0	18
=====						

Table D.8

THE CREDIT PROGRAMME, SUMMARY OF DISBURSEMENTSBALTISTAN DISTRICT

<u>Year</u>	<u>Short-term Credit</u>	<u>Medium-Term Credit</u>	<u>Total</u>
<u>A. Amount Disbursed (Rs '000)</u>			
1986	695	0	695
1987	1,534	657	2,191
<u>Total</u>	<u>2,229</u>	<u>657</u>	<u>2,886</u>
=====			
<u>B. No. of VO Loans*</u>			
1986	33	0	33
1987	81	5	86
<u>Total</u>	<u>114</u>	<u>5</u>	<u>119</u>
=====			
<u>C. No. of Borrowing Households*</u>			
1986	1,713	0	1,713
1987	3,163	260	3,423
<u>Total</u>	<u>4,876</u>	<u>260</u>	<u>5,136</u>
=====			

* Includes multiple loans to the same VO.

Table D.9

THE CREDIT PROGRAMME, SHORT-TERM CREDIT DISBURSEMENTS

BALTIKISTAN DISTRICT

Year	Loans for:				Total
	Fertiliser	Marketing	Women	Plants/ Seed	
A. Amount Disbursed (Rs '000)					
1986	458	237	0	0	695
1987	1,157	377	0	0	1,534
Total	1,615	614	0	0	2,229
=====					
B. No. of VO Loans*					
1986	26	7	0	0	33
1987	59	22	0	0	81
Total	85	29	0	0	114
=====					
C. No. of Borrowing Households*					
1986	1,250	463	0	0	1,713
1987	2,447	716	0	0	3,163
Total	3,697	1,179	0	0	4,876
=====					

* Includes multiple loans to the same VO.

Table D.10

THE CREDIT PROGRAMME, MEDIUM-TERM DISBURSEMENTBALTISTAN DISTRICT

Year	Land Development	Agriculture Machinery	Total
A. <u>Amount Disbursed (Rs. '000)</u>			
1987	12	645	657
Total:	12	645	657
=====			
B. <u>Number of VO Loans</u>			
1987	1	4	5
Total:	1	4	5
=====			
C. <u>Number of Borrowing Households</u>			
1987	40	220	260
Total:	40	220	260
=====			

Table D.11

COOPERATIVE MARKETING BY VILLAGE ORGANISATIONSA. Volumes, Incomes and BeneficiariesBALTISTAN DISTRICT

<u>Year</u>	<u>Partici- pating VO</u>	<u>Value of sales (Rs.'000)</u>	<u>Marketing expenses (Rs.'000)</u>	<u>Farmgate Income (Rs.'000)</u>	<u>Beneficiary Households</u>
1987	61	574	50	524	1,457
Total:	61	574	50	524	1,457
=====					

B. Marketing Loans

<u>Year</u>	<u>No. of Borrowing</u>		<u>Amount</u>
	<u>VOs</u>	<u>H.Holds</u>	<u>Disbursed (Rs.'000)</u>
1986	7	463	237
1987	22	716	377
Total:	29	1,179	614
=====			

APPENDIX E

VISITORS TO AKRSP AND PROJECT AREA BASED FRIENDS

VISITORS TO AKRSP AND PROJECT AREA BASED FRIENDS
(October - December 1987)

1. His Highness the Aga Khan.

2. Aga Khan Network

The following representatives of AK Institutions visited AKRSP:

- Mr. Guillaume de Spoelberch
General Manager
Aga Khan Foundation
Geneva
- Mr. Robert Edwards
The Secretariat of His Highness the Aga Khan
Aiglemont
- Mr. Gerald Wilkinson
The Secretariat of His Highness the Aga Khan
Aiglimont
- Mr. Mohammad Keshavjee
The Secretariat of His Highness the Aga Khan
Aiglemont
- Mr. Ashiqueali Hussain
President, Shia Imami Ismaili
Federal Council for Pakistan
Karachi
- Mr. Ramzan Merchant
Chairman
Board of Directors (AKRSP)
Aga Khan Foundation (Pakistan)
- Mr. Akbar Ali Karamali
Estate Agent to His Highness the Aga Khan
Karachi
- Mr. Noorali Karamali
President Ismailia Association for Pakistan
Karachi
- Mr. Asif B. Fancy
Chairman, AK Education Services (Pakistan)
- Mr. Robert d'Arcy Shaw
Director of Special Programmes
Aga Khan Foundation
Geneva

- Mr. Hakim Feerasta
Chief Executive Officer
Aga Khan Foundation (Pakistan),
Karachi

3. Representatives of the National and
International Research and Development Agencies

- Mr. J.J.J. Teunissen
First Secretary Rural Development
The Royal Netherlands Embassy
Islamabad
- Mr. Richard Goldman
Deputy Chief Officer of Agriculture
and Rural Development
USAID, Islamabad
- Ms. Mara Morgan
Project Design Officer
USAID, Islamabad
- Mr. Edward Van der Velde
Geographer
IIMI, Lahore
- Ms. Aban Marker Kabraji
IUCN, Karachi
- Dr. Murray Dawson
Farming Systems Advisor
NARC, Islamabad
- Dr. Noor Mohammad
Director Range and Watershed Management
NARC, Islamabad
- Mr. Rao Abdul Latif
Conservator
National Council for Conservation of Wildlife
Ministry of Food and Agriculture
Islamabad
- Ms. Farzana Masood
Consultant (MART/FSR)
NARC, Islamabad
- Mr. Ebenhardt Halbach
Konrad Adenauer Foundation
West Germany

- Ms. Julia Chang Bloch and Mr. Stuard Bloch
USAID, Washington D.C.
- Ms. Jan Fleming
Society for Anglo-Chinese
Understanding
U.K.

4. Journalists

- Mr. Philip Rezvin
Wall St. Journal
New York
- Ms. Ameneh Azam Ali
Senior Assistant Editor
Herald, Karachi
- Mr. Tohme Jalal
Al-Wattan Al-Arabi
Paris
- Mr. Haider Merchant
Focus Canada
Vancouver
- Mr. Charles Knevitt
Architecture Correspondent
The Times, London

Gilgit - based Friends

The Management of AKRSP takes this opportunity to reiterate its most sincere thanks and appreciation to its Project Area-based friends for their continued support and cooperation with the programme.

We are particularly indebted to:

Mr. Abdul Gayyum Khan
Administrator
Northern Areas

and

Maj. Gen. M. Humayun Bangash
Force Commander of Northern Areas.

We are also grateful for the support of:

- Mr. Ghulam Jilani Khan
Additional Commissioner
Planning and Development
Gilgit
- Mr. M.A. Afridi
Additional Commissioner General
Gilgit
- Mr. Tariq Feroze
Deputy Commissioner
Gilgit
- Wazir Muhammad Ali
Deputy Inspector General Police
Northern Areas
- Mr. Qurban Jan
Finance Secretary
Northern Areas Administration
Gilgit
- Mr. Ali Ahmed Jan
A.I.G. Police
Gilgit
- Mr. Muzaffar Hussain
SP Police
Gilgit
- Col. Jehangir
SCO, Gilgit

- Mir Ghazanfar Ali Khan
Member
Northern Areas Council
- Pir Karam Ali Shah
Member
Northern Areas Council
- Mr. Ali Madad Shah
Chairman
District Council, Gilgit
- Mr. Tariq Hafiz Raja
Airport Manager
CAA, Gilgit
- Mr. Khawaja Anis
Station Manager PIA
Gilgit
- Mr. Faqir Mohammad
District Sales Manager
PIA, Gilgit.
- Mr. Inamul Bari
Station Manager
PIA, Gilgit
- Mr. Ghulam Rasool
Security Officer
Gilgit Airport
- Mr. Mohammad Akram
Station Director
Radio Pakistan, Gilgit
- Mr. Ghulam Qadir
Editor
Radio Pakistan, Gilgit

Chitral - based Friends

- Mr. Shahzada Mohiuddin
MNA and Chairman
District Council
Chitral
- Mr. Sharif Ahmad
Deputy Commissioner
Chitral

- Mr. Afzal Ali
Director (AKRSP)
- Lt. Col. Murad Khan
Commandant Chitral Scouts
- Mr. Sikandaryar Khan
Superintendent of Police
Chitral
- Major Kiyani
Chitral Scouts
- Mr. Mohammadullah
Assistant Director
Animal Husbandry Department
Chitral
- Mr. Penin Shah
Extra Assistant Director Agriculture
Agriculture Department
Chitral
- Mr. Naseem Qureshi
District Sales Manager
PIA, Chitral
- Mr. Saifullah Khan
Executive Engineer
C and W Department
Chitral
- Mr. Abdul Khanan
Executive Engineer
Irrigation Department
Chitral

Baltistan - based Friends

- Agha Ahmed Ali Shah
Adviser to the Prime Minister of Pakistan
Kashmir Affairs and Northern Areas
- Brig. Shamsuddin
Brigade Commander
Baltistan
- Mr. Ghazi Johar
Deputy Commissioner, Baltistan
- Mr. Ali Ahmed Jan
Assistant Inspector General
Police, Baltistan

Wazir Shakil Ahmed
Chairman
District Council
Skardu

Raja Mohammad Azam Khan
Member
Northern Areas Council
Shigar

Syed Assad Shah Zaidi
Member
Northern Areas Council
Kharmang

Mr. Mohammad Jaffar
Member
Northern Areas Council
Khaplu-I

Mr. Tahir Ali Shah
Member
Northern Areas Council
Khaplu-II

Wazir Faiz
Member
Northern Areas Council
Rundu

Lt. Col. Mohammad Ali Shah
Skardu

Major Mohammad Saeed Kundi
Skardu

Mr. Abdul Karim Balghari
Deputy Director
Agriculture Department
Skardu

Dr. Walayat Khan
Assistant Director
Animal Husbandry Department
Skardu

Mr. Mohammad Afzal
Divisional Forest Officer
Skardu

Mr. Abdul Manan
Station Director
Pakistan Broadcasting Corporation
Skardu

APPENDIX F

LIST OF MEMBERS OF THE BOARD OF DIRECTORS
AND THE STAFF OF AKRSP

LIST OF MEMBERS OF THE BOARD OF DIRECTORS AND
THE STAFF OF AKRSP

BOARD OF DIRECTORS OF THE COMPANY

1.	Mr. Ramzan Merchant	Chairman
2.	Mr. Mahomed J. Jaffer	Director
3.	Dr. Amir Muhammad	Director
4.	Mr. Ejaz A. Naik	Director
5.	Mr. Afzal Ali	Director
6.	Mr. Mohammad Shafi	Director
7.	Mr. Robert d'Arcy Shaw	Director
8.	Mr. Aziz G. Currimbhoy	Director
9.	Mr. Asif B. Fancy	Director
10.	Mr. Shoaib Sultan Khan	Chief Executive/Director
11.	Mr. Hakim Feerasta	Company Secretary

STAFF OF THE COMPANY

Management Group (Gilgit-based)

-	Mr. Shoaib Sultan Khan	General Manager
-	Mr. Hussain Wali Khan	Deputy General Manager/ Programme Senior Engineer/ District Programme Officer for Gilgit District Programme (Provisional)
-	Dr. Tariq Husain	Deputy General Manager (Planning, Monitoring, Evaluation & Research)/ Programme Economist
-	Mr. Nizar Mecklai	Finance Manager
-	Dr. Zahur Alam	Programme Senior Agriculturist
-	Dr. Riaz Ahmed Khan	Programme Livestock Specialist
-	Ms. Maliha Hussein	Programme Coordinator Women-in-Development

Management Group (Chitral-based)

-	Mr. Feroz Shah	District Programme Officer for Chitral District Programme
---	----------------	--

Management Group (Baltistan-based)

-	Syed Mutahir Shah	District Programme Officer for Baltistan District Programme
---	-------------------	--

Core Staff - Gilgit based

A. Senior Professionals

- | | |
|--------------------------|--|
| - Mr. Zahir M. Meghji | Programme Monitoring Officer |
| - Mr. Sultan Shahabuddin | Programme Internal Auditor |
| - Mr. Nabeel A. Malik | Programme Officer/ Business Manager
(offctg.) |
| - Mr. Khaleel A. Tetlay | Associate Programme Economist |

B. Junior Professionals

- | | |
|-----------------------|-------------------------------------|
| - Mr. Suleman Khan | Project Accountant |
| - Mr. Mohammad Nisar | Credit Officer |
| - Mr. Mohammad Saleem | Field Economist |
| - Mr. Tawalud Shah | Project Agriculturist |
| - Mr. Sherbaz Khan | Social Organiser |
| - Mr. Karim Tejani | Associate Monitoring Officer |
| - Ms. Zarin Gureshi | Communication and Extension Officer |

C. Support Staff

- | | |
|------------------------|------------------------------------|
| - Mr. Altaf Hussain | Admin. Assistant (Islamabad based) |
| - Mr. Shakoor Ali | Administrative Assistant |
| - Mr. Abdur Rauf | Secretary to General Manager |
| - Mr. Shah Makeen | Secretary |
| - Mr. Mohammad Jamil | Librarian |
| - Mr. Karim Jan | Audio-Visual Assistant |
| - Mr. Mubarak Ahmed | Calligrapher |
| - Mr. Ali Yar Khan | Transport Supervisor |
| - Mr. Mohammad Yaqoob | Store Officer |
| - Mr. Mohammad Hussain | Computer Operator |
| - Mr. Khalid Nadeem | Proj. Accountant/Computer Operator |
| - Mr. Ghulam Murtaza | Computer Operator |
| - Mr. Naeem Akhter | Copier Operator |
| - Mr. Badruddin | Steno-Typist |
| - Mr. Sherullah Baig | Steno-Typist |
| - Mr. Mohammad Saeed | Mechanic |
| - Mr. Zahir Shah | Mechanic |
| - Mr. Shah Jahan | Generator Operator |

D. Drivers

- | | |
|----------------------|------------------------|
| - Mr. Maqsood Alam | - Mr. Hyder Shah |
| - Mr. Khudadad | - Mr. Mir Ahmad Khan |
| - Mr. Nadir Shah | - Mr. Bulbul Aman Shah |
| - Mr. Ibrahim Khan | - Mr. Saifur Rehman |
| - Mr. Abdullah | - Mr. Gulmurjan |
| - Mr. Asadullah Baig | - Mr. Gumburi Khan |
| - Mr. Shamsher Khan | - Mr. Naib Khan |
| - Mr. Sher Ali | - Mr. Noor Jalil |

E. Auxiliaries

- Mr. Haji Baig	Gardener
- Mr. Suleman Shah	Peon
- Mr. Bashir Ahmad	Peon
- Mr. Mohammad Baqir	Peon
- Mr. Mirza Khan	Sweeper
- Mr. Shafiq Masih	Sweeper
- Mr. Ali Maujood	Watchman
- Mr. Nad Ali	Watchman
- Mr. Mohammad Ali	Watchman Staff Hostel

Management Group	9
Senior Professionals	4
Junior Professionals	7
Support Staff	18
Drivers	16
Auxiliaries	9
Total	63

District Programme Office - Gilgit District

A. Senior Professionals

- Mr. Ahsan Tayyab	District Programme Monitor
- Mr. Essa Khan	District Programme Engineer
- Mr. Mutabiat Shah	District Programme Accountant
- Dr. Farman Ali	District Programme Livestock Officer
- Mr. Shah Karez	Senior Social Organiser
- Mr. Noor Mohammad	Senior Social Organiser
- Mr. Mohammad Yar Khan	Senior Social Organiser

B. Junior Professionals

- Ms. Mahjabeen Abidi	District Programme Coordinator, WID
- Mr. Wilayat Khan	District Marketing Manager
- Mr. Sahib Khan	Surveyor
- Mr. Karim Beg	Project Agriculturist
- Ms. Mahbubun Nisa	District Coordinator, WID-Agriculture
- Mr. Ali Gohar	Project Forest Officer
- Dr. Pervaiz Ahmed	Project Veterinarian
- Mr. A.J. Sakhi	Training Officer
- Mr. Afsar Baig	Assistant Engineer
- Mr. Shahid Hameed	Assistant Engineer
- Mr. Fida Hussain	Assistant Engineer
- Mr. Abdullah Jan	Assistant Engineer
- Mr. Aman Ali Shah	Assistant Engineer
- Mr. Ashiq Hussain	Assistant Engineer
- Mr. Hamza Khan	Sub Engineer
- Mr. Mohammad Wakeel	Sub Engineer
- Mr. Mohammad Aslam	Social Organiser
- Mr. Arab Khan	Social Organiser
- Mr. Sultan Hameed	Social Organiser
- Mr. Mohammad Iqbal	Social Organiser
- Mr. Barkat Ali	Social Organiser
- Mr. Mansoor	Intern Social Organiser
- Mr. Mohammad Qasim	Intern Social Organiser
- Mr. Mohammad Kaseer	Satellite Social Organiser
- Mr. Shamsheer Khan	Satellite Social Organiser
- Mr. Mohammad Saleem	Satellite Social Organiser
- Mr. Safdar Khan	Satellite Social Organiser
- Mr. Ali Mohammed	Satellite Social Organiser

C. Support Staff

- Mr. Abdul Aziz	A.I. Technician
- Mr. Ayaz Khan	Accounts Assistant
- Mr. Abdullah Baig	Field Accountant
- Mr. Mohammad Ayub	Cashier
- Mr. Zafarullah Baig	Computer Operator
- Ms. Noorenjan	Field Coordinator, Agriculture
- Ms. Gulistan	Field Coordinator, Livestock

- Ms. Yasmin Karim
- Ms. Uroos Bibi
- Mr. Amir Hyder
- Mr. Nisar Ahmed
- Mr. Karim Khan
- Mr. Mushtaq Ahmed

Field Coordinator, Marketing
Field Coordinator, App. Technology.
Administrative Assistant
Assistant Photographer
Stock Assistant
Steno-Typist

D. Drivers

- Mr. Nazar Shah
- Mr. Ahmed Din
- Mr. Taigoon Shah
- Mr. Khursheed Alam
- Mr. Hamidullah Beg
- Mr. Sher Baz
- Mr. Mohammad Azam
- Mr. Amanullah

- Mr. Mohammad Hassan
- Mr. Khairullah Baig
- Mr. Madad Khan
- Mr. Bahadur Bux
- Mr. Khosh Ahmed Din
- Mr. Khushi Mohammad
- Mr. Deedar Khan
- Mr. Rizwan Ali

E. Auxiliaries

- Mr. Mohammad Arif
- Mr. Ainullah
- Mr. Khusleem Khan
- Mr. Qalb Ali
- Mr. Faqir Shah
- Mr. Sadat Shah
- Mr. Safir Shah
- Mr. Qabool
- Mr. Mohammad Ali
- Mr. Amir Ali
- Mr. Zeenat Shah
- Mr. Mohammad Nadir Khan
- Mr. Mohammad Baig

Cook
Peon
Sweeper
Telephone Attendant
Telephone Attendant
Telephone Attendant
Telephone Attendant
Telephone Attendant
Telephone Attendant
Telephone Attendant
Telephone Attendant
Watchman

Senior Professionals	7
Junior Professionals	28
Support Staff	13
Drivers	16
Auxiliaries	13
Total	77

District Programme Office - Chitral District

A. Senior Professionals

-	Mr. Masudul Mulk	District Programme Monitor
-	Mr. Mohammad Sabir	District Programme Engineer
-	Mr. Abdul Razzaq Salimee	District Programme Agriculturist
-	Dr. Iqbal Hussain	District Programme Veterinarian
-	Mr. Meraj Khan	Senior Social Organiser
-	Mr. Mohammad Sartaj Khan	Senior Social Organiser

B. Junior Professionals

-	Syed Hussain Shah	Credit Officer
-	Mr. Zahoor Aman Shah	Project Accountant
-	Dr. Mohammad Afzal	Project Veterinarian
-	Mr. Izat Aman Shah	Project Agriculturist
-	Mr. Shams Yar Khan	Project Agriculturist
-	Mr. Najib Khilji	District Marketing Manager
-	Ms. Rehana Hashmi	District Programme Coordinator, WID
-	Mr. M. Yousuf Shehzad	Training Officer
-	Mr. Sardar Ayub	Assistant Engineer
-	Mr. Neek Alam	Assistant Engineer
-	Mr. Atai Khaliq	Assistant Engineer
-	Mr. Abdul Qadir	Assistant Engineer
-	Mr. Timor Shah	Assistant Engineer
-	Mr. Hazrat Amin	Sub Engineer
-	Mr. Ghulam Jalil	Surveyor
-	Mr. Salahuddin	Satellite Social Organiser
-	Mr. Fazl E Malik	Satellite Social Organiser
-	Mr. Fida Ahmed Khan	Satellite Social Organiser
-	Mr. Mehboob Wali Khan	Intern Social Organiser
-	Mr. Hussain Wali Khan	Intern Social Organiser
-	Mr. Mohammad Karam	Intern Social Organiser
-	Mr. Nizar Ali Shah	Intern Social Organiser
-	Mr. Sardar Nawaz	Intern Social Organiser

C. Support Staff

-	Mr. Sharfuddin	Field Accountant
-	Mr. Hayat Ali Shah	Project Monitor
-	Mr. Javed Aslam	Audio-Visual Assistant
-	Ms. Humaira Hashmi	Field Coordinator, WID
-	Ms. Rabia Begum	Field Coordinator, WID
-	Ms. Shahida Yunus	Field Coordinator, WID
-	Mr. Shahabuddin	Transport Assistant
-	Mr. Latifullah	Computer Operator
-	Mr. Hussain Ahmad	Secretary
-	Mr. Tanveer Hussain	Steno Typist
-	Mr. Mohammad Shoaib	Copier Operator
-	--	Store Keeper
-	--	Store Keeper

D. Drivers

- Mr. Habibullah
- Mr. Afsar Khan
- Mr. Muhammad Faraz
- Mr. Zaman Khan

- Mr. Nasiruddin
- Mr. Pinin Khan
- Mr. Saeed Ghafoor

E. Auxiliaries

- Mr. Shah Mohammad
- Mr. Akhtar Hussain
- Mr. Ghulam Jaffar
- Mr. Nabi Shah
- Mr. Jan Nabi Khan
- Mr. A. Ghafoor
- Mr. Subhan Sher
- --
- --

- Cleaner
- Cleaner
- Cook
- Cook/Peon
- Telephone Attendant
- Telephone Attendant
- Telephone Attendant
- Watchman
- Watchman

Senior Professionals	6
Junior Professionals	23
Support Staff	13
Drivers	7
Auxiliaries	9

Total	58
-------	----

District Programme Office, Baltistan

A. Senior Professionals

- Mr. Izhar Ali Hunzai	District Programme Monitor
- Mr. Mohammad Darjat	District Programme Engineer
- Mr. Gari Khan	District Programme Agriculturist
- Dr. Fida Mohammad Khan	District Programme Veterinarian

B. Junior Professionals

- Mr. Mohammad Ali	Project Accountant
- Mr. Mohammad Zaheer	Social Organiser Marketing
- Mr. Zahid Ali Khan	Project Agriculturist
- Mr. Mohammad Afzal Mir	Project Forester
- Dr. Ghulam Sarwar	Project Veterinarian
- Mr. Bashir Ahmed	Training Officer
- Mr. Ghulam Saeed	Assistant Engineer
- Mr. Ainul Hayat	Assistant Engineer
- Mr. Sher Shah	Assistant Engineer
- Mr. Hayat Baig	Assistant Engineer
- Mr. Sher Ghazi	Sub Engineer
- Mr. Ghulam Hussain	Sub Engineer
- Mr. Mohammad Yousuf	Sub Engineer
- Mr. Hamza Ali	Sub Engineer
- Mr. Wazir Ghulam Haider	Social Organiser
- Mr. M. Iqbal Khan	Social Organiser
- Mr. Mohammad Ibrahim	Intern Social Organiser
- Mr. Syed Ali	Intern Social Organiser
- Mr. Ali Musa	Intern Social Organiser

C. Support Staff

- Mr. Ghulam Mohammad	Field Accountant
- Mr. Mohammad Hussain	Cashier
- Mr. Ghulam Nabi	Audio-Visual Officer
- Ms. Kulsoom Farman	Field Coordinator, WID
- Ms. Asia Karim	Field Coordinator, WID
- Ms. Gulshan Siddiqi	Field Coordinator, WID
- Mr. Maqsood Khan	Computer Operator
- Mr. Nisar Hussain	Secretary
- Mr. Akhtar Hussain	Store Keeper
- Mr. Shabir Hussain	Steno-typist

D. Drivers

- Mr. Mohammad Yousuf	- Mr. Mohammad Abdullah
- Mr. Ghulam Haider	- Mr. Ahmed Ali
- Mr. M. Ibrahim	- Mr. Ghulam Abbas
- Mr. Khawaja M. Afzal	- Mr. Mohammad Ali

E. Auxiliaries

- Mr. Mohammad Bilal	Telephone Attendant
- Mr. Ahmad Hussain	Telephone Attendant
- Mr. Fida Hussain	Telephone Attendant
- Mr. Mohammad Ali	Peon
- Mr. Mohammad Jan	Peon
- Mr. Mohammad Hussain	Peon
- Mr. Ibrahim	Watchman
- Mr. Abdur Rahim	Watchman
- Mr. Rehmat Ali	Gardener
- Mr. Mohammad Hussain	Cook/Butler
- Mr. Mohammad Hadi	Cleaner
- Mr. Mohammad Ali	Cleaner

Senior Professionals	4
Junior Professionals	19
Support Staff	10
Drivers	8
Auxiliaries	12

Staff Abstract

In Position

Management Group	9
Senior Professionals	21
Junior Professionals	77
Support	54
Drivers	47
Auxiliaries	43

Total	251

Annexure - 1

THE AGA KHAN RURAL SUPPORT PROGRAMME

SEVENTEENTH PROGRESS REPORT
January 1987 - March 1987

AKRSP
Babar Road, P.O. Box 506
Gilgit, Northern Areas, Pakistan
Phones: 2480, 2779, 3958
Cable: Agafound, Gilgit

TABLE OF CONTENTS

	Page
Preface	v
Summary	vii
Statistical Abstract for the Project area	xi
Part I: Gilgit District	1
Part II: Chitral District	52
Part III: Baltistan District	73
Appendix Gilgit, Chitral and Baltistan-based friends	86

PREFACE

The Seventeenth Progress Report covers what is relatively a quiet period in the annual cycle of AKRSP activities. We have used this period this time to reflect on the movement that is taking place in the economy of the region, and in the vision of its people.

For the first time since our arrival in Gilgit, we are beginning to see the people of the region expressing confidence in the future of agriculture here. Not only are the villagers talking about a hopeful future, they are also investing in it: the rhetoric of development is changing, slowly but surely, and the seeds of change have been sown. The chapter on Social Organisation reports glimpses of these changes.

The region's women are proving to be as responsive as the men to the re-orientation of the Women's Programme. All of AKRSP's technical expertise is now fully linked with the Women's Programme. The results, reported in the chapter on Women in Development, represent an impressive achievement over our beginnings, and reflect the growing capacity of rural women to contribute to the development potential of the region. Women's contributions to the future of agriculture are beginning to emerge visibly.

These are encouraging trends, signposts to the future that can yet be attained by the men and women who live in these inhospitable mountains. We will follow the trends with interest and share our findings with our readers in the future.

Shoaib Sultan Khan
General Manager

SUMMARY

GILGIT DISTRICT PROGRAMME

I. Social Organisation

By the close of March 1987, the number of Village Organisations had reached 350 with a total membership of 26,412, representing 90 % of the 1987 estimates of rural households in Gilgit District. The consolidation of First Phase activities, such as regular meetings, capital formation and investment etc. continued with new advances in the areas of village and supra-village planning, self-financed PPI projects, agricultural innovations and the improved management of common resources such as land, water, forests, and pastures. The quarter under review also reflected greater confidence of government and other development agencies in the Northern Areas, in the VO's capacity to serve as an effective development forum at the village level.

II. Women In Development (WID)

During the review quarter, the WID Section introduced several new programme packages into the project area. In collaboration with the ARM Division, the vegetable package was initiated with demonstration plots in nine villages to introduce new and improved seed cultivation practices. Village nurseries introduced last year were provided with rootstock and cutting. The work on the poultry package and the mixed farming package progressed under close supervision. Under PIES Division, 24 nut-cracking machines were distributed and micro hydel unit, spinning wheels, butter churners and an oil expeller were field tested in specific villages. A new impetus to the appropriate technology programme was the increased capacity of local workshops to manufacture tested technologies like the nut-cracking machine and sulphur tents. Under CID Division, six villages were identified as potential sites for dehydration chambers for local fruits. Three of these chambers will have micro hydel units for power. Village representatives are being trained in the use and management of these new technologies. The credit programme was extended to cover demand for short and medium term credits for activities for which women are traditionally responsible. 24 Village Organisations received short-term credit amounting to Rs. 196,872 benefitting 1,018 households while 5 Village Organisations obtained medium term credit totalling Rs. 202,000 benefitting 281 households.

III. Physical Infrastructure & Engineering Services (PIES)

To date, AKRSP and its associated VOs have initiated 273 PPI projects in Gilgit District at a cost of Rs. 41.18 million of which Rs. 35.96 million, or 87% of the total cost, have been disbursed. These projects benefit about 23,000 rural households in the district. As many as 190 projects are reported fully complete and the overall physical progress on the PPI programme in the district was 82%. An important development during the review quarter has been the successful testing of a low-cost micro hydel unit which has the capacity to power basic communal machinery and implements such as dehydration plants, nut-crackers and saw mills at the village level, in addition to providing primary lighting facility to the houses.

IV. Agricultural and Resource Management (ARM)

Demonstration plots for high yielding varieties of wheat and vegetables were laid out in farmers fields in several VOs during the review quarter. Results of earlier vetch trials showed sound performance in both the single and double cropping zones. Due to its great demand, importation orders for vetch seed have been placed. Nursery development is progressing well and in addition 21,000 fruit tree saplings were purchased by 96 VOs at cost. Three Plant Production and Protection refresher courses were held during the review quarter and 58 specialists from as many VOs attended. The first Agro-Forestry course was also organised and 17 VO representatives received training. Pesticides worth Rs. 6,589 were purchased by VO Plant Production and Protection Specialists from the Extension Training Centre.

During the review quarter, the Livestock Section made a headway in its collaborative efforts with the government departments in the area of disease control and training and artificial insemination. The section continued its efforts for feed, pasture and breed improvement. Construction has progressed to varying stages in most of the Heifer Project villages. A livestock refresher course was held during the quarter attended by 111 specialists from all the sub-divisions of the district. 56 VOs have procured vaccines and medicines worth Rs. 7,735.

V. Savings and Credit

By March 1987, the total saving deposits of VOs and WOs in Gilgit District had reached Rs. 13.98 million, an increase of Rs. 1.28 million over the last quarter.

During the review quarter, 237 short-term production loans, amounting to Rs. 3.2 million were extended, benefitting some 10,457 households. With this, the total loans extended so far for short-term production purposes reached Rs. 15.5 million, for the benefit of 63,049 households. During the review quarter, 18 medium-term loans amounting to Rs. 2.73 million were given to 1,186 households. The total medium-term credit disbursed so far has amounted to Rs. 10.83 million, benefitting 5,799 households of 90 VOs.

The amount in default i.e., amount not yet paid more than 12 months after disbursement, for short-term credit has totalled Rs. 105,546. This is 0.7% of the total amount disbursed so far for short-term purposes.

VI. Commercial and Industrial Development (CID)

During the quarter under review, eight VOs reported on their cooperative marketing endeavours. The reported farmgate income from this effort was Rs. 303,483, benefitting 280 households. Marketing loans of Rs. 243,400 were advanced to 12 VOs. A refresher course on marketing was held attended by 15 specialists. The CID Division's planning efforts were geared towards preparing an acceptable package for sulphuring and drying of apricots.

VII. Monitoring, Evaluation and Research (MER)

MER completed the systematic and standardised recording of all AKRSP training courses and the short-term credit programme. Efforts are underway towards the eventual goal of a computerised central data bank. During the review quarter, a preliminary informal survey was undertaken to identify important regional trends in incomes, education, migration, occupational choices, land development and farm investments. This exercise was a preliminary response to some of the important recommendations contained in the World Bank's evaluation report.

VIII. Budget and Accounts

During the review quarter, AKRSP received sound commitments from its several donors who continued to renew their partnership with the programme. The accounts have been fully computerised and plans are underway to integrate a package with the existing accounts package in order to cater for the fast expanding credit programme. Audit of AKRSP accounts is scheduled to commence in April in Gilgit.

CHITRAL DISTRICT PROGRAMME

By the end of March 1987, a total of 187 VOs comprising 11,164 members and representing 10,936 rural households were operating in Chitral district. The combined deposits of these VOs amounts to Rs. 5.5 million, registering a growth of 24% over the previous quarter. The portfolio of identified PPI schemes totals 474 projects at an estimated cost of Rs. 74 million. By the end of the review quarter, 128 projects had been initiated at a total cost of Rs. 20.54 million. A total of 66 projects are reported complete. 16 land development plans entailing a total area of 555 hectares had been prepared. The agricultural package focuses on varietal testing of different wheat and maize varieties, promotion of VO forest-cum-fruit nurseries in different valleys and clusters, vegetable cultivation and forest plantation campaign in addition to carrying out fertilizer trials in different agro-climatic zones of the district. A total of five regular and two refresher courses in plant production and protection have been held for representatives of 64 Chitral based VOs. During the review quarter these specialists procured pesticides worth Rs. 7,258. The livestock package in the district focuses on disease control, breed improvement, feed improvement and the promotion of poultry development. Emphasis has been placed on the development of irrigated pastures and on the introduction of new fodder crops like vetch. During the review quarter, the 4th regular livestock course and a refresher course were organised and a total of 14 VO nominees received training. Livestock specialists have procured medicines worth Rs. 8,898 to treat 15,162 animals during the review quarter. In addition, vaccines worth Rs. 1,529 were purchased for vaccinating 4,000 sheep and goats and 43,000 poultry birds. During the review

quarter, short-term production loans amounting to Rs. 1.14 million were extended to 100 VOs benefitting 3,868 rural households in the district. While medium-term loans for land development and agricultural machinery amounting to Rs. 225,000 were advanced to 145 households of 2 VOs. During the review quarter, 8 VOs participated in the collective marketing exercise with gross sales amounting to Rs. 126,004.

BALTISTAN DISTRICT PROGRAMME

During the review quarter, the Royal Netherlands Government and the Government of Pakistan agreed to provide additional funding from the bilateral assistance for AKRSP's Baltistan programme. By end of March 1986, 83 VOs had been formed comprising 3,928 members with total VO bank deposits of Rs. 1,256,000. A third Social Organisation Unit began operating based in Shigar town and the programme was extended to Khaplu Sub-division. As a result of promotional efforts, the women in development programme is gradually laying roots within the district. A portfolio of 163 PPI projects has been identified in Baltistan district and by the end of the review quarter, 51 PPI schemes had been initiated costing about Rs. 9 million, expected to benefit approximately 3,100 households. 10 schemes are reported complete. Seed farmers and seed VOs were established for potatoes, other vegetables and wheat in selected VOs. Winter trials of wheat were conducted to compare with the trials held in spring. Trials were also conducted for cereals, legumes, tubers and vegetables. Land development plans were prepared for 2 VOs. A refresher course was held for agricultural para-professionals of 12 VOs. About 1,800 cattle, 10,000 sheep and goats and 700 poultry birds were vaccinated by VO specialists during the quarter. The second regular livestock training course was held and 26 VO nominees received training plus kits. During the quarter under review, 37 VOs availed of fertilizer credit worth Rs. 782,321. Marketing loans amounting to Rs. 28,400 were issued to 2 VOs. Several VOs invested small amounts in experimental marketing.

STATISTICAL ABSTRACT

Project Area

December 1982 - March 1987

	<u>Cumulative</u>	<u>Quarter's Addition</u>
I. Project Area		
1. Area (sq.km)	69,200	
2. Population (1987 estimates)	802,000	
3. No. of rural households (approx)	98,800	
4. No. of potential Village Organisations (approx)	1,280	
II. Social Organisation		
1. No. of Village Organisations	620	49
2. Membership (estimated)	41,500	1,510
3. Bank deposits (million Rs.)	20.76	3.17
4. % of rural households covered by VOs.	42	1
III. Women in Development (Gilgit District only)		
1. Membership	6,770	-
2. Bank deposits (million Rs.)	2.42	0.30
3. Credit disbursed (Rs.)	525,909	196,872
- short-term	323,909	196,872
- Medium-term	202,000	0
4. No. of villages where appropriate technology package introduced	128	33
- by grant	42	33
- by credit	86	0
5. Agriculture & Resource Management PPIs	17	11
- nursery projects	6	0
- vegetable demonstration Plots	9	9
- Poultry farms	2	2
6. Human Resource Development		
No. of First Time Trainees	307	45
- Poultry long	141	0
- Poultry short	57	0
- Silage preparations	15	0
- Vegetable cultivation techniques	45	45
- Fruit processing	43	0
- Nursery management	6	0
IV. Physical Infrastructure & Engineering Services		
1. No. of projects identified	1,069	24
2. Estimated cost of projects identified (million Rs.)	157.17	5.49

3. No. of projects initiated	452	31
4. No. of beneficiary households	35,078	2,512
5. Cost of initiated projects (million Rs.)	70.97	5.85
6. Physical progress (%)	66	-
7. No. of projects completed	266	10

V. Short-term Credit
(includes marketing loans which
are also reported separately)

1. Amount disbursed (million Rs.)	21.57	5.12
2.* No. of group loans for VOs.	1,675	376
3.* No. of beneficiary households	85,424	17,352
4. Amount in default (Rs.)	144,085	13,729
5. Default as % of amount disbursed	0.66	-
(* includes multiple loans to the same VO)		

VI. Medium-term Credit

1. Amount disbursed (million Rs.)	11.65	3.0
2.* No. of group loans for VOs	101	21.5**
3.* No. of beneficiary households	6,387***	1,331
4. Default as % of amount disbursed	0	-
(* includes multiple loans to the same VO.)		
(** one loan instalment is counted as half-a-loan.)		
(*** beneficiary households of Baltistan are not included)		

VII. Human Resources Development

1. No. of Regular Courses	45	3
- Agriculture	28	1
- Livestock	16	2
- Poultry	7	0
- Marketing	4	0
2. No. of First-time Trainees	938	58
- Agriculture	327	17
- Livestock	326	41
- Poultry	198	0
- Marketing	88	0
3. No. of Refresher Courses	36	7
- Agriculture	15	4
- Livestock	16	2
- Poultry	2	0
- Marketing	3	1

VIII. Commercial & Industrial Development

1. No. of participating VOs	208	8
2. Gross sales (million Rs.)	4.60	0.44
3. Marketing expenses (million Rs.)	0.40	0.015
4. Farmgate Income (million Rs.)	4.20	0.42
5. Beneficiary households	6,673	280
6. Marketing loans (million Rs.)	3.13	0.24
7. No. of group loans for VOs	180	12
8. No. of beneficiary households for loans	10,236	604

PART I
GILGIT DISTRICT

CONTENTS OF PART I

	Page
Statistical Abstract for Gilgit District	4
Chapter One Social Organisation	6
Chapter Two Women in Development	14
Chapter Three Physical Infrastructure and Engineering Services	22
Chapter Four Agricultural and Resource Management	27
Chapter Five Savings and Credit	38
Chapter Six Commercial and Industrial Development	44
Chapter Seven Monitoring, Evaluation and Research	47
Chapter Eight Budget and Accounts	49

List of Boxes

1.1	Collective Management of Forests in Chalt Chaprote	11
1.2	The Cooperative Management of Tractors by the VOs	12
1.3	A Rural Vision	13
2.1	Shahtote: The One Bulb Revolution	17

List of Tables

2.1	Productive Infrastructure and Engineering Services Package for Women (Cumulative)	18
2.2	Productive Infrastructure and Engineering Services Package for Women (Quarterly)	18
2.3	Agriculture and Resource Management Package for Women (Cumulative)	19
2.4	Agriculture and Resource Management Package for Women (Quarterly)	19
2.5	Human Resource Development Package for Women (Cumulative)	20
2.6	Human Resource Development Package for Women (Quarterly)	20

		Page
2.7	Credit Disbursements for Women (Cumulative)	21
2.8	Credit Disbursements for Women (Quarterly)	21
3.1	PPI Commitment, Disbursement and Completed Projects.	25
3.2	Sub-Division Wise Distribution of Schemes and Costs	26
4.1	Human Resource Development for Agriculture and Resource Management	33
4.2	Pesticides/Fungicides purchased by VO Specialists	34
4.3	Vaccines and Medicines procured by VO Livestock Specialists	35
4.4	The Fertility Percentage of A.I. Cases Checked	36
4.5	Quarterly A.I. Work Statement	37
5.1	Village Organisation Bank Deposits	40
5.2	Loan-To-Deposits Ratios	40
5.3	Short-Term Credit, Disbursement Summary	41
5.4	Medium-Term Credit, Disbursement Summary	42
5.5	Credit Summary for all Loans	43
6.1	Cooperative Marketing	46
8.1	Sources and Application of Funds	51

STATISTICAL ABSTRACT

Gilgit District

December 1982 - March 1987

	<u>Cumulative</u>	<u>Quarter's Addition</u>
I. Project Area		
1. Area (sq.km)	28,500	
2. Population (1987 estimates)	277,000	
3. No. of rural households (approx)	29,600	
4. No. of potential Village Organisations (approx)	410	
II. Social Organisation		
1. No. of Village Organisations	350	1*
2. Membership (estimated)	26,412	-
3. Bank deposits (million Rs.)	13.98	1.27
4. % of rural households covered by VOs.	90	-
(* a VO was split into two.)		
III. Women in Development		
1. Membership/	6,770	-
2. Bank deposits (million Rs.)	2.42	0.30
3. Credit disbursed (Rs.)	525,909	196,872
- short-term	323,909	196,872
- Medium-term	202,000	0
4. No. of villages where appropriate technology package introduced	128	33
- by grant	42	33
- by credit	86	0
5. Agriculture & Resource Management PPIs	17	11
- nursery projects	6	0
- vegetable demonstration Plots	9	9
- Poultry farms	2	2
6. Human Resource Development		
No. of First Time Trainees	307	45
- Poultry long	141	0
- Poultry short	57	0
- Silage preparations	15	0
- Vegetable cultivation techniques	45	45
- Fruit processing	43	0
- Nursery management	6	0
IV. Physical Infrastructure & Engineering Services		
1. No. of projects identified	432	0
2. Estimated cost of projects identified (million Rs.)	57.70	0
3. No. of projects initiated	273	12

4. No. of beneficiary households (estimated)	23,251	1,022
5. Cost of initiated projects (million Rs.)	41.18	2.28
6. Physical progress (%)	82	-
7. No. of projects completed	190	6

V. Short-term Credit
(includes marketing loans which are also reported separately)

1. Amount disbursed (million Rs.)	15.47	3.16
2.* No. of group loans for VOs.	1,206	237
3.* No. of beneficiary households	63,049	10,457
4. Amount in default (Rs.)	105,546	13,729
5. Default as % of amount disbursed	0.68	0.08
(* includes multiple loans to the same VO)		

VI. Medium-term Credit

1. Amount disbursed (million Rs.)	10.83	2.73
2.* No. of group loans for VOs	90	18.5**
3.* No. of beneficiary households	5,799	1,186
4. Default as % of amount disbursed	0	0
(* includes multiple loans to the same VO.)		
(** one loan instalment is counted as half-a-loan.)		

VII. Human Resources Development

1. No. of Regular Courses	33	1
- Agriculture	12	1
- Livestock	10	0
- Poultry	7	0
- Marketing	4	0
2. No. of First-time Trainees	722	17
- Agriculture	248	17
- Livestock	200	0
- Poultry	198	0
- Marketing	76	0
3. No. of Refresher Courses	29	5
- Agriculture	12	3
- Livestock	12	1
- Poultry	2	0
- Marketing	3	1

VIII. Commercial & Industrial Development

1. No. of participating VOs	180	8
2. Gross sales (million Rs.))	4.22	0.31
3. Marketing expenses (million Rs.))	0.38	0.01
4. Farmgate Income (million Rs.)	3.84	0.30
5. Beneficiary households	5,675	280
6. Marketing loans (million Rs.)	2.97	0.24
7. No. of group loans for VOs	163	12
8. No. of beneficiary households for loans	9,230	604

CHAPTER ONE

SOCIAL ORGANISATION

I. Overview

Each month, some 180 village representatives from about 80 VOs, or one-fourth of the total number in Gilgit District, come to AKRSP offices to attend the Monthly Conference for VO Managers. There are two purposes to this regular contact among the VOs and with AKRSP. First, it provides an opportunity to the VOs from different regions and different stages of advancement to exchange ideas and learn from each other's experience. Second, it serves to give AKRSP an important feedback on its various programme packages, thus facilitating its operations and policy adjustments in the light of villagers' perspective. The entire cycle of information dissemination and feedback through this forum has, over years, evolved to become an important institution in its own right.

A sequential review of the proceedings of these conferences reveals an uninterrupted story about the evolution of AKRSP in general and the development of VOs in particular. During the early conferences, when AKRSP methodology was not fully absorbed by the majority of VOs, villagers acted as petitioners - as they were made to behave traditionally, under the feudal rule and later by the outside agencies. They restricted themselves to presenting long lists of problems and demands, hoping that AKRSP would somehow address these issues through 'heavy doses of development funds at its disposal.' However, as time went on, the same petitioners learnt to become planners of their own development needs. Slowly but steadily, priorities were set, resources mobilised and substantive development agenda begun to emerge in each participating village. AKRSP's own catalytic role became clearer, with villagers realising how much external assistance was possible and relevant to make an effective contribution to their own development efforts.

The Managers' Conference provides important insights to this continuing process of attitudinal reorientation of the villagers towards rural issues. To report on latest events, and capture the new rhetoric of development in the villages, we have based the following section mainly on the recent conferences.

II. Increased Productivity

The package which was primarily built on the reduction of losses in agriculture and livestock through the services of resident para-professionals in the VOs, has now evolved to include other innovations. Recent Managers' Conferences reflected convincing stories about the success of preventive measures as well as growing enthusiasm of VOs for new crops, breed and feed improvement, orchard development and forestry. Farmers who were personally involved in the testing and development of these innovations proudly shared their experiences with other participants. Following are a few extracts from the presentations of the farmers:

Abdullah Jan of Serbal shared his VO's experience with livestock vaccination in the following words:

There are 9,900 heads of cattle, sheep and goats in my village, some members owning upto 300 animals each. When the vaccination programme was first introduced in our village most people were skeptical about its benefits. Some people, specially those with larger flocks, even refused to participate in the paid vaccination programme since it cost them more. After much debate, it was agreed that all members will vaccinate their animals for a period of one year. After that the impact will be assessed and on the basis of first year's results, we will either continue the programme or reject it altogether, because we did not want two opposite approaches in our village. During 1985, our Livestock Specialist carried out four rounds of vaccination covering the entire livestock population. During this period, we realised our losses had been dramatically reduced, so we decided to continue the programme. Today, I am happy to report that in 1986, there was not a single case of livestock mortality in our village due to disease. Everyone in my village is happy that we took the right decision two years ago, and now look forward to receiving Heifer cattle from AKRSP in a year or two.

Sifat Jan from VO Khunokoi spoke of his experience with new crops in the following words:

Of the several plots laid out by AKRSP in my village, the Chinese cabbage has become most popular among the members and now everyone wants its seed. Among the maize varieties, the Kashmir Gold has given us the highest yields, though it took a little longer to mature. This year, we all want to sow Kashmir Gold; my VO has asked me to request AKRSP for sufficient seed at the sowing time.

Hazir Shah, the Manager of VO Barkulti Paeen, on two new fodder varieties:

Rye and vetch were sown in my village during the last week of October. By the end of November, they had grown to two inches. When snow fell in December, the Rye was still green while the vetch was showing stressful signs of frost. Both the crops had, however, stopped growing under the snow cover. Now, as the snow is melting away, both are growing again and we hope to get a harvest before the wheat sowing in early April. This year, we have plans to try the two fodder crops well in time, just after wheat harvesting in September, which would give us a good harvest before the frost sets in.

The Manager of VO Chassi Phander, emphasised the need for regional nurseries in the following words:

My village is located in the frontier (high altitude) region, where only one crop can be grown annually. We need to supplement our food requirements by planting more fruit trees. However, the difference in planting season between our village and other regions from where we could obtain saplings is a major constraint on increased fruit plantations. We, therefore, request AKRSP to help us with its technical expertise for setting-up our own fruit nursery.

III. Linkages with Development Agencies

Linkages are developing in the VOs with government and other development agencies, which is facilitating the planning, implementation and monitoring of development activities through the VO forum.

In Gilgit District, the Agriculture Department has decided to involve VO specialists in a massive spraying campaign on fruit trees. The campaign started in early spring from the lower altitude areas of the district and has now extended to 74 villages in the first two months.

The Animal Husbandary Department has agreed to pool its subsidised vaccines with stocks maintained by AKRSP and to supply them to village livestock specialists at cost. The decision is an important shift from the Department's previous policy of free vaccines, a privilege which obviously remained restricted to only a few villages where there were livestock dispensaries. As a result of this policy change, the cost of vaccines has been reduced and the coverage has become wider. During the first quarter of 1987, the joint vaccination programme had already extended to 111 villages in Gilgit District.

The monthly Managers Conference is increasingly becoming an important forum for the government agencies and the NGOs working in the Northern Areas, to disseminate information and to get feed-back on their field activities. Representatives of Agriculture Department, Animal Husbandary, Community Basic Services (CBS), Local Bodies & Rural Development (LB&RD), National Fertilizer Corporation (NFC), UNDP and Habib bank frequently attend these meetings to exchange ideas with the VO representatives on all aspects of development activities in rural Gilgit.

IV. Common Property Management

As the Administrator Northern Areas rightly pointed out in a recent Managers' Conference, indigenous systems of common property management have been ostensibly eroded by the government's increasing role in the ownership and management of such rural assets as irrigation channels, grazing areas and forests. In this new structure of ownership and management, villagers do not feel obligated to contribute much towards the maintenance and other important aspects of management necessary to sustain these resources on a long-term basis. As a result, vital resources are either overused or simply mismanaged and, in many cases, they are in a threatening decline.

During the same conference, a VO Manager from Punyal cited the example of Chassi nullah forest which has been rapidly depleting since the government Forest Department took over its control. According to him, the forest was previously well managed under the customary rules, by all the villages in the valley whose common property it was.

The answer to this problem comes from many VOs in Gilgit District which are trying to reassert the traditional role of village communities in the day-to-day management of their common resources, rather than leaving the entire responsibility to the concerned government agencies. More significantly, the government too, is supportive of these initiatives and provides encouragement to the organised manner in which villagers can contribute towards the better management and preservation of such vital resources.

The ingenuity of VOs for addressing these issues has resulted in the creation of specialised cells to deal with the day-to-day management of common property. In areas where such resources are shared between two or more VOs, there have emerged village coordination bodies resembling supra-village-institutions. These specialised bodies are responsible for the enforcement of village regulations, by combining traditional sanctions with modern management techniques. The measures taken by 6 VOs in Chalt-Chaprote area to prevent the excessive exploitation of their common forest is illustrative of the scope and effectiveness of local resource management institutions (Box # 1.1).

Similarly, VOs have made elaborate arrangements to deal with free-grazing problem in the rural areas. Here, the VO's sanctioning authority is clearly visible in reversing an old custom that had become damaging to the collective interest of the villagers. The most popular way of checking free-grazing, has been through imposing fines on individuals who let their animals free in the no-grazing areas defined by the VOs. These measures have been very successful in many villages, some VOs having collected upto Rs. 5,000 in fines, and the whole idea is gaining wider acceptance across rural Gilgit. In a recent Managers' Conference, a prominent religious leader even went to the extent of declaring free grazing as 'against the Islamic principles of neighbourhood', to the applause of other participants. He was referring, particularly, to the apparent tussle between large and small farmers over control of free-grazing: he observed that influential and wealthy individuals with large livestock herds favoured continuing free-grazing, while small farmers seeking to convert their land into orchards and plantations wanted protection from free-grazing. Stopping free-grazing would mean that livestock owners would have to incur extra fodder or labour costs; continuing with free-grazing would mean foregoing the opportunity for more productive land use under perennial or catch crops. It is not yet clear how this conflict will be resolved in the villages of Gilgit; we will, however, continue to document the changes.

In reviving customary rules, the VO has been successful in giving a broader definition to include modern forms of common property such as tractors, threshers, land development implements and other physical and financial assets. A typical case of cooperative tractor management by the VOs is given in Box # 1.2 as an illustration of these new trends in the villages.

V. Capital Accumulation and Investment

With nearly Rs. 14 million in VO bank deposits, the cycle of capital accumulation and investment in rural Gilgit has acquired a new and promising dimension. In recent years, the VOs' capacity for investment has been tremendously enhanced as indicated by the increasing number of short and medium-term loans (see Chapter Five). In view of this upward trend in rural borrowing, AKRSP has expanded its revolving fund which was established last year to cater for the medium-term investment needs of the VOs. This fund is expected to grow further and will be eventually inherited by an apex organisation of the VOs. In addition, AKRSP has persuaded Habib Bank, the principal source of short-term credit to VOs, to increase its annual ceiling from Rs. 4 million to Rs. 8 million in 1987. In addition, new loan channels have started within the VOs. In Rahimabad, Mohammadabad and a number of VOs in Yasin Valley have been issuing loans to their members on mutually acceptable terms.

The trends clearly show encouraging signs of viable financial institutions developing in the Northern Areas. Further development of capital markets will be possible once the VOs' legal status is defined in clearer terms. Once this is achieved, VOs with their sizeable deposit securities will have virtually unlimited access to all public and commercial sources of credit in the Northern Areas.

VI. The Number and Membership of VOs

AKRSP defines a village as permanent residents of a locality whose continuing economic interests are best served by organising as a unified group; villagers who initially organised around a PPI project extending over a large village are now finding it increasingly difficult to maintain that cohesiveness in dealing with locality-specific issues. As a result, large VOs are splitting into smaller and more manageable organisations. For AKRSP, this development is an indication of the long-term viable arrangement in which villagers could effectively respond to many opportunities as a small and manageable group of entrepreneurs. The strategy, therefore, is to let the villagers make rational adjustments as determined by their long-term economic interests. By the end of March 1987, the number of VOs in Gilgit District was 350, with a total membership of 26,412. The latest estimate puts total potential number of VOs at 410 for Gilgit District.

Collective Management of Forest in Chalt-Chaprote

Chalt-Chaprote is a cluster of six villages in the Nagar area, having access to a sizeable forest. Until less than a decade ago, their forest was reported to be a sustainable source of timber and fuelwood to its neighbouring villages. However, with the opening of Karakorum Highway and the subsequent construction boom, the demand for timber increased tremendously, leading to unprecedented extraction. Since the prices of "legal" timber and fuelwood remained government-controlled during the height of their demand, there developed a sizeable black market for the scarce forest materials, resulting in further pressure on the forest. Ironically, the villagers of Chalt-Chaprote themselves were contributing to that indiscriminate cutting of their own forest as they saw no immediate obligation to preserve a resource that was now being owned and managed by the Forest Department and, was an easy source of cash incomes.

However, as their forest declined, the villagers became increasingly concerned about the long-term consequences of a depleting common resource. Soon after VOs were formed in these villages, a few village activists started lobbying for the revival of traditional systems in which the villagers would have a greater role in the management of their common resources. Their efforts bore fruit; on 18 April 1986, in an open meeting six VOs of Chalt-Chaprote imposed a complete ban on the movement of fuelwood and timber beyond a five-mile limit of their outer-most village. According to the decision, the contracting VOs have pledged not to use their common forest for commercial purposes. As a practical measure, a 'people's barrier' has been set up just outside the last village on the link road, leading to KKH. A 36-member committee (Islahi Committee Baraye Tahaffuz-e- Janglat), drawn from 6 participating VOs, has been set up to enforce this decision through a combination of social sanctions and fines.

So far, the collective arrangement has been very effective in checking the illicit traffic of timber and fuelwood from Chalt-Chaprote forest. An important aspect of this arrangement is that there is virtually no opposition within these villages to this collective arrangement. The villagers have informed the government of their decision through a resolution. Both the Administration of the Northern Areas and the Forest Department have shown their full support towards this system of management by the villagers. This is evident from the fact that the Forest Department is issuing no new permits of fuelwood and timber to be drawn on the Chalt-Chaprote Forest.

The Cooperative Management of Tractors by the VO's

The most significant advantage of a collectively-owned tractor appears to be its contribution towards greater equity. In Gilgit District, thus far, 21 VO's have purchased their own tractors and accessories on loans provided to them by AKRSP, thus breaking the existing or potential monopolies of local 'Tractor Lords'.

Management: institutional arrangements for managing VO tractors have emerged in the form of specialist committees. These committees usually consist of 4-5 members from the VO including one or two members with some technical and entrepreneurial experience. The committee is responsible for the day-to-day management of the tractor, including technical supervision and the maintenance of expenditure and income records. The committee is accountable to the VO and is required to highlight financial matters in regular VO meetings.

Tractor and thresher services are available to all, without any discrimination in the rental charges between VO members and non-members. The only advantage for members is that they can use these services on credit. Some VO's however give priority to their members during peak seasons. Internal service allocation is done on first-come-first-served basis or by employing the machine from one end of the village to the other, following the water distribution pattern. In order to ensure the timely repayment of loans, some VO's have decided to set up a separate fund by requiring their members to deposit a fixed amount every month, in addition to the income from the tractor.

Short comings: in some VO's, the drivers come from other than the tractor owning villages which appears to be a disadvantage, as the driver is not obliged to make extra efforts to get more business for the tractor. Another closely related problem is that, sometimes, the drivers have to walk long distances to reach their workplace and back, which naturally reduces working hours. On the other hand, a local driver is always available to pick-up work at any hour of the day or night since he has a share in the income from his VO tractor. The VO's are responding to this problem by training one of their own members as the driver.

The second shortcoming appears to be the lack of accounting skills in a number of VO's. AKRSP has decided to provide training to the VO's in basic book-keeping through its Field Accountant. The third problem is related to the lack of entrepreneurial skills in the villages to get maximum returns on the investment. As it is, there are limited business opportunities in most villages except the sowing and harvesting seasons. The demand falls to its lowest during the winter months when there is virtually no activity in the villages. To find business in distant townships, one has to have time and an incentive which the committee members lack in their honorary capacity. To deal with this problem, AKRSP is proposing the principle of remuneration to the committee. Some VO's are considering a commission to the committee members, or to the driver for securing business.

A Rural Vision:Villagers Overheard at the Monthly Conference of VOs

"Fresh, early-spring cherries grown in green houses by the Japanese Farmers' Association are sold at 137 dollars a kilo in a Tokyo Speciality Store!" This news item picked up by a school teacher, who is also the Manager of his VO, from a recent issue of the weekly NEWSWEEK, was the topic of an interesting discussion. "Unbelievable!" exclaimed one villager, when the Manager converted the dollar value into its rupee equivalent of Rs. 2,329. The well-informed Manager then went on to relate how some 50-60 years ago the small farmers in Japan organised themselves into similar rural cooperatives as the VOs and how their regular savings led to the creation of a huge capital reserve. This capital, said the Manager, not only laid the foundation of a sound rural economy but also provided a major stimulus to the subsequent industrial development in Japan. The villagers immediately began to ask themselves: "Can we too, become as prosperous as the Japanese farmers?" "Why not", replied the village shopkeeper, "if we follow the same principles as the Japanese farmers did, there is no reason why we can't achieve the same level of development." The Manager, who by now had finished calculating some figures on his pocket calculator, spoke again: "During the last four years, we have saved Rs. 175,000 as our bank deposits, which means we can easily save upto Rs. 40,000 every year. Even if other things remain unchanged, our regular savings plus the interest income at about 15% will have amounted to more than Rs. 288 million in 50 years time. This is what the Japanese farmers have done; they got organised and started building their own capital some 50-60 years ago and now they are rich". "Alas, we did not start this earlier, or we could have also become rich today," sighed an elderly villager. "Don't, regret too much", an optimistic young villager commented coming closer to where the Manager was sitting. "What is past cannot be changed now, let us think of the present and for the future of our children, and their children. Perhaps we should plant some more cherry trees next year," he said, addressing the Manager.

CHAPTER TWO

WOMEN IN DEVELOPMENT (WID)

I. Overview

During the quarter under review, several new programme packages were introduced into the project area. Under the Agriculture and Resource Management programme, demonstration plots were set up at the village level to demonstrate the use of new inputs and cultivation techniques in vegetable growing. The work on the poultry project in Princeabad and the Mixed Farming package in Garelt was closely supervised and the poultry component of these projects is expected to be completed during the next quarter. Under the Productive Infrastructure and Engineering Services Division, the micro-hydel unit, spinning wheels, butter churners and an oil expeller were tested in specific villages with the active collaboration of the concerned Village Organisations. A new impetus was given to the appropriate technology programme with the increased capacity of local workshops to manufacture tested technologies like the nut cracking machines and sulphur tents. The credit programme was extended to cover demand for short and medium term credit for activities for which women have traditionally been responsible. Under the Commercial & Industrial Development Division, six villages of Gilgit were identified as potential sites for dehydration chambers for local fruits. It is expected that these plants will be in operation during the current season. In order to aid the Village Organisations in the use and management of these new technologies, representatives from Village Organisations are being selected and trained.

II. Programme Approach

Separate savings by women of Village Organisations and the extension of credit facilities using these savings as collateral has had a perceptible effect on women's preception about their own potential. Keeping this in mind, AKRSP is suggesting that even though there is only one Village Organisation in each village, the savings of the men and women may be deposited in separate accounts. This quarter, there has been a significant increase in the number of Village Organisations which have obtained credit for inputs used by women.

The introduction of specific interventions with an impact on women has also had an impact on women's attitude towards their future (see Box 1).

III. Programme Packages

The Physical Infrastructure and Engineering Services Division made a special effort during the quarter to have the dehydration chambers, nut cracking machines and sulphur tents made on time and enable the distribution of these machines prior to the coming fruit season. Twenty-four nut cracking machines were distributed during the quarter on a grant to Village Organisations. Work on six dehydration chambers, three with micro-hydel units was initiated during the quarter. The spinning wheels, oil expeller

and butter churners were field tested for feedback from Village Organisations. Tables 2.1 and 2.2 give cumulative and quarterly details.

The vegetable package, initiated in this quarter, aims primarily at introducing new and improved seed and cultivation practices which lend themselves to labour efficiency and larger scale. Demonstration plots were planted in 9 villages in the Gilgit district. A majority of the village women are present during these demonstrations; training is imparted both practically and with the aid of flip charts. The package will be extended to cover upto 15 villages this season. See tables 2.3 and 2.4.

The village nurseries started last year at six village sites were provided with rootstock and cuttings. The inputs include 70 apple and 25 cherry rootstock, 730 apple trees, and cuttings of grape, pomegranate and mulberry. These improved varieties were brought from the Chilas nursery.

The poultry component of the mixed farming package in Garelt is expected to be completed during the next quarter. About 65 apple and cherry trees have been planted there. Vegetable and potato plantings are to be included on this site.

Under the credit and input supply programme, 24 Village Organisations obtained short-term production loans. The total amount of these loans issued during the quarter was Rs. 196,872. The total number of households benefitting by these loans is 1,018. A household obtained an average of Rs. 193 in short term credit during the quarter (Table 2.8). Cumulative short-term credit upto March, 1987 amounts to Rs. 323,909. About 1,636 households have benefitted by these loans. The average short-term loan per household upto March, 1987 is Rs. 198. Most of this short-term credit is being used for the purchase of chicks from the UNDP hatchery and fertilizer from local dealers.

Five Village Organisations have obtained medium term credit benefitting about 281 households. The average amount of medium-term loan per household is Rs. 719.

IV. Staff Training and Development

During the quarter under review a woman staff member of AKRSP participated in a Farming Systems Research workshop held in Lahore. The workshop was arranged with the collaboration of USAID and the Pakistan government agricultural agencies. The workshop was planned in three parts: the introduction to the concept of Farm Systems Research, the diagnostic survey, field trip and group discussions concerning planning and recommendations.

The Programme Coordinator of the WID Section was invited by IUCN Pakistan to tour Indian Environmental Projects in the Garhwal Kumaon Himalaya. The main objective of the tour was to educate professional women as to the necessity for environmental projects in Pakistan and to incorporate such aspects of the environment as are feasible into projects and programmes already being run by women on the tour.

During the quarter under review, the Programme Coordinator also participated in the SAARC workshop on 'Women and Environment'. This afforded her an opportunity to establish contact with women involved with development and environmental projects in other parts of the country.

Another woman staff member of AKRSP from Hunza was selected to participate in a six week course at the Cranfield School of Management. Her participation was made possible by a grant from OXFAM. AKRSP feels that it is very important to strengthen the capacity of local staff members to undertake development initiatives and gain wider experience.

V. Coordination for Social Sector Activities

AKRSP's efforts to coordinate for social sector activities by introducing other agencies to the Village Organisation continued during the quarter. The Village Organisation of Rahbat Bala in collaboration with the AKES has started the construction of a self-help school. This will be the first such school in Nagar. What is even more laudable is that AKRSP had very little to do with the coordination for this project, which was largely achieved by the VO and the AKES on their own.

The Primary Health Care Programme (PHC) being contemplated by the AKF, AKHS and AKU envisages an important role for the Village Organisations. Their project proposal states that "the existing VO's ... represent a unique vehicle for enabling communities to take a key supportive role in organizing and managing the delivery of PHC services in the North".

SHAHTOTE: THE ONE BULB REVOLUTION

Those who have heard its name before, will remember Shahtote as one of the poorest villages of the Gilgit District. Perched on the road to Skardu, its 25 households eked out a meagre subsistence from landholdings which averaged less than a quarter hectare. In partnership with AKRSP, the Village Organisation has constructed an irrigation channel which has doubled irrigated landholding and is currently helping to develop and cultivate the new land. But the stir in the village, these days, is not due to the doubling of land. It is due to a tiny little machine which sits on top of their mountain. The little machine is a 5 KW micro-hydel unit designed and installed by the Programme Senior Engineer of AKRSP. It is driven by the 2.5 cusecs of water flow. It is now maintained and managed by the Village Organisation of Shahtote. Almost all households have a connection and when the sun sets on Shahtote its lights are turned on; a bulb or tube-light in each home.

Talk to the women and you find how the little supply of electricity has helped them. It has extended their day and provides them a measure of flexibility in adjusting their work schedules. Besides, some of them have bought flat-irons and their frequent use is apparent. A little over a year ago, if you went into this village, you could not meet the women except on request and then too, behind closed doors-they would huddle around you, unwashed. Today, they see women and come out and greet them. And so, when you ask them about the benefits of the new electricity they will begin to enumerate them. But what they do not say and you can only glean from their smiles is the difference in their self-perception. Shahtote has come a long way and in the words of one of its women "It is not a village in darkness any more."

Table 2.1

PRODUCTIVE INFRASTRUCTURE & ENGINEERING SERVICES
PACKAGE FOR WOMEN
Cumulative upto March, 1987

Gilgit District

<u>Type of Technology</u>	<u>No. of villages where technology is being currently introduced</u>		<u>No. of completed projects</u>
	<u>Grant</u>	<u>Loan</u>	
Nut cracking machines	24	38	53*
Dehydration chambers	7		1
Sulphering tents		25	-
Fuel-efficient stoves		23	-
Bio-gas Units	6		5
Micro-hydel unit	1		1
Butter churners	2		-
Spinning wheels	2		-

* The machines were given both on grant & loan in 9 villages.

Table 2.2

PRODUCTIVE INFRASTRUCTURE & ENGINEERING SERVICES
PACKAGE FOR WOMEN
Quarterly - January - March, 1987

Gilgit District

<u>Type of Technology</u>	<u>No. of villages where technology is being currently introduced</u>		<u>No. of completed projects</u>
	<u>Grant</u>	<u>Loan</u>	
Nut-Cracking Machines	24		24
Dehydration Chambers	6		
Spinning Wheel	2		
Micro-hydel Unit	1		1

Table 2.3

**AGRICULTURE AND RESOURCE MANAGEMENT
PACKAGE FOR WOMEN
Cumulative upto March, 1987**

Gilgit District

<u>Type of Project</u>	<u>Valley in which project implemented</u>	<u>No. of village in each valley</u>
1. Nursery Development	Hunza	3
	Nagar	2
	Yasin	1
2. Vegetable Demonstration Plot	Gilgit	5
	Nagar	3
	Hunza	1
3. Poultry Farm	Gilgit	1
	Hunza	1

Table 2.4

**AGRICULTURE AND RESOURCE MANAGEMENT
PACKAGE FOR WOMEN
Quarterly - January - March, 1987**

Gilgit District

<u>Type of Project</u>	<u>Valley in which project implemented</u>	<u>No. of village in each valley</u>
1. Nursery Development	-	-
2. Vegetable Demonstration Plot	Gilgit	5
	Nagar	3
	Hunza	1
3. Poultry Farm	Gilgit	1
	Hunza	1

Table 2.5

HUMAN RESOURCE DEVELOPMENT
PACKAGE FOR WOMEN
Cumulative upto March, 1987

Gilgit District

<u>Type of Training</u>	<u>No. of Women Trained</u>	<u>No. of Villages with trained Women</u>
Poultry Training-Regular (Long)	114	52
Poultry Training-Refresher	32	24
Poultry Training-Regular (Short)	57	56
Silage Preparation		15
Vegetable Cultivation Techniques	45	9
Fruit Processing		
Nursery Training	6	6

Table 2.6

HUMAN RESOURCE DEVELOPMENT
PACKAGE FOR WOMEN
Quarterly - January - March, 1987

Gilgit District

<u>Type of Training</u>	<u>No. of Women Trained</u>	<u>No. of Villages with trained Women</u>
Poultry Regular Training		
Poultry Refresher Training		
Poultry Crash Training		
Silage Preparation		
Vegetable Cultivation Techniques	45	9
Nursery Training	-	-
Fruit Processing		

Staff Training

	<u>No. of staff members trained</u>	
	<u>Men</u>	<u>Women</u>
Poultry Management & Disease Control	1	2

Table 2.7

CREDIT DISBURSEMENTS FOR WOMEN
Cumulative upto March, 1987

Gilgit District

I. Short-term Loans

Type of Loan	No. of Loans	Amount (Rs)	Beneficiary Households	Default
Fertiliser*	26	206,036	840	-
Poultry	14	90,776	606	-
Vegetable seeds	3	20,097	158	-
Marketing	1	7,000	32	-
Total:	44	323,909	1,636	

II. Medium-term Loans

Type of Loan	No. of Loans	Amount (Rs)	Beneficiary Households
Nursery Development	4	152,000	195
Mixed Farming	1	50,000	86
Total:	5	202,000	281

Table 2.8

CREDIT DISBURSEMENTS FOR WOMEN
Quarterly - January - March, 1987

Gilgit District

I. Short-term Loans

Type of Loan	No. of Loans	Amount (Rs)	Beneficiary Households
Fertiliser*	8	97,596	338
Poultry	14	90,776	606
Vegetable seeds	1	1,500	42
Marketing	1	7,000	32
Total:	24	196,872	1,018

* Including multiple loans.

CHAPTER THREE

PHYSICAL INFRASTRUCTURE & ENGINEERING SERVICES (PIES)

I. Overview

The broad objective of PIES is to provide continuing support to the VOs on all physical aspects of village planning and development, including infrastructure projects and electro-mechanical technologies. In this context, a primary responsibility of PIES is to provide technical support to other Programming Divisions of AKRSP for promoting integrated productive packages in the villages. Some examples of these support activities include designing physical lay-outs and preparing blueprints for land-use and reclamation, advising on the construction aspects of poultry and cattle sheds, feed storage silos and dehydration chambers; improving farm implements and household technologies, selecting appropriate agricultural machinery and exploring new sources of low-cost energy. In response to these requirements, PIES is currently reorganising and strengthening its expertise in civil, agricultural, architectural, mechanical and electrical engineering.

II. PPI Projects

The portfolio of PPI projects identified in Gilgit District remains unchanged at 432, at a total cost of Rs. 57.7 million. During the review quarter, 12 new projects were added to the list of on-going or completed schemes, raising the cumulative number to 273 in Gilgit District. The total cost of these projects is Rs. 41.18 million, of which Rs. 35.96 or, 86% of the cost, were disbursed to the implementing VOs. With 6 more PPI projects being completed during this quarter, the number of completed projects has risen to 190, while the cumulative physical progress was 82% in the district. Table 3.1A illustrates commitment, disbursement and the number of completed schemes by type of project and Table 3.1B by sub-division, while Table 3.2 summarises the distribution of these schemes and costs by sub-division.

III. Water Management

Irrigation water could be described as the single most important resource in the agrarian economy of northern Pakistan. Though abundantly available in streams and rivers below the elevated valleys, the scarcity of water has long been a major constraint on increased landholdings and cultivation which is almost entirely dependent on irrigation. The need for increased water supplies is reflected in the high proportion of irrigation projects identified by the VOs. Of the total 273 PPI projects initiated so far in Gilgit District, 185 or, 68% of the total, are irrigation-projects. AKRSP's primary concern therefore, had been to increase water availability by helping to build new irrigation channels and improving the carrying capacity of existing networks. Naturally, the next important element in AKRSP's irrigation development strategy is to improve the management of available water resources in its project area.

As in many other agrarian societies, the traditional systems of water management in rural Gilgit have evolved through centuries of experience; they are, to a large extent, equitable and sufficiently efficient. The rich variety of traditional practices suggests that there may be little need for outside interventions. In its approach to this issue therefore, AKRSP is careful to avoid the many difficulties of assuming that traditional systems need any drastic restructuring. As a first necessary step for improvement, AKRSP is currently gathering basic data on the availability of water at different times of the year as well as studying the details and complexities of existing water management systems, in order to identify the critical points for selected interventions.

IV. Electro-mechanical Technological Development

IV.A. Low-cost Energy

Micro-hydel Units: Recently, PIES has developed a new low-cost micro hydel unit to meet the primary power requirements at the village level, including household lighting and the powering of communal machinery such as saw and flour mills, fruit dehydration plants, nut crackers, oil extractors etc. The most significant features of this unit are its low capital cost (Rs.3,000 per kVA) and the simple maintenance requirements. A 10 kVA unit is well within the financial capacity of most villages in the Northern Areas at Rs. 35,000 apiece. The unit is virtually maintenance free requiring only part time services of a watchman.

Initial testing and demonstrations have produced highly encouraging results. This year, 12 units are planned in the entire project area for further on-site demonstrations.

Fuel-efficient Stoves: PIES has discovered that the stove designed by the Aga Khan Housing Board is more efficient and suitable for local requirements as compared to the model developed by AKRSP. Based on field observations, AKRSP has decided to help propagate the Housing Board stove through its extension services rather than duplicating their effort.

Bio-gas: PIES is currently studying the feedback on winter performance of six bio-gas units which were set-up last year at various locations in Gilgit District. The final results will not be available until September this year when the data on summer performance will be collected and analysed to make a final recommendation on the suitability of this technology in the project area.

Solar Ovens: The technology itself has proved to be quite effective. However, its adaptability has been slower than expected. A major reason for the low diffusion rate of this technology appears to be its relatively high cost at Rs. 750 per unit. PIES' efforts to reduce its cost have been hindered by the non-availability of necessary production materials locally.

IV.B. Farm and Household Technology

In addition to local research and modifications, PIES is in continuous search for appropriate technologies in Pakistan and in other parts of the world. Relevant technological inputs and prototypes have been imported from such distant and diverse countries as Iceland, Italy and Canada for local fabrication. Recently, two experts from PIES visited the Swiss Agricultural Light Engineering Project (ALEP) in Mardan (North-West Frontier Province), the National Agricultural Research Center (NARC) and the Barani Areas Regional Development (BARD) projects in Islamabad to see if the agricultural implements and machinery developed by these institutions were suitable to the specific requirements of the Northern Areas. According to their report, the basic research done by these institutions in the area of agricultural machinery and hand implements was highly commendable and very much relevant to the farming conditions in the Northern Areas. The report has recommended a number of tools and implements to be immediately acquired by AKRSP for further testing and demonstration in the project area.

PRODUCTIVE PHYSICAL INFRASTRUCTURE

COMMITMENT, DISBURSEMENT AND COMPLETED PROJECTS AS ON MAR. 31ST 1987

Gilgit District

A: BY TYPE OF PROJECT

Type of Project	Number of Projects	Cost Rs. '000	DISBURSEMENT		Completed Projects
			Rs. '000	As % of Cost	
Irrigation Channels	160	21,743	19,046	87	116
Syphon Irrigation	1	520	504	97	1
Pipe Irrigation	1	322	268	83	1
Lift Irrigation	2	247	245	99	1
Link Roads	43	7,589	6,617	87	30
Protective Works	27	5,023	4,518	90	19
Storage Reservoir	21	3,249	2,548	78	9
Mud-flow Control	1	54	54	100	1
Sedimentation Tanks	2	242	242	100	2
Pony Tracks	2	261	259	99	2
Bridges	6	1,198	1,008	84	3
Bridge/Link Road	2	204	185	91	2
Boundary Wall	2	192	170	88	2
Super Passage	1	189	189	100	1
Nursery	2	149	110	74	-
Total	273	41,182	35,963	87	190

B: BY SUB-DIVISION

Sub-Division	Number of Projects	Cost Rs. '000	DISBURSEMENT		Completed Projects
			Rs. '000	As % of Cost	
Hunza	55	9,108	7,943	87	41
Nagar	42	5,552	4,903	88	27
Gilgit	72	11,629	10,842	93	51
Punyal-Ishkoman	48	7,254	5,722	79	33
Gupis-Yasin	56	7,640	6,553	86	38
Total	273	41,182	35,963	87	190

Table 3.2

SUB-DIVISION-WISE DISTRIBUTION OF SCHEMES AND COSTS
AS ON 31ST MARCH 1987
(Rs. '000)

Gilgit District						Total
Sector	Hunza	Nagar	Gilgit	Punyal-Ishkoman	Gupis-Yasin	Gilgit Distt.
Irrigation Channels	5,306 (36)	2,542 (22)	6,364 (39)	3,686 (30)	3,845 (33)	21,743 (160)
Syphon Irrigation		520 (1)				520 (1)
Pipe Irrigation			322 (1)			322 (1)
Lift Irrigation			247 (2)			247 (2)
Link Roads	2,698 (11)	610 (5)	3,442 (22)	757 (4)	82 (1)	7,589 (43)
Protective Works	179 (2)	265 (1)	237 (2)	1,879 (9)	2,463 (13)	5,023 (27)
Storage Reservoir	213 (2)	793 (5)	699 (4)	551 (3)	993 (7)	3,249 (21)
Mud-flow Control					54 (1)	54 (1)
Sedimentation Tank		88 (1)	154 (1)			242 (2)
Pony Tracks	98 (1)		163 (1)			261 (2)
Bridges	614 (3)			381 (2)	203 (1)	1,198 (6)
Bridges/Link Roads		204 (2)				204 (2)
Boundary Wall		192 (2)				192 (2)
Super Passage		189 (1)				189 (1)
Nursery		149 (2)				149 (2)
	9,108 (55)	5,552 (42)	11,628 (72)	7,254 (48)	7,640 (56)	41,182 (273)

Note:

The upper figure is cost in Rs. '000. The lower figure in parentheses denotes the number of schemes.

CHAPTER FOUR

AGRICULTURE AND RESOURCE MANAGEMENT (ARM)

CROP DEVELOPMENT

I. Village Demonstration Plots

I.A. Wheat

Wheat demonstration plots with high yielding cultivars* were laid out in farmer's fields in VOs Nomal, Rahimabad, Princeabad, Waziri Mohalla, Oshikhandas, Hanuchal, Sherqilla, Golodass, Shirot, Chaprote Paeen, Muradabad (Ber), Rahbat Bala, Mamooobar, Sumal, Hakis, Thingai, Aliabad, Sandi Paeen, Morkha, Damalgan, Broshal, Batakhand, Chakkorkot Khas, and Datuchi.

Chapter Seven reports the results of a survey conducted by MER to compare wheat yields of Pak-81 with existing varieties.

I.B. Vegetables/Lentil/Sunflower/Chickpea/Vetch

High yielding varieties of vegetables like pea, cauliflower, cabbage, chinese cabbage, tomato, eggplant, pepper, carrot and other crops like lentil, sunflower, chickpea and vetch have also been planted in the above villages.

I.C. Vetch

Vetch as a fodder crop had performed exceedingly well in both the single and the two-cropped villages. Due to great demand for its seed, 1,000 kg have been imported from Australia for demonstrations in all the three programme districts and for sale to the interested VOs. This import of seed was necessary as vetch is not grown commercially in any part of Pakistan.

II. Wheat Seed of Suneen Cultivars

Wheat seed of Suneen cultivar given to specialised seed producing village namely Khyber was returned to AKRSP after the crop was harvested. This seed was then given to Passu and Aminabad Ishkoman for planting and seed multiplication.

III. Nursery Development

The germination of seeds of walnut, apricot and almond planted in the nurseries has commenced. Mother plant of 3 varieties each of pomegranate and grapes were established in each nursery. Mother stool beds with dwarf apple root stocks MM106 and M-27 were also established. Cuttings of poplar deltoides were also planted in the nurseries to serve as mother plants for further propagation.

* Seed received through the courtesy of Pakistan Agricultural Research Council.

IV. Fruit tree saplings

Twenty-one thousand mainly apple budded saplings of varieties golden delicious, red delicious and Amri were procured from the government fruit nurseries in Haripur and Baffa. These were purchased by 96 Village Organisations at cost.

V. Mixed Farming Package

At Garelt a regular orchard with dwarf cherries and apple was established. This orchard will be inter-cropped with various vegetables including potato in order to get maximum income from this piece of land.

VI. Training

VI.A. Plant Production and Protection

Three plant production and protection refresher courses were held and fifty-eight trainees from as many VOs attended.

VI.B. Agro-forestry

First Agro-forestry course was also organised in which 17 village specialists were trained. Five kg seed each of Robinia and Ailanthus were distributed amongst the trainees for planting in their respective villages. Table 4.1 provides details on the extension training courses.

VII. Input Supplies

Pesticides worth Rs. 6,589.85 were purchased by the village plant production and protection specialists from the Extension Training Centre supplies. Details are given in Table 4.2.

LIVESTOCK DEVELOPMENT

I. Training of Livestock Specialists and Disease Control

The livestock section's efforts to gain increasing co-ordination of activities with government bodies has resulted in two major collaborative efforts. Firstly the collaboration in the field of disease control and training and secondly the collaboration in the area of Artificial Insemination (AI) and genetic development.

The government Animal Husbandry department has pooled its supply of vaccines (worth Rs. 3,268) with the AKRSP. This will have several beneficial effects. Firstly the Animal Husbandry department's compounders, who manage the government's field outlets for drugs and diagnosis will now support the AKRSP's livestock specialists (maher-e-maal) with a joint supply line for drugs. It also means that diagnosis and field support for the maher-e-maal will be more rapid, with prospects for a wider coverage and lowering of costs.

Training

A livestock refresher course was held during the quarter with 111 VO representatives. The course was organised for period of 10 days (two days for each subdivision's representatives) during which the government para-vet compounders from each subdivision were also invited so as to develop better collaboration between them and the maher-e-maal. Details of the training course are given in Table 4.1.

At the end of the two day refresher course the maher-e-maal from each subdivision replenished their stock of vaccines and drugs for the first round of vaccination program scheduled from March to April 1987.

Disease Control

Vaccines were procured from the veterinary research institute Lahore for the first round vaccination program. The distribution was carried out during the above mentioned refresher course series. During this quarter medication and vaccines totalling Rs. 12,063 were procured by livestock specialists.

The distribution of drugs and vaccines is still ongoing and the number of VO's which have procured vaccines, as of end of March, is given below:

<u>Subdivision</u>	<u>Number of VO's</u>
Gilgit	9
Hunza	2
Nagar	17
Gupis-Yasin	8
Punyal-Ishkoman	20
Total	56

Details of the supply are given in Table 4.3

II. Feed Improvement

The various feed development strategies reported in the last annual report have not as yet been followed up since the winter has only just ended in some areas.

II.A. Corn Silage

As mentioned in the previous report, the quality of silage made last year was highly satisfactory. As far as effectiveness, a few farmers have mentioned positive results in milk yield. The field follow-up for farmers' comments is currently underway and will be reported in the next quarterly report.

II.B. Examination of Alfalfa Hay Production Practices

Written guidelines have now been produced and are in the process of conversion to Urdu in preparation for publication and distribution in the second quarter as pamphlets and booklets.

II.C. Pasture Development

Presently the two targetted areas are Morkhon and Chaproate. Dialogues have been held in Chaproate in regard to this project but have yet to be finalized. Dialogues are also planned for pasture development at Morkhon.

II.D. Poultry Feed

An experiment is currently underway to produce poultry feed using locally available feed materials, processed by cheap solar drying and fermentation, to produce a durable high protein concentrate for winter feeding. The experiment will resume in the second quarter with testing to be completed by the fourth quarter.

III. Breed Improvement and Artificial Insemination

III.A. Artificial Insemination

By the end of March 1987 a total of 105 animals were diagnosed for pregnancy out of which 63 were found pregnant. The overall conception rate for the AI programme is 60%. Further details are provided in Table 4.4. The quarterly A.I work statement is presented in Table 4.5.

III.B. Breed Improvements

Sheep Breeding

The livestock section has entered into collaboration with the Pakistan Agricultural Research Council to improve fine wool production, feed conversion, animal size and meat yield of sheep through the introduction of Rambouillet rams into selected VOs in Gilgit and Chitral districts. The project commenced with the import of 4 rams to the Northern Areas, located in the villages of Broshal, Morkhon and Rahbat Bala. Out of these 4 rams placed in December, two unfortunately have died due to overfeeding of grain by villagers concerned for the well-being of the animals.

For 1987 the livestock section hopes to expand the sheep programme in some 10 villages in Gilgit and equal numbers in Chitral and Baltistan districts. All these sheep projects will also incorporate a village feed improvement component which will require the participating VOs to accept the AKRSP feed packages to develop feed production.

Dairy Goat Breeding

AKRSP is currently attempting to link up with the National Agriculture Research Centre (NARC) in a common strategy for the development of dairy goats for the Northern Areas. Under this joint strategy, AKRSP should be able to obtain breeding males (bucks) from the NARC for use in the Northern Areas. For its part, AKRSP is currently attempting to import Swiss Alpine and Anglo-Nubian semen for use in breeding with the high yielding local goats by the NARC. The bucks issuing from this common breeding strategy will be used by AKRSP in the same way as the Rambouillet rams.

A.I. Training

As mentioned in the previous report, AKRSP has decided to train Junior Artificial Insemination Subdivisional Technicians (JAISTS's) to start expanding the AI program and to commence bringing it onto a user pay basis rather than the presently subsidized basis.

In this respect the government Animal Husbandry department is collaborating with AKRSP by providing five para-veterinary compounders to AKRSP as AI trainees. Under this collaboration AKRSP will bear the training and equipment costs as well as provide field support. The government will continue their employment in their new role as JAISAT. It was widely felt that these para-vets would be a better investment for the training than the village nominees who would be less educated. The government nominees are undergoing training at Faisalabad University and are expected back in Gilgit in the third quarter when they will commence their duties. The JAIST's will charge Rs. 25 per conception to the villagers who request insemination for their animals (assuming 50% return rates).

IV. Heifer Project and Dairy Improvement

The need for making production projections and analysis of breeding, production growth, feed, land and marketing requirements for this project has required several design changes and a commensurate delay in completing construction by the time projected in the previous report.

In ten of the eleven selected villages, third dialogues have been held and first installment cheques presented. The last one being inaccessible due to snow, until April.

Construction has progressed to varying stages in most of the Heifer Project Villages and AKRSP anticipates the populating of the operations, by the newly purchased cattle, to be complete by the third quarter.

Depending on the stage of pregnancy at time of receipt, it is expected that these farms will come fully on-stream between December 1987 and February 1988. Attempts will be made to locate pregnant animals already in milk so as to shorten the delay period for coming fully on-stream.

The villages chosen for the Heifer Project Dairy Farm (HPDF) are:

Tehsil

Village Organisation

Gojal
Hunza
Nagar
Gilgit
Gilgit
Gilgit
Punyal

Khayber
Ahmadabad
Chaproate Paeen
Jalalabad No. 2
Paidan Dass
Rahimabad
Thingdass

Ishkoman
Yasin
Gupis

Shonus
Barkulti-Paeen
Jafferabad Phandar (snowed out)

Readers of the previous report may note some changes, because of lack of positive response of VOs, in the above list of villages chosen for the Heifer Project.

V. Poultry Development

Commercial Poultry Unit

The two commercial poultry production units in Danyore Princeabad and in Garilth Hunza are both still under construction; AKRSP anticipates their coming on-stream in the second quarter. The poultry projects are joint projects with the Women's Activities Co-ordinating Cell of AKRSP.

Table 4.1

HUMAN RESOURCE DEVELOPMENT FOR AGRICULTURAL AND RESOURCE MANAGEMENT
(January - March)

S.No.	ND. OF		DIRECT COST (Rs.)					Remarks
	Days	Participants	Honorarium to instructors	TA/DA to participants	Transport	Training Kits	Prizes	Total
AGRICULTURE								
1.	10	17	750	8,500	-	-	1,000	10,250
								1st Agro-Forestry Course w.e.f. 1-10. Feb. 1987
2.	7	18	1,200	6,492	-	-	-	7,692
								7th PPP Refresher Course w.e.f. 12-18th Feb. 1987
3.	7	21	1,200	8,450	-	-	-	9,650
								8th PPP Refresher Course w.e.f. 21-28th Feb. 1987
4.	7	19	1,200	7,755	-	2-spray pumps only 2,400	-	11,355
								9th PPP Refresher Course w.e.f. 4-10th March, 1987
31	75		4,350	31,197	-	2,400	1,000	38,947
LIVESTOCK								
5.	10	111	2,100	24,130	-	-	-	26,230
								12th Refresher Course on livestock w.e.f 25 March-3 April, 1987

Table 4.2

**PESTICIDES/FUNGICIDES PURCHASED BY VO SPECIALISTS
DURING 1ST QUARTER 1987 (JAN-MAR 1987)**

Name of Sub Division	Pesticide/ Fungicide	Quantity (Ltrs & Kgs)	Cost (Rs.)	Expected Coverage		
				Land (ha)	Seed (kg)	Trees (No.)
Hunza	Pesticide Fungicide	7.5 Ltrs	1,347	3.6	-	2,496
		1.5 kg	405	-	750	-
Nagar	Pesticide Fungicide	6.0 Ltrs+1 kg	968	0.2	-	2,304
		-	-	-	-	-
Gilgit	Pesticide Fungicide	2.5 Ltrs	367	0.1	-	486
		255.0 gm	68.85	-	127	-
Punyal/ Ishkoman	Pesticide Fungicide	18.5 Ltrs+2kg	2,612	3.4	-	1,536
		1.5 kg	405	-	750	-
Gupis/ Yasin	Pesticide Fungicide	1.5 Ltrs	417	0.9	-	384
		-	-	-	-	-
Total	Pesticide Fungicide	36.0 Ltrs+3 kg	5,689.85	8.2	-	-
		3.26 kg	900	-	1,627	7,206

Table 4.3

**VACCINES AND MEDICINES PROCURED BY VO LIVESTOCK SPECIALISTS
During First Quarter 1987**

S.No.	Quantity	Cost. (Rs.)	Projected No. of Animals Vaccinated/Treated		
			Cattle	Sheep/Goats	Poultry
1. Newcastle	155 vials	542	-	-	15,500
2. Entrotoxaemia	39,600 ml	1,688	-	19,800	-
3. Black Quarter	24,300 ml	1,036	6,075	-	-
4. Foot and Mouth	21,900 ml	1,369	5,475	-	-
5. Pleuropneumonia	38 vials	178	-	3,800	-
6. Goat Pox	30 vials	141	-	3,000	-
7. Anthrax	1,500 ml	320	750	1,500	-
8. Haemorrhagic Septicemia	1,200 ml	51	300	-	-
Total for Vaccines			5,325	12,600	28,100
					15,500
1. Gamatox	2.5 kg	675	1,250	1,750	-
2. Oxytetracycline	228 vials	2,508	570	1,824	-
3. Dertil-B Tabs	1,434 tabs	2,079	1,434	-	-
4. Dertil-O Tabs	920 tabs	708	-	920	-
5. Sulfadiazine	9,500 ml	1,235	80	244	-
6. Powder Potassium Permanganate	3 lb	75	500	700	-
7. Macroact Powder	8 kg	360	-	-	8,000
8. Magnesium Sulfate Powder	6 lb	12	24	75	-
9. ESB-3	50 gm	26	-	-	200
10. Calcium Borogluconate	300 ml	60	2	-	-
Total for Medicines			7,738	3,860	5,513
					8,200

The VO specialists also purchased 7 syringes, 15 needles and 8 water coolers worth Rs. 1,664

Table 4.4

THE FERTILITY PERCENTAGE OF A.I. CASES CHECKED
During the First Quarter 1987

Sl NO.	Sub-Division	Total A.I. Cases Checked	Positive in Heat	Conception Rate %
1.	Hunza	20	9	45.0%
2.	Nagar	18	11	61.1%
3.	Gilgit	43	26	60.4%
4.	Punyal/Ishkoman	-	-	-
5.	Gupis/Yasin	24	17	70.8%
Total		105	63	60.0%

Table 4.5

QUARTERLY A.I. WORK STATEMENT

	Hunza	Nagar	Gilgit	Punyal	Gupis	Total
No. of VOs visited/revisited	16	8	18	-	15	57
No. of animals checked	24	25	63	-	34	146
Total No. of animals injected with Estrumate	-	-	-	-	-	-
Successful effect of Estrumate after 72 hrs.	-	-	-	-	-	-
No. of cows inseminated	1	1	5	-	-	7
No. of buffaloes inseminated	-	-	-	-	-	-
No. of A.I. pregnancy checked	20	18	43	-	24	105
No. of cases found pregnant	9	11	26	-	17	63
No. of inseminated cows sold off	-	-	-	-	-	-
No. of inseminated cows dead	-	-	2	-	-	2
No. of inseminated cows aborted	-	-	1	-	4	5
A.I birth confirmed and recorded	-	-	1	-	-	1
Males:	-	-	-	-	-	-
Females:	-	-	1	-	-	1
No. of Genital Diseases Cases treated	-	-	-	-	-	-

CHAPTER FIVE

SAVINGS AND CREDIT

I. Overview

Many factors which often lead people to "save" under mattresses or in the ground have been pragmatically countered by the development of VOs which offer an "open" forum for the collection of savings and their record. The maintained high level of deposits would indicate the success of the "thrift" habit well supported by a practical approach of the co-operating banker. The search for better yields, especially for savings not needed in the short-term, continues. Currently there is a shift towards Khas Deposit Accounts which offer a guaranteed yield of approximately 15% per annum, as against PLS Term Deposit Certificates which fluctuate from year to year.

For the moment, a conservative attitude is encouraged to ensure that savings to loan ratio remains 1:1. As the need for development capital increases, the ratio of savings to loan would be allowed to float freely to direct investment in the appropriate areas of development. Choices will have to be made between quick return, high return and development return.

The number of first-time borrowers has been increasing over the years and now the total number of VOs in the credit net are 306, while 90 VOs have taken medium-term loans. Repayments continue to be steady and considering the cash flow cycle of agriculture reflect a commendable attitude.

II. Saving Deposits

By March 1987 the total saving deposits in Gilgit District were about Rs. 13.98 million. The Women's Organisations have accumulated a savings of about Rs. 2.42 million. A sizeable amount of about Rs. 3.58 million is now put in term deposits.

The highest deposits are in the Hunza Sub-division, coming to approximately Rs. 3.8 million. Gupis-Yasin and Punyal-Ishkoman have slightly above Rs. 2.5 million each. The lowest deposits are in Nagar Sub-division where they are about Rs. 1.7 million (Table 5.1).

III. Loan-to-Equity Ratios

The aggregate loan-to-equity ratio is 1.05. The highest ratios are in Nagar, Yasin and Punyal where they exceed one. They are lower than one in the remaining sub-divisions (Table 5.2).

IV. Production Loans

During the quarter 237 short-term production loans of over Rs. 3.2 million were extended in Gilgit District, benefitting about 10,457 households. The highest proportion (82%) of these loans were taken for the purchase of fertiliser, while 7% was for

marketing purposes; women's activities and purchase of seeds and plants made up the rest. The total loans extended for short-term purposes since the inception of the programme reached Rs. 15.5 million. This amount has been given to 63,049 households (Table 5.3).

V. Development Loans

During the review quarter, Rs. 2.73 million of development loans were extended to 1,186 households in 18 Village Organisations. Of the total amount, 87% was given for land reclamation and 12% for agricultural machinery, the remaining 1% was given for marketing purposes. The total medium-term credit distributed so far has been about Rs. 10.83 million, benefitting 5,799 households of 90 Village Organisations (Table 5.4).

VI. Repayment and Disbursal Summary

A total of 1,296 loans have been extended so far. Out of these 1,206 are for short-term purposes and 90 for medium-term purposes, benefitting 63,049 and 5,799 households respectively. The total amount of disbursal has been for Rs. 26.3 million. Of this, 59% is for short-term and 41% for medium-term. From these, Gupis Yasin has 24% of the loan; Hunza 16%, Punyal-Ishkoman 20%, Nagar 13%, and Gilgit 27%.

The amount in default for short-term loans is Rs. 105,546. The default is 0.7% of total loans disbursed so far for short-term purposes. This is still a reasonable figure and speaks about the viability of the programme (Table 5.5).

Table 5.1

VILLAGE ORGANISATIONS' BANK DEPOSITS
Cummulative, up to March 1987
 (Rs. '000)

Gilgit District

Sub-Division	Saving Account	Men	Women	Total
		Term Deposit	Saving Account*	
Hunza	1,973	674	1,158	3,805
Nagar	1,021	688	8	1,717
Gilgit	1,815	921	653	3,389
Punyal-Ishkoman	1,388	784	381	2,553
Gupis-Yasin	1,844	453	219	2,516
Total	<u>8,041</u>	<u>3,520</u>	<u>2,419</u>	<u>13,980</u>

* Includes term deposits of Rs. 64,500

Table 5.2

LOAN-TO-DEPOSITS RATIOS
January - March 1987

	Total Loans Outstanding		Total	Deposits	Loan/ Deposit Ratios*
	Short-term	Medium-term			
Hunza	807,651	1,524,000	2,331,651	3,804,673	0.61
Nagar	661,255	1,217,990	1,879,245	1,717,226	0.09
Gilgit	1,061,085	2,732,000	3,793,085	3,388,433	0.87
Punyal-Ishkoman	924,946	2,195,472	3,120,418	2,552,918	1.22
Gupis-Yasin	1,066,498	2,539,000	3,605,498	2,515,858	1.43
Total	<u>4,521,435</u>	<u>10,208,462</u>	<u>14,729,897</u>	<u>13,980,108</u>	<u>1.05</u>

* For all outstanding loans.

Table 5.3

SHORT-TERM CREDIT, DISBURSEMENT SUMMARY*

Giliqt District

	No. of Borrowing**		Amount	Average	(Rs.) Per
	VOs	Household	Disbursed(Rs.)	Loan	Household
A. Cumulative up to March 1987					
Project Maint.	1	120	5,395	5,395	45
Fertiliser	982	50,410	12,048,917	12,270	239
Marketing	161	9,214	2,936,500	18,239	319
Plants	11	644	105,440	9,585	164
Seed	37	2,323	286,179	7,335	123
Poultry	14	338	90,776	6,404	268
Total	1,206	63,049	15,473,207	12,830	245
B. For January - March 1987					
Fertiliser	191	8,224	2,594,068	13,582	315
- in kind	52	1,888	528,646	10,166	280
- by cheque	139	6,336	2,065,422	14,859	326
Marketing	10	588	209,500	20,950	356
Plants	6	379	54,650	9,108	144
Seed	16	928	212,290	13,268	229
Poultry	14	338	90,776	6,404	268
Total	237	10,457	3,161,284	13,339	302

* Subject to revision during on-going verification procedures.

** Borrowing VO's and households include multiple loans to the same VO.

Table 5.4

MEDIUM-TERM CREDIT, DISBURSEMENT SUMMARY

Giligt District

	No. of Borrowing*		Amount	Average	(Rs.) Per
	VOs	Household	Disbursed(Rs.)	Loan	Household
A. Cumulative up to March 1987**					
Land					
Development	67	4,387	7,471,333	111,512	1,703
- land					
reclamation	60	3,911	7,249,333	118,842	1,854
- nursery	5	390	172,000	34,400	441
- Mix-farming	1	86	50,000	50,000	581
Agri.					
Machinery	21	1,291	3,202,000	152,476	2,480
Marketing	1	86	55,000	85,000	988
Saw-mill	1	35	100,000	100,000	2,857
Total	90	5,799	10,828,333	118,993	1,867

B. For January - March 1987

land					
Development	16	1,039	2,362,000	147,625	2,272
- land					
reclamation	16	1,039	2,362,000	147,625	2,273
- nursery	0	0	0	0	0
- Mix-farming	0	0	0	0	0
Agri.					
Machinery	2	147	335,000	167,500	2,279
Marketing***	0.5	-	30,000	-	-
Saw-mill	0	0	0	0	0
Total	18.5	1,186	2,727,000	147,405	2,274

* Borrowing VOs and households include multiple loans to the same VO.

** Subject to revision during on-going verification procedures.

*** One instalment is counted as half a loan; beneficiary loanees have been counted with the first instalment.

Table 5.5

CREDIT SUMMARY FOR ALL LOANS

Gilgit DistrictA. Disbursements, Cumulative up to March 1987

	Short-term Loans	Medium-term Loans	All Loans
No. of Borrowing			
- VOs	1,206	90	1,296
- households	63,049	5,799	68,848
Amount			
Disbursed (Rs.)	15,473,207	10,828,333	26,301,540

B. Short-term CreditLate Repayments, Cumulative up to March 1987

1. Amount not yet repaid 9-12 months after disbursement of loan:	Rs.	197,737
2. Amount technically in default, i.e., not yet repaid more than 12 months after disbursement:	Rs.	105,546
3. Total of late repayments: (1)+(2)	Rs.	303,283
4. Amount disbursed up to 3 months ago:	Rs.	6,425,819
5. Default as % of (4):		1.6%
6. Default as % of amount disbursed to date		0.68%

C. Medium-term CreditLate Repayment, Cumulative up to March 1987

1. Amount due	Rs.	662,676
2. Amount repaid	Rs.	619,871
* as a percentage of (1)		93%

CHAPTER SIX

COMMERCIAL AND INDUSTRIAL DEVELOPMENT (CID)

I. Overview

The seasonality of marketing in Gilgit District makes the quarter under review an appropriate time to reflect on last year's experiences and plan for the coming marketing season. It was mentioned last year that sulphurated and dried apricots had been identified as the commodity to focus on for 1987 because of the high returns this product yielded. Consequently, the focus of CID's planning efforts was on preparing an acceptable package for sulphuring and drying apricots. Two important technologies have been developed by the PIES Division in our endeavour to provide affordable technology to the village organisations.

II. Dehydration Technology

The first achievement in this regard, was the development of dehydration chambers. Simply put, this is a room which dries 400 kg of apricot by pulling warm air over them by means of electric fans. Fortunately, this development coincided with the designing of the low-head HaWK hydel turbine by the Programme Senior Engineer. This meant that the dehydration chambers could be installed even in villages which did not have regular electricity. It was decided to install a dehydration chamber in each valley. Subsequently, dialogues were held in the following VOs:

Name of VO	Valley
1. Aishi Bala and Paeen	Punyal
2. Barkulti	Yasin
3. Gupis Centre	Gupis
4. Nasirabad	Hunza
5. Nomal	Gilgit (constructed in 1986)

It is hoped that VOs will be selected in conjunction with the concerned SOUs, for the construction of dehydration chambers in Nagar and Ishkoman early in the next quarter. It is important that these VOs are decided upon fairly soon so that all the dehydration chambers can be constructed before the coming drying season.

An important component for the dehydration chamber is the participation of women in using this facility. Five women will be trained as master trainers, in the VOs where these chambers are being built, in sulphuring techniques and hygienic drying and packing.

The second significant development has been the construction of sulphuring tents. Demonstration had been carried out last year on the use of these tents. It is planned to follow-up on these VOs this year and motivate the villagers to make their own sulphuring tents. AKRSP will provide loans for the construction of these tents.

III. Training

An illustrated leaflet is under preparation which shows the proper method right from the picking of apricots to the final packing of sulphurated and dried apricots. This leaflet is being prepared with the active collaboration of both ARM and WID sections.

The Third Refresher Course on Marketing was held from 26th to 28th March this year. A total of 15 marketing specialists participated in this course. Special care was taken to include specialists from villages where sulphuring/dehydration techniques had been demonstrated last year. In an effort to make the course content comprehensive, all the sections in AKRSP participated in teaching the specialists in addition to personnel from CID.

It had been mentioned last year that a Northern Areas resident had proceeded down-country for training in fruit processing. This was an important development in efforts by CID to encourage local entrepreneurs to undertake supra-village fruit processing. This individual spent a total of eight weeks at Milkpak Lahore and Faisalabad University. He is now preparing a plan of action to commence operations before the upcoming marketing season.

IV. Cooperative Marketing

During the quarter under review eight VO's from Gupis, Yasin and Ishkoman reported on their cooperative marketing endeavours. Of these eight, 4 VO's marketed livestock, 2 sold dry fruits while 2 sold both livestock and dry fruit. The details are shown in Table 6.1.

V. Marketing Loans

A total of Rs 243,400 were disbursed as short-term production loans for marketing to 12 VO's. Approximately 45% of this loan was to facilitate marketing of livestock while 34% was to help sell firewood/timber. The rest was to enable the VO's to market fodder (12%), fruits and vegetables (6%) and vinegar (3%).

VI. Case Studies

Two case studies were undertaken on the cooperative shops that are being developed by the Danyore and the Garilth cluster of VO's. The first drafts have been prepared and will be finalised in the next quarter.

Table 6.1

COOPERATIVE MARKETINGA. Cumulative upto March 1987

Participating VOs	...	(Nos)	180
Gross sales	...	(Rs)	4,223,890
Marketing expenses	...	(Rs)	383,218
Farm gate income	...	(Rs)	3,840,672
Beneficiary households	...	(Nos)	5,675
Income per VO	...	(Rs)	21,337
Income per households	...	(Rs)	677

Marketing Loan

Borrowing VOs	...	(Nos)	163
Borrowing households	...	(Nos)	9,230
Amount disbursed	...	(Rs)	2,970,400

Training

No. of regular courses	...	...	4
No. of specialists trained	...	...	85*
No. of refresher courses	...	...	3

(* includes 5 participants from Chitral and 4 from Baltistan District)

B. For January to March 1987

Participating VOs	...	(Nos)	8
Volume marketed	...	(Kgs)	16,680**
Livestock marketed	...	(Nos)	231***
Gross sales	...	(Rs)	313,251
Marketing expenses	...	(Rs)	9,768
Farm gate income	...	(Rs)	303,483
Beneficiary households	...	(Nos)	280
Income per VO	...	(Rs)	37,935
Income per household	...	(Rs)	1,084

Marketing Loan

Borrowing VOs	...	(Nos)	12
Borrowing households	...	(Nos)	604
Amount disbursed	...	(Rs)	243,400

Training

No. of regular courses	...	...	0
No. of specialists trained	...	...	0
No. of refresher courses	...	...	1

** - Items marketed comprise of walnut, kernel, potatoes, firewood and butter oil.

*** - Animals marketed includes yaks, cows/oxes and goats/sheeps.

CHAPTER SEVEN

MONITORING, EVALUATION AND RESEARCH (MER)

I. Monitoring and Ongoing Evaluation

MER staff working with other sections have completed the systematic and standardised recording of all AKRSP training courses and its short-term credit programme. PPI records are already in a satisfactory state, and work continues on remaining records. Standardised records are being transferred on to the computer; the eventual goal is to have a computerised central data bank.

No case studies or discussion notes were prepared during the first quarter. However, population statistics for the project area were revised in the light of the latest information, and a note is being prepared on the subject.

II. Planning

Eight Social Organisers from Gilgit District completed case studies of the implementation of the AKRSP package in selected villages. Although the SOs have been diligent in documenting the cooperative management of various resources, we have been unable, so far, to use their case studies to come up with insights for the development of other villages. The appropriate methodology for helping VOs with their planning is yet to be articulated fully by us.

The Programme Economist co-authored a paper "Rapid Rural Appraisal for Sustainable Development: Experiences from the Northern Areas of Pakistan" for a conference on Sustainable Agriculture held in London in April under the sponsorship of the International Institute for Environment and Development. The other authors are the Programme Senior Agriculturalist, Professor Gordon Conway of Imperial College, London, and M. Alim Mian of the Soil Survey of Pakistan.

III. Research

Preliminary analysis of the Pak-81 wheat follow-up conducted in the summer of 1986 shows at least three noteworthy conclusions:

- o as in the 1985 wheat cropcut, there is no difference in grain and straw yields between local and "localised" improved varieties released in the past;
- o Pak-81 yields significantly more grain and straw than local and previously - released dwarf varieties; and,
- o for all farmer production practices, and for some important farmer resources, the baseline data provided by the 1985 survey is strongly confirmed by the 1986 survey.

The report is being finalised.

A preliminary informal survey was undertaken in March 1987 to identify important regional and temporal trends in incomes, education, migration, occupational choice, land development and farm investment. This exercise was undertaken as an early MER response to some of the important recommendations contained in the World Bank's evaluation report.

CHAPTER EIGHT

BUDGET AND ACCOUNTS

I. PPI Commitments and Disbursements

With the carry forward from 1986 of the donors committed funds, AKRSP was in a position to fulfil its commitments in terms of PPIs to 31 additional villages in its programme area during the quarter under review. AKRSP was also able to extend its support to the Village Organisations in other components of the programme during the quarter. The 31 newly initiated PPIs cost Rs. 5.85 million, bringing the total number of PPIs to 452 costing Rs. 70.97 million. The PPI table at end March 1987 stands as under:

(a) January-March 1987

Gilgit	12	Cost	Rs. 2.28 m
Chitral	9		Rs. 1.90 m
Baltistan	10		Rs. 1.67 m
Total:	<u>31</u>		<u>Rs. 5.85 m</u>

(b) Cumulative

Gilgit	273	Cost	Rs. 41.18 m
Chitral	128		Rs. 20.54 m
Baltistan	51		Rs. 9.25 m
Total:	<u>452</u>		<u>Rs. 70.97 m</u>

The total disbursements against the above cumulative commitment was Rs. 55.274 million at end March 1987.

II. AKRSP Donors

The first quarter of 1987 was marked with tremendous achievements on the funding front. AKRSP is pleased to report that our generous donors and partners in development renewed their partnership with us by approving another round of multi-year funding for next three years. The valuable contributions are as under:

<u>Donor</u>	<u>Currency</u>	<u>Pak. Rs.</u>	<u>Status</u>
1. Dutch Govt.	-	100.4 m	Approved
2. ODA	2.5 m GBP	72.7 m	Under Approval by ODA
3. CIDA	4.96 m CAD	59.5 m	Approved
4. CEC	0.360 m ECU	6.3 m	Approved
5. AAID	0.228 m CAD	2.73 m	Approved
6. AKF(C)	0.228 m CAD	2.73 m	Approved
7. AKF(UK)	0.154 m ECU	2.70 m	Approved
8. Women Division Govt. of Pakistan	-	2.40 m	Approved

The above contributions are in addition to the seed money provided by the AKF (Head Office).

Our heartfelt thanks are due to all our donors for the continued support and the demonstration of their unreserved belief in the development philosophy of AKRSP and ability of the rural poor of Gilgit, Baltistan and Chitral, who are the real implementers of rural development and the ultimate beneficiaries of the programme. We are also thankful to Mr. Robert d'Arcy Shaw and AKF Canada, UK, USA and Pakistan for the successful funding campaign.

III. Management of Accounts

AKRSP accounts have now been fully computerised. Current year's accounts are being updated on daily basis providing the required information. Plans are now underway to integrate a receivable package with existing accounts package in order to cater for the fast expanding credit programme. Mr. Jean Pierre Naz's scheduled visit to Gilgit in March in this connection could not materialise due to non-operation of PIA flights and KKH landslides. We are looking forward to his visit in early May. Once the new package is operationalised the life of the credit office will become easier and with many more advantages in recording the huge loan programme of AKRSP.

IV. Audit of AKRSP Accounts

Audit of AKRSP 1986 accounts is scheduled to commence at Gilgit from April 25, 1987. After the audit, the final accounts are expected to be ready for submission to BOD AKRSP by end of May 1987 for approval and adoption. The approved accounts would then form part of AKRSP's Annual Report.

V. Programme Accounts

A summary of sources and applications of funds as of March 31, 1987 is given in Table 8.1.

Table I

SOURCES AND APPLICATION OF FUNDS

PROJECT AREA

(Rs. '000)

A: Sources 34,541.1

Balance brought forward from 1986 24,215.8

Donor Receipts in 1987 10,325.3

- CIDA 3,246.2

- ODA 181.6

- Dutch Government 2,456.3

- USAID 1,421.8

- AKF Network* 3,019.4

B: Applications 11,551.7 11,551.7

- General Administration 1,141.6

- Agriculture Extension 949.2

- Social Organisation 702.4

- Eng. Survey & Research 769.2

- Marketing Research 164.2

- Monitoring, Evaluation & Research 386.1

- Audio-visual Unit 49.9

- Women in Development 504.8

- PPI Grants 2,035.6

- Credit Programme 4,848.7

Carry Forward to next quarter:** 22,989.4

* AKF funds include generous contribution from AKF(Geneva), AKF(Canada), AKF(UK) and AKF(USA).

** This carry forward would be utilised to finance outstanding commitments especially PPI projects, in subsequent quarters of 1987.

PART II

CHITRAL DISTRICT

CONTENTS OF PART II

	Page
Statistical Abstract for Chitral District	54
I. Social Organisation	56
II. Physical Infrastructure and Engineering Services	57
III. Agricultural and Resource Management	58
IV. Savings and Credit	59
V. Commercial and Industrial Development	60
VI. Monitoring, Evaluation and Research	61
 List of Tables	
I.1 Village Organisation, Membership and Bank Deposits	62
I.2 Categorisation of VOs.	62
II.1 Sector Wise/Sub-Division Wise Identification and Distribution of Schemes.	63
II.2 Sector/Sub-Division Wise Cost of Identified Schemes	63
II.3 Commitment/Disbursement and Completed PPI Projects	64
II.4 Sector/Sub-Division Wise Distribution of Schemes and Costs	65
II.5 Land Development Plans	66
III.1 Pesticides Procured by Village Plant Production and Protection Specialists	67
III.2 Vaccines/Medicines Procured by Village Livestock Specialists	68
IV.1 Short-Term Production Loans	69
IV.2 Credit for Fertilizer/Seed/Trees	70
IV.3 Medium-Term Credit Disbursement, Summary	71
V.1 Cooperative Marketing.	72

STATISTICAL ABSTRACT

Chitral District

June 1983 - March 1987

	<u>Cumulative</u>	<u>Quarter's Addition</u>
I. Project Area		
1. Area (sq.km)	14,850	
2. Population (1987 estimates)	253,000	
3. No. of rural households (approx)	32,600	
4. No. of potential Village Organisations (approx)	500	
II. Social Organisation		
1. No. of Village Organisations	187	19
2. Membership (estimated)	11,164	497
3. Bank deposits (million Rs.)	5.52	1.44
4. % of rural households covered by VOs.	38	-
III. Physical Infrastructure & Engineering Services		
1. No. of projects identified	474	17
2. Estimated cost of projects identified (million Rs.)	74.00	4.50
3. No. of projects initiated	128	9
4. No. of beneficiary households	8,704	965
5. Cost of initiated projects (million Rs.)	20.54	1.90
6. Physical progress (%)	73	-
7. No. of projects completed	66	2
IV. Short-term Credit (includes marketing loans which are also reported separately)		
1. Amount disbursed (million Rs.)	4.59	1.15
2.* No. of group loans for VOs.	397	100
3.* No. of beneficiary households	18,885	3,868
4. Amount in default (Rs.)	23,855	-
5. Default as % of amount disbursed (* includes multiple loans to the same VO)	0.60	-
V. Medium-term Credit		
1. Amount disbursed (million Rs.)	0.81	0.23
2. No. of group loans for VOs	10	2
3. No. of beneficiary households	588	145
4. Default as % of amount disbursed	.0	-

VI. Human Resource Development

1. No. of Regular Courses	9	1
- Agriculture	5	0
- Livestock	4	1
- Poultry	0	0
- Marketing	0	0
2. No. of First time Trainees	146	15
- Agriculture	64	0
- Livestock	75	15
- Poultry	0	0
- Marketing	7	0
3. No. of Refresher Course	5	1
- Agriculture	2	0
- Livestock	3	1
- Poultry	0	0
- Marketing	0	0

VII. Commercial & Industrial Development

1. No. of participating VOs	28	-
2. Gross sales (million Rs.)	0.374	0.126
3. Marketing expenses (million Rs.)	0.02	0.005
4. Farmgate Income (million Rs.)	0.35	0.121
5. Beneficiary households	998	180
6. Marketing Loans (million Rs.)	160	-
7. No. of group loans for VOs	17	-
8. No. of beneficiary households for loans	1,006	-

CHITRAL PROGRAMME

I. Social Organisation

The Aga Khan Rural Support Programme began its operation in Chitral in 1983 with the establishment of a Social Organisation Unit. The programme activities in the district were organised in 1986 and a District Programme Office staffed by professional personnel was established in the first quarter of 1986. The AKRSP management phased 1986 as the first year and the programme targets were accordingly defined.

With the beginning of 1987 AKRSP Chitral has entered into its second full year of operations. A comprehensive planning exercise entailing all the areas of interventions that the programme would follow in the next three years has been completed. The programme is placing increasing emphasis on improving the quality of the existing packages, introduction of additional and more refined packages and institutionalisation of input supply, marketing, processing and credit operations, the functions currently being managed by AKRSP.

In line with its objective of promoting the institutional model of collective management of rural resources in Chitral District, the programme held its first cluster conference at Yarkhoon during the first quarter of 1987. The essential purpose of this move is to foster valley based developmental institutions, which over a period of time would be grouped into sub-divisional and district level developmental mechanisms.

These valley-based mechanisms would be essentially responsible for the development and management of the augmented valley resource base.

Initially these institutions would be entrusted with the task of organising the supply of fertiliser, seeds, pesticides, vaccines and medicines. In addition to this, these institutions would also organise collective marketing and processing of the valley's surplus produce. The first potential valley level institution formed in Yarkhoon consists of eight advanced Village Organisations. Office-bearers of the institution consisting of a President, Vice President, Secretary, Joint Secretary, Plant Production and Protection Specialist, Livestock Specialist and a Marketing Specialist have already been elected. Presently this body is working on organising the input supply in the region and is thinking in terms of establishing a collective store in the region. In addition to this the organisation is also engaged in solving the inter Village Organisational disputes.

During the review quarter, focus was also placed on reactivation of the dormant Village Organisations and expansion of the programme in the unserved areas. Remarkable progress in this regard has been made in the Arandu Tehsil, which lies on the south western tip of the Chitral District. Furthermore, the programme was also introduced in the remote and predominantly Sunni Tarich valley. Yet another outstanding feature of the

quarter was the reactivation and organisation of the programme in the Laspur valley, which had remained in-active since the inception of the programme in the district.

By the end of March 1987 a total of 187 Village Organisations comprising 11,164 members and representing 10,936 rural households were functioning in Chitral District. The combined bank deposits of these 187 Village Organisations amounts to Rs. 5.5 million. During the review quarter, the VO savings registered a growth of 24%. The savings and membership figures of the Village Organisations formed in Chitral district have been presented in Table 1.1. Out of the total of 187 Village Organisations formed in the district, 21% have demonstrated the required capacity to develop into advanced developmental institutions which can organise and manage their augmented resource base. 42% have the potential of developing into the advanced category. 26% of the VOs fall into the "C" category, whereas 11% can be classified as inactive. Furthermore, a total of 22 Village Organisations have become completely dormant. This would imply a fall out rate of 10% in Chitral District. The categorisation of Village Organisations has been presented in Table 1.2.

II. Physical Infrastructure and Engineering Services

By the end of March 1987, a total of 474 projects had been identified in Chitral District and the total cost estimated for the implementation of these projects amounts to Rs. 74 million (Table 2.1 and 2.2). Irrigation section accounts for 59% of the total projects identified followed by protective works schemes, link roads, bridges, storage reservoirs and syphon irrigation.

By the end of the review quarter, a total of 128 projects had been initiated in Chitral District at a total cost of Rs. 20.54 million, of which Rs. 15.64 million or about 73 percent has been disbursed to the implementing Village Organisations. Irrigation projects account for 63 percent of the total initiated schemes, followed by protective works schemes (18%) link roads (15%) bridges (2%) hydel power (1%) and storage reservoirs (1%) respectively.

A total of 66 projects have been reported complete and the cumulative physical progress of the PPI programme in the district stands at 73%. Table 2.3.A illustrates commitment, disbursement and the number of completed schemes by type of project and Table 2.3.B by sub-division, while Table 2.4 shows the distribution of these schemes and costs by section and sub-division.

II.1. Land Development Projects

It is estimated that 5,000 hectares of cultivable waste land will be brought under the irrigation range, with the completion of the 80 irrigation channels initiated to date in Chitral District. By the end of March 1987 a total of 15 land development plans entailing a total area of 465 hectares had been prepared (Table 2.5). To date the programme has advanced medium-term land

development loans amounting to Rs. 188,000 to 5 Village Organisations. The total commitment of funds to these VOs amounts to Rs. 751,460.

II.2. Appropriate Technology

The Engineering Section is currently engaged in modifying the low consumption stove introduced in the district according to local needs. A manually operated washing machine has also been introduced in the district. Moreover the section is also in the process of identifying suitable locations for mini-hydel schemes.

III. Agriculture & Resource Management

III.1. Crop Development

In Chitral District, the focus on reduction in losses embodied in the training programme, is being supplemented by varietal testing of different wheat and maize varieties, farmer managed demonstrations of promising varieties, promotion of vegetable and fruit cultivation on a more regularized basis, fruit and forests plantation campaign, fertiliser trials in different agro-climatic zones of the district and promotion of Village Organisations forest-cum-fruit nurseries in different valleys and clusters.

In the year 1986 the programme laid out 20 maize trials in the district. In the current year 32 wheat varietal trials, 8 fertiliser trials, 10 vetch and 3 vegetables nurseries have been laid out. In addition to this, 150 dwarf variety apple plants have been distributed to the Village Organisations and 3,000 apple root stocks have been planted in the AKRSP Garam Chashma nursery for further propagation in the district.

The programme is also engaged in promoting a large scale plantation campaign in the district. In the year 1986 the AKRSP Village Organisations planted a total of 568,886 fruit and forest plants in the district. The plantation campaign continues during the current year.

To-date a total of five regular Plant Production and Protection courses and two refresher courses have been held for the representatives of 64 Chitral based Village Organisation. In addition to this specialists rallies are also organised in the district in order to formulate the agriculture plans for the Rabi and Kharif seasons.

During the quarter under review, pesticides worth Rs. 7,258 were procured by the VO plant production and protection specialists. The expected coverage of this stock is 36 hectares of cropped land, 7,500 kg of seed and 960 trees. This information has been presented in Table 3.1.

III.2. Livestock Development

The focus of the livestock development package being offered to the Village Organisations in the entire district is primarily on disease control, breed improvement, feed improvement and the promotion of poultry development. Emphasis has been placed on the

development of irrigated pastures in the district and on the introduction of new fodder crops like vetch. In addition to this silage preparation is also being promoted in the district.

To-date a total of 4 regular and 3 refresher courses for training livestock specialists have been organised in the district. By the end of March 1987, a total of 75 livestock specialists were operating in the district. The overall performance of these specialists has been extremely good. The livestock section closely monitors the performance of these specialists and for necessary technical guidance crash courses are organised for the benefit of these specialists. In addition to this specialists rallies are also organised in the district.

During the review quarter, the fourth regular livestock specialists training course and the third livestock specialist refresher course were organized in the district. A total 14 livestock specialists received training during the quarter.

During the first quarter of 1987, livestock specialists procured medicines worth Rs. 8,898 to treat 15,162 animals. In addition to this vaccines worth Rs. 1,529 were purchased for vaccinating 4,000 sheep/goat and 43,000 poultry birds (Table 3.2).

During the year 1986 vaccination rounds were completed in 40 Village Organisations and about 21,000 animals were vaccinated. For the current year the section plans to vaccinate 97,050 animals in 75 Village Organisations.

Last year the programme advanced a medium-term loan of Rs. 60,000 to VO Kargin for its sheep breeding project. The Village Organisation established a nucleus herd of 89 sheep and with the birth of 26 lambs, the total number of sheep has now reached 115. The liver fluke disease which was prevalent in the area has now been eliminated through the adoption of proper prevention measures, Dertil "O" Tabs. For breed improvement the programme plans to introduce Rambouillet sheep from Jabba Sheep Farm Hazara.

IV. Savings and Credit

IV.1. Capital Formation

By the end of the first quarter of 1987, the combined deposits of the Village Organisations in Chitral district had increased to Rs. 5.5 million.

The growth of savings over the previous quarter was 24%. During the review quarter the rate of growth in savings was quite substantial. One of the contributing factors was the formation and reactivation of the Village Organisations. At this juncture one is tempted to generalize that the home coming of the seasonal labour during the winter months might also be one of the major contributing factors.

IV.2. Production Loans

During the first quarter of 1987, short-term production loans were given to 100 Village Organisations in Chitral District. These loans amounting to Rs. 1.14 million, benefitted 3,868 rural households in the district. From this amount 99 percent was given for the purchase of fertiliser and 1 percent for seed and plant purchase. During the quarter a total of Rs. 0.4 million was recovered from 940 households of 30 Village Organisations. To-date a total of Rs. 4.59 million has been disbursed to 18,885 rural households of 397 Village Organisations (Tables 4.1 and 4.2).

IV.3. Medium-Term Development Loans

During the review quarter, medium term developmental loans for land development and for the purchase of agricultural machinery amounting to Rs. 225,000 were advanced to 145 households of 2 Village Organisations.

By the end of March 1987, a total of Rs. 815,000 in medium term loans had been advanced to 588 households of 10 Village Organisations (Table 4.3).

IV.4. Loan Equity Ratio

By the end of the first quarter of 1987 the overall loan to equity ratio stood at 0.49. Table 4.4 gives loan/equity ratios by sub-division.

V. Commercial & Industrial Development

During the first quarter of 1987, the results of the collective marketing exercise carried out in 1986 were closely examined.

In order to further refine the model of collective marketing of agricultural produce it was decided to formulate commodity marketing plans for different valleys of the district. A marketing census has already been initiated in the Chitral District, which would essentially lend the base-line information to commodity marketing plans for different areas of the district.

During the review quarter a total of 8 Village Organisations participated in the collective marketing exercise. The gross sales of these Village Organisations amounted to Rs. 126,004 and the marketing expenses incurred by the VOs were Rs. 4,630. A total of 180 households participated in this exercise. VO wise details have been presented in Table 5.1.

It is interesting to note that about 2,665 yards of Patti marketing accounted for 81% of the total gross proceeds. In addition to this 8,420 kgs of agricultural produce was also marketed. In the coming season the programme plans to introduce a refined package of post harvest technology for the Village Organisations. Training in this regard would also be organised for the Village Organisations fruit processing and dehydration

would also be introduced in the coming season. Efforts would continue to enhance the beneficiary base in order to promote the equitable distribution of the fruits of development.

VI. Monitoring Evaluation & Research

During the first quarter of 1987, the strategy paper for the coming three years for the Chitral Programme was finalised. During the quarter a funding proposal was also submitted to the Overseas Development Administration (U.K.).

During the review quarter an analysis on the maize survey carried out in 1986 was also finalised. Plans are under way to carry out comprehensive evaluation studies on irrigation and livestock.

Staffing change has also taken place in the MER Section. Masood-ul-Mulk would be taking over the MER Section in Chitral and Ahsan Tayyab would assume his responsibilities in Gilgit.

Table I.1

**VILLAGE ORGANISATION, MEMBERSHIP AND
BANK DEPOSITS AS ON MARCH 31 1987**

Chitral District

Sub-Division	No. of VOs	Member ship	Deposits Rs. 000	Average Rs.	
				Per VO	Per Member
Chitral	97	4,945	2,449	25,250	495
Mastuj	90	6,219	3,068	34,086	493
Total	187	11,164	5,517	29,503	494

Table I.2

CATEGORISATION OF VOs

Sub-Division	Advanced	Potential Advanced	Average	Inactive	Total
	A	B	C	D	
Chitral	13	37	34	13	97
Mastuj	27	41	15	7	90
Total	40	78	49	20	187
Distribution	21%	42%	26%	11%	100%

Table II.1

**SECTOR WISE/SUB-DIVISION WISE INDENTIFICATION
AND DISTRIBUTION OF SCHEMES ENDING MARCH 1987**

Chitral District

S. No.	Sector	Sub-Division Chitral No. of Sch.	Sub-Division Mastuj No. of Sch.	Total
1.	Irrigation channel	161	118	279
2.	Protective Bunds	59	38	97
3.	Storage Reservoirs	3	11	14
4.	Sedimentation Tanks	-	-	-
5.	Link Roads	29	21	50
6.	Bridges	22	9	31
7.	Syphon Irrigation	-	3	3
Total		274	200	474

Table II.2

**SECTOR/SUB-DIVISION WISE COST OF
IDENTIFIED SCHEMES ENDING MARCH 1987
(Rs. '000)**

S. No.	Sector	Sub-Division Chitral	Sub-Division Mastuj	Total	% of Total
1.	Irrigation Channels	24,401	19,417	43,818	59
2.	Protective Works	8,425	5,675	14,100	19
3.	Storage Reservoirs	606	2,222	2,828	4
4.	Sedimentation Tanks	-	-	-	-
5.	Link Roads	5,087	3,188	8,275	11
6.	Bridges	1,365	558	1,923	3
7.	Syphon Irrigation	-	3,072	3,072	4
Total:		39,848	34,132	74,016	100%
% of Total		54	46	100	

Table II.3

**COMMITMENT/DISBURSEMENT AND COMPLETED
PPI PROJECTS ENDING MARCH 1987**

Chitral District

A: BY TYPE OF PROJECT

Sector	No. of Projects	Cost Rs.'000	Disbursement		Completed PPIs
			Rs.'000	As % of Cost	
Irrigation channels	80	12,673	8,653	68	29
Protective Works	23	3,354	3,182	95	18
Link Roads	19	3,008	2,315	77	14
Bridges	3	187	187	100	3
Hydel Power	1	89	89	100	1
Syphon Irrigation	1	1,024	975	95	1
Storage Reservoirs	1	202	63	31	-
Total:	128	20,537	15,464	75	66

B: BY SUB-DIVISION

Sub-division	No. of Projects	Cost Rs.'000	Disbursement		Completed PPIs
			Rs.'000	As % of Cost	
Mastuj	51	9,251	7,355	80	26
Chitral	77	11,286	8,109	72	40
Total:	128	20,537	15,464	75	66

Table II.4

**SECTOR/SUB-DIVISION WISE DISTRIBUTION OF
SCHEMES AND COST ENDING MARCH 1987**

Chitral District

SECTOR	SUB-DIVISION MASTUJ	SUB-DIVISION CHITRAL	TOTAL	NO. OF PPIs COMPELTED
IRR. CHNL	5,718 (33)	6,955 (47)	12,673 (80)	29
P.WORKS	1,849 (12)	1,505 (11)	3,354 (23)	18
LINK ROADS	660 (5)	2,348 (14)	3,008 (19)	14
BRIDGES	-	187 (3)	187 (3)	3
SYPHON IRR.	1,024 (1)	-	1,024 (1)	1
HY. POWER	-	89 (1)	89 (1)	1
S.AGE RESVOIR	-	202 (1)	202 (1)	-
TOTAL	9,251 (51)	11,286 (77)	20,537 (128)	66

Note: The upper figure is cost in Rs. '000.
The lower figure in parenthesis denotes the
number of schemes.

Table II.5

LAND DEVELOPMENT PLANS ENDING MAR'87Chitral District

SR NO	CODE NO	NAME OF VO	CROP LAND ha	FOR- EST ha	PAST- URE ha	ORCH- ARD ha	TOTAL LAND ha	LABOUR+MAT COST (Rs.)
1.	13-34	DARMAIR	-	6.9	23.2	-	30.2	236,239
2.	13-12	GISTINI	-	2.9	7.4	-	10.3	50,229
3.	13-63	PURPONI AFZALABAD	-	20.9	30.2	-	51.1	194,553
4.	13-29	ORGHOUCH	-	-	6.4	-	6.4	150,292
5.	13-25	KEYAR	26.7	13.9	10.5	-	51.1	348,473
6.	13-58	SAFEED ARKARI	13.9	25.5	20.9	-	60.3	326,744
7.	13-13	SHERSHAL	7.8	40.6	2.3	1.2	51.9	127,024
8.	12-05	SANDRAGH	2.3	15.6	3.1	-	21.0	150,292
9.	10-21	PHASHK	6.0	11.2	-	-	17.2	150,292
10.	13-30	SHANDON	-	2.3	4.6	-	6.9	65,642
11.	10-26	DEWSE*	-	-	-	-	29.3	150,292
12.	12-01	BOMBAGH	25.7	17.7	10.1	7.6	61.1	200,000
13.	13-64	MMI I	1.2	24.4	6.9	-	32.5	7,500
14.	16-06	CHARGULLE	1.3	0.5	1.6	0.6	4.0	89,415
15.	16-05	LACHIGRAM	24.0	-	5.0	2.8	31.8	162,070
TOTAL			108.9	182.3	132.2	12.2	465.1	2,519,057

* Break-downs of land-development plan are not available.

Table III.1

**PESTICIDES PROCURED BY
VILLAGE PLANT PRODUCTION AND PROTECTION SPECIALISTS
During First Quarter 1987**

Chitral District

SR NO	PESTICIDES	QUANTITY	AMOUNT (Rs)	EXPECTED COVERAGE		
				Ha.	SEED KG	NO.OF TREES
1.	Gusathion	9 lit	1,521	3.6	-	-
2.	Folidol	12 lit	1,656	4.9	-	-
3.	BHC	9 kg	162	3.6	-	-
4.	Gistaxin	960 Tab	576	-	-	960
5.	Dieldrin	2 lit	240	0.8	-	-
6.	Intracol	4 kg	348	1.6	-	-
7.	Vitavax	15 kg	2,040	-	7,500	-
8.	Deptrix	3 kg	510	1.2	-	-
9.	Daisiston	4.5 kg	126	0.4	-	-
10.	Nogas	5 lit	68	0.4	-	-
11.	Recomen	5 kg	11	20.0	-	-
Total			7,258	36.5	7,500	960

Table III.2

VACCINES/MEDICINES PROCURED BY VILLAGE LIVESTOCK SPECIALISTS
During The First Quarter of 1987

Chitral District

SR NO	MEDICINE	QUANTITY	AMOUNT (Rs.)	EXPECTED COVERAGE (ANIMALS)
1.	OXYTETRACYCLINE	98X50=4,900ML	1,666	753 ANIMALS
2.	COMBIOTIC	45X2.50=112.5GM	450	59 ANIMALS
3.	DETRIL "O"	1,700 TAB.	1,275	1,700 SHEEP/GOATS
4.	DETRIL "B"	1,700 TAB.	2,805	1,700 CATTLE
5.	NAGUVON	15 KG	2,550	10,000 ANIMALS
6.	MAG.SULFA	19 KG	152	950 ANIMALS
<u>VACCINES</u>				
1.	ETV	40X300=1,200ML	1,400	4,000 SHEEP/GOATS
2.	NDV	43 VIALS(100 DOZ)	129	43,000 POULTRY

Table IV.1

SHORT TERM PRODUCTION LOANS

A: CUMMULATIVE AS ON 31ST MAR'87Chitral District

	NO.OF VOs	BORROWING H.HOLD	AMOUNT DISBUR. (Rs.)	AVERAGE LOAN(Rs.)	
				PER VO	PER H.HOLD
FERTILIZER	368	17,439	4,388,464	11,925	252
MARKETING	17	1,006	159,956	9,409	159
SEED	10	418	38,295	3,829	92
TREES PLANT	02	22	2,685	1,342	122
<u>TOTAL</u>	<u>397</u>	<u>18,885</u>	<u>4,589,400</u>	<u>11,560</u>	<u>243</u>

B: ADDITION DURING JANUARY - MARCH QUARTER

FERTILIZER	96	3,783	1,139,554	11,870	301
SEED	02	63	4,765	2,382	76
TREES PLANT	02	22	2,685	1,343	122
<u>TOTAL</u>	<u>100</u>	<u>3,868</u>	<u>1,147,004</u>	<u>11,470</u>	<u>297</u>

Table IV.2

CREDIT FOR FERTILIZER/SEED/TREESChitral DistrictFERTILIZER CREDITA: CUMMULATIVE AS ON 31ST MARCH 1987

SUB-DIVISION	NO.OF LOAN ISSUED	NO.OF LOANEE MEMBERS	AMOUNT ADVAN- CED(Rs.)	AMOUNT RECO- VERED (Rs.)	AMOUNT OVERDUE (THREE MONTHS GRACE PERIOD) (Rs.)	DEFAULT (NOT-REPAID WITHIN 12 MONTHS) (Rs.)
CHITRAL	200	7,852	1,606,900	1,059,412		23,855
MASTUJ	168	9,587	2,781,564	1,388,464		
TOTAL	368	17,439	4,388,464	2,447,876		23,855

B: ADDITION DURING JANUARY - MARCH QUARTER

CHITRAL	41	1,219	282,056	86,524		
MASTUJ	55	2,564	857,498	380,282		
TOTAL	96	3,783	1,139,554	466,806		

C: SEED CREDIT

CHITRAL	-	-	-			
MASTUJ	2	63	4,765			

D: TREES PLANT

CHITRAL	2	22	2,685			
MASTUJ	-	-	-			

Table IV.3

MEDIUM-TERM CREDIT DISBURSEMENT, SUMMARY

Chitral District

	NO.OF VOs	BORROWING H.HOLD	AMOUNT DISBUR. (ks.)	AVERAGE LOAN (Rs.)	
				PER VO	PER H.HOLD
LAND DEVELOPMENT	5	279	234,000	46,800	839
NURSERY	1	100	46,000	46,000	460
SHEEP BREEDING	1	45	60,000	60,000	1,333
AGR.MACHINERY	3	164	475,000	158,333	2,896
TOTAL	10	588	815,000	81,500	1,386

B: ADDITION DURING JANUARY - MARCH QUARTER

LAND DEVELOPMENT	1	93	50,000	50,000	538
AGR.MACHINERY	1	52	175,000	175,000	3,365
TOTAL	2	145	225,000	112,500	1,552

Table IV.4

LOAN-TO-DEPOSIT RATIOS
AS ON MARCH 31 1987

	TOTAL LOANS OUTSTANDING			Deposits	Loan Deposit Ratios
	Short Term	Medium Term	Total		
CHITRAL	741	240	981	2,449	0.40
MASTUJ	1,168	575	1,743	3,068	0.56
TOTAL	1,909	815	2,724	5,517	0.49

Table V.1

COOPERATIVE MARKETINGChitral District

VO	Produce	Quantity	Gross Sales(Rs.)	Marketg.(Rs.)	
				Expenses	H.Hold
DRONIL	POTATOES	1,200 kgs	3,600	500)	15
	PATTI	150 yds	5,700	-)	
DARMAIR	PULSES	20 kgs	100	10)	12
	PATTI	80 yds	2,480	480)	
SHANOON	PATTI	200 yds	7,600	100)	25
	POTATOES	800 kgs	2,400	450)	
HINJEEL	POTATOES	1,600 kgs	3,200	250)	20
	PULSES	800 kgs	6,000	500)	
	FIREWOOD	1,600 kgs	1,200	600)	
ORGOUCH	PATTI	1,150 yds	44,000	810)	51
	POTATOES	400 kgs	1,200	250)	
SHOOT-II	PATTI	600 yds	22,600	480)	35
	POTATOES	320 kgs	960	200)	
GISTINI	PATTI	70 yds	2,800	-)	10
	POTATOES	1,680 kgs	5,600	-)	
THONIK	PATTI	415 yds	16,564	-)	12
Agricultural Produce		8,420 kgs	24,260	4,630	180
Patti		2,665 yds	101,744		
Grand Total			126,004		

Farmgate income. Rs. 121,374

PART III

BALTISTAN DISTRICT

CONTENTS OF PART III

	Page
Statistical Abstract for Baltistan District	75
I. Overview	77
II. Social Organisation	77
III. Women in Development	78
IV. Physical Infrastructure and Engineering Services	79
V. Agricultural and Resources Management	79
VI. Savings and Credit	81
VII. Commercial and Industrial Development	81
List of Tables	
II.1 Membership and Deposits of Village Organisations	83
IV.1 PPI Commitment and Completed Projects	84
VI.1 Fertilizer and Marketing Credit Performance	85

STATISTICAL ABSTRACT

Baltistan District

January 1986 - March 1987

	<u>Cumulative</u>	<u>Quarter's Addition</u>
I. Project Area		
1. Area (sq.km)	25,850	
2. Population	272,000	
3. No. of households (approx)	36,200	
4. No. of potential Village Organisations (approx)	370	
II. Social Organisation		
1. No. of Village Organisations	83	29
2. Membership (estimated)	3,928	1,013
3. Bank deposits (million Rs.)	1.26	0.46
4. % of rural households covered by VOs.	11	3
III. Physical Infrastructure & Engineering Services		
1. No. of projects identified	163	7
2. Estimated cost of projects identified (million Rs.)	25.47	0.99
3. No. of projects initiated	51	10
4. No. of beneficiary households	3,123	525
5. Cost of initiated projects (million Rs.)	9.25	1.67
6. Physical progress (%)	43	-
7. No. of projects completed	10	2
IV. Short-term Credit		
1. Amount disbursed (million Rs.)	1.51	0.81
2.* No. of group loans for VOs.	72	39
3.* No. of beneficiary households	3,490	3,027
4. Amount in default (Rs.)	14,684	-
5. Default as % of amount disbursed	0.97	-
(* includes multiple loans to the same VO)		

V. Medium-term Credit

1. Amount disbursed (Rs.)	12,000	12,000
2. No. of group loans for VOs	1	1
3. No. of beneficiary households	NA	NA

VI. Human Resource Development

1. No. of Regular Courses	3	1
- Agriculture	1	-
- Livestock	2	1
- Marketing	0	0
2. No. of First time Trainees	70	26
- Agriculture	15	0
- Livestock	51	26
- Marketing	4	0
3. No. of Refresher Course	2	1
- Agriculture	1	1
- Livestock	1	0
- Marketing	0	0

BALTISTAN PROGRAMME

I. Overview

During the first quarter of the year, the Royal Netherlands Government and the Government of Pakistan agreed to provide additional funding for AKRSP's programme in the district of Baltistan and for AKRSP's Women's Programme. The agreement covers the period from July 1987 till June 1990, and will be part of the Dutch bilateral assistance to Pakistan. The funding will cover capital, overhead and programme expenses, as well as a revolving fund for credit purposes. The funding proposal is based on the five year "Programme Implementation Plan" prepared for the district.

A number of staff positions advertised earlier were filled during the quarter. Two Project Agriculturists, a Training Officer, a Social Organiser, a Marketing Research Officer and two female Field Coordinators (for the WID Section) have been appointed. The District Programme Veterinarian is expected to join in early April. Three new Social Organisers hired for Gilgit District have been sent to the Baltistan Programme, for their initial training. A micro-computer and other office equipment are being ordered for the district programme.

In Baltistan District, the programme is continuing to work in close collaboration with the elected leaders and local officials. Recently, the Principal of the district college and the Director of Radio Pakistan Skardu presided over functions hosted by the district office. Some of the local councils, in which the programme has expanded, have made financial contributions to the programme. The Municipal Committee Skardu is sharing the costs of the windmill experiment being conducted.

II. Social Organisation

By the end of March 1986, 83 VOs had been formed, comprising 3,928 members, with total VO bank deposits of Rs. 1,256,000. Table 2.1 illustrates VO membership and bank deposits by sub-division.

A third Social Organisation Unit began operating in February, based in Shigar Town. An experienced Social Organiser from Gilgit District has been seconded to Baltistan, while the newly hired Intern Social Organisers receive training. At present, Social Organisation Units are stationed at Kharmang, Shigar and Skardu sub-divisions.

The District Programme Officer and the Social Organisation Units have also extended the programme to Khaplu sub-division, where a number of VOs have been formed. The Khaplu sub-division is the largest one in the district and comprises two valleys. It is expected that most of the programme packages will be introduced in the sub-division by the end of this year.

The following VOs are now considered as "Advanced VOs":

SUB-DIVISION		
SKARDU	KHARMANG	SHIGAR
1. Thorgo Bala	1. Ali Abad Pari	1. Sildhi
2. Mendi	2. Biadong Mehdi- Abad	2. Kashmal
3. Biansa		3. Kharmangpa Dass

AKRSP's nucleus/cluster, approach of programme dissemination has been validated once again in the Shigari Bala area. Due to the exceptional performance of VO Biansa, the neighbouring villages have been inspired and have decided to form VOs and introduce the offered packages in their organisations. For instance, Shigari Kalan itself arranged a plantation day, when reportedly some 5,000 trees were planted; they intend to continue the campaign. A number of the VOs in the area have also taken steps to restrict the harmful free-grazing of animals.

The VO Harikun (Khaplu) members decided in their meetings to improve their cropping pattern. Instead of growing buckwheat as a second crop they have decided to plant vegetables, both for their own consumption and to market. As their dietary habits have changed, buckwheat is no longer part of their staple diet.

The members of VO Mendi (Rhundu) possess cultivable land up in their nullah "brockh". In olden times they had enough manure to be able to utilise that area, but more recently have been unable to do so due to lack of natural manure. They have taken out a short-term loan from AKRSP to buy fertilizer for that land and intend to cultivate it after an interval of decades.

The Social Organisers are evaluating the performance of the VO managers. The best of the VO managers will be appointed as VO Supervisors for 5-10 closeby VOs.

III. Women in Development

As a result of the promotional efforts and motivation from the field staff, many VOs have expressed willingness to involve women in the development process. The following VOs have sent their resolutions to the effect: VOs Tolti, Bagicha, Kharmangpa dass, Kashmal, Sildhi, Kharmang Shagarun, Biansa, Hoto, Keris and Biadong.

With the induction of two new (female) Field Coordinators, the WID Section is now composed of three staff members. It is expected that another Field Coordinator and a District Coordinator will join the ranks in the coming months.

One of the Field Coordinators has already undergone an eight-week intensive course in poultry disease control, management, feed, breeding and marketing. The other Field Coordinators will also specialise in selected fields, they will then relay the skills to the VO women members. VOs Hoto and Biadong have been selected for setting up home-based poultry units. The VO women's nominees will be given the required training during the second quarter.

The WID Section has planted vegetable demonstration plots in VOs Hoto, Biadong and Biansa. Each of these VOs have nominated five women to oversee the demonstration plots and they have been given the necessary guidance.

In collaboration with the engineering section, prototypes of the nut-cracking machine introduced in Gilgit District are being constructed in Skardu, to be used for demonstrations in the district. This simple machine is expected to help in reducing the workload of village women.

Two apricot dehydration plants are being constructed in VOs Biansa and Hurchus. The VOs have nominated five women each to run the plant. The plant comprises drying/suphuring chambers and a micro hydro-electricity generator to provide power for the plant as well as electric lighting for the nearby houses.

IV. Physical Infrastructure and Engineering Services

A portfolio of 163 PPI projects has so far been identified in Baltistan district, projected to cost somewhere around Rs. 25 million. By the end of the review quarter, 51 projects had been initiated, costing some Rs. 9 million. The projects initiated are expected to benefit approximately 3,100 households. While 10 projects have been completed the cumulative physical progress of the 51 projects initiated is 43%. Table 4.1 illustrates the PPI package in terms of commitments and completed schemes, both by type and sub-division.

The district office engineering staff has been enhanced by the transfer of three engineers of the Gilgit office to Baltistan. The District Programme Engineer has been sent for a six week course to Manila, Philippines.

V. Agriculture and Resource Management

V.1. Crop Development

To establish seed farmers and seed VOs, seeds of potatoes, other vegetables and wheat were issued to selected VOs. The "Desiree" potato seeds were given to six VOs, to be grown on 23 kanals of land. Nine other varieties of vegetable seeds were given to five VOs. Six VOs have agreed to plant Pak-81 variety of wheat, for multiplication purposes. Three VOs have agreed to become alfalfa and vetch fodder "seed VOs". During the quarter, some 10 VOs were supplied pesticides and fungicides. Most of the VOs required fungicides for seed treatment.

A five day refresher course was held for agricultural para-professionals of twelve VOs. For the first time, a conference of the VO agricultural para-professionals was called, at the Skardu office. The main purpose of the conference was to enable the participants to share their experiences, suggest ways to solve common problems and to talk about innovations.

With the assistance of the Audio-visual Section, training films are being produced for VO para-professionals. The Agriculture Section has also prepared and distributed information leaflets to the VOs.

Winter trials of wheat were conducted to compare with the trials held in spring, in VOs Biansa and Biadong. At the same time, trials were also conducted for cereals, legumes, tubers and vegetables, to assess their yield in the topographic and edaphic conditions of Baltistan. The trials were held in VOs Hoto, Thorgo Bala and Biadong. At the Training Centre, trials were conducted of wheat, legumes, vegetables and also of tube and raised bed seeding of forest tree seeds. A ploythene green house has been built to protect selected vegetables against frost during the winter and to grow vegetables out of season. A small solar drier is under construction at the Training Centre for fruit dehydration. To complement it, a sulphurisation tent has also been designed.

Land development plans have been prepared for VOs Sildhi and Kashmal. VO Sildhi is planting 8,000 fruit and forest trees over an area of 50 kanals. A fruit nursery is being planted on a one kanal plot out of 4 kanals reserved for nursery. VO Kashmal is planting over 4,000 forest and fruit trees over an area of 35 kanals.

A small fruit nursery is also being planted by VO Biansa, for almond and apricot seedlings, and apple suckers. Tree plantation targets have been set by 14 VOs so far, totalling some 50,000 plants.

V.2. Livestock Development

During the review quarter, the campaign to reduce losses made considerable headway. Some 1,800 cattle, 10,000 sheep and goats, and 700 poultry were vaccinated by the VO para-professionals, who received approximately Rs. 1,800 as cost of medicines and Rs. 5,600 as their fee. Nearly 1,400 sheep and goats, 270 cattle and 180 poultry were given treatment by them. Some 240 inferior animals were castrated.

During the quarter under review much emphasis has been laid on follow-up programme and visits of VOs in order to check the vaccination and disease control campaigns in addition to motivating the VOs for discouragement of free grazing and encouraging the management of livestock on scientific lines. As a result certain VOs have decided to stop free grazing and imposed fines etc. on the villagers who disobey these instructions.

During this period there was a general complaint from the livestock village specialists about realisation of remunerations. During follow-up visits VOs were motivated and the situation has now improved.

Emphasis has also been laid to prepare the VOs for taking corn silage and urea straw treatment demonstrations on completion of the harvesting season. During the third quarter, feed improvement

demonstrations will be held in 10 VOs. The selected VOs will be informed beforehand to grow the required amount of maize for the demonstration, and to complete their animal vaccinations.

During the period the 2nd regular livestock training course was held beginning from February 8th to 28th. Twenty six nominees from the VOs participated in the training. Upon successful completion of the training, veterinary kits and certificates were awarded to the trainees. Each kit consisted of common use veterinary instruments and equipment valued at Rs. 1,821.

The livestock section has been arranging the procurement and supply of vaccine and medicines; consisting of anthrax, black quarter, pleuropneumonia and goat pox vaccine. Medicines and vaccines worth Rs. 5,043 have been issued to various VOs and Rs. 2,118 have been realised from VOs as cost of vaccines/medicines.

VI. Saving and Credit

Bank Deposits

By the end of March 1987, the combined deposits of all the 83 VOs amounted to Rs. 1,255,000. The average savings deposits of VOs is Rs. 15,143. Keeping in view the fact that 29 new VOs were formed during the quarter, which have just begun to make savings deposits, the average VO deposit is very satisfying. While Khaplu sub-division has the highest savings per VO, Kharmang sub-division has the highest savings per VO member. The VO memberships and deposits are illustrated sub-division wise in Table 2.1.

Credit

During the quarter under review, 37 VOs availed of the fertiliser credit facility worth Rs. 782,321 total. That raises the total number of fertiliser loans issued to 63 VOs, amounting to Rs. 1,240,873 and directly benefitting 2,964 VO members. Marketing loans worth Rs. 28,400 were issued to two VOs raising the total figure to Rs. 265,400 benefitting 9 VOs with 526 VO members. Land Development loans have been approved for 2 VOs. The first instalments of these medium-term loans amount to Rs. 24,500. Table 6.1 illustrates the cumulative position of the fertiliser and marketing credit programme.

VII. Commercial and Industrial Development

By the end of March, 9 VOs had taken out marketing loans worth Rs. 265,400. Since this was the first time that the Baltistan District VOs participated in the marketing programme none of the VOs ventured to market fresh fruit. The main item marketed was firewood - by VOs Mendi, Strangdongmo Biansa and the three Bagicha VOs. VOs Markunja, Chasing, Baghicha Khas, Biansa and Sildhi marketed dried apricots or giri (kernels). VO Mendi also marketed livestock, animal hides and even ornaments made from silver.

Most of the VOs invested small amounts in this experimental marketing and made nominal profit. It is expected that these trials will encourage them to undertake more aggressive marketing in the coming season. During the last quarter, the marketing programme had been somewhat hindered due to staff shortage. New staff is being hired.

Summary and Conclusions

The results of the marketing trials conducted during the last quarter of 1964 are summarized in Table 1. The results show that the VOs who participated in the trials made a nominal profit. It is expected that these trials will encourage them to undertake more aggressive marketing in the coming season. During the last quarter, the marketing programme had been somewhat hindered due to staff shortage. New staff is being hired.

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References and Acknowledgements

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Table II.1

MEMBERSHIP AND DEPOSITS OF VILLAGE ORGANISATIONS
AS OF MARCH 1987

Baltistan District

Sub-Division	No. of VOs	Membership	Deposits (Rs. '000)	Average (Rs.)	
				Per VO	Per Member
Skardu	36	1,804	558	15,513	309
Kharmang	24	1,060	365	15,233	344
Shigar	20	841	285	14,260	339
Khaplu	3	223	47	15,878	213
Total	83	3,928	1,255	15,143	319

Table IV.1

PPI COMMITMENT, COMPLETED PROJECTS
AS OF 31 MARCH 1987

Baltistan District

Type of Project	(Rs. '000)				total	Completed
	Skardu	Khaplu	Shigar	Kharmang		
Irrigation Channel	1,410 (7)	216 (1)	541 (4)	2,012 (8)	4,179 (20)	2
Pipeline	313 (1)	-	244 (1)	127 (1)	684 (3)	-
Protective Bund	363 (2)	-	862 (5)	666 (3)	1,891 (10)	3
Link Road	490 (4)	-	199 (2)	454 (3)	1,143 (9)	1
Pony Track	506 (4)	-	-	-	506 (4)	2
Storage Reservoir	599 (4)	-	-	-	599 (4)	2
Foot Bridge	-	254 (1)	-	-	254 (1)	-
Total	3,681 (22)	470 (2)	1,846 (12)	3,259 (15)	9,256 (51)	10

- Note: 1. The upper figure denotes the cost in Rs. '000.
2. The lower figure in parenthesis denotes the number of scheme:

Table 6.1

SHORT-TERM CREDIT SUMMARY
Cumulative as of March 1987

Baltistan District

No. of Loans issued.	No. of loanee members	Amount advanced	Amount overdue	Default (not repaid within 12 months).	
		(Rs.)	(Rs.)	(Rs.)	(Rs.)
<u>Fertiliser</u>	63	2,964	1,240,873	-	14,684
<u>Marketing</u>	9	526	265,400	-	-
Total, todate:	72	3,490	1,506,273		14,684

APPENDIX

Gilgit, Chitral and Baltistan-based friends

FRIENDS OF AKRSP

1. Northern Areas-based Friends

The Management of AKRSP takes this opportunity to reiterate its most sincere thanks and appreciation to its Gilgit-based friends of their continued support and cooperation to this programme. We are particularly indebted to:

Mr. Abdul Qayyum Khan
Administrator, Northern Areas,
and
Major General Humayun Khan Bangash,
Forces Commander of Northern Areas,
for their patronage and encouragement.

We are also grateful to:

Mr. Samiul Haq Khilji
Deputy Commissioner, Gilgit

Wazir Muhammad Ali
Deputy Inspector General Police,
Northern Areas

Mr. Mohammad Alam
Conservator of Forests,
Northern Areas, Gilgit

Raja Bahadur Ali Khan
Director Khunjerab National Park/Conservator of
Forests Gilgit and Baltistan

Raja Ali Ahmed Jan
Assistant Inspector General Police,
Northern Areas

Mr. Latif Hassan
Member, Northern Areas Council

Mir Ghazanfar Ali Khan
Member, Northern Areas Council

Pir Karam Ali Shah
Member, Northern Areas Council

Mr. Mirbaz Khan
Chairman, District Council, Gilgit

Mian Nazir Ahmad
Airport Manager
Civil Aviation Authority
Gilgit

Khawaja M. Anis
Station Manager, PIA, Gilgit

Mr. Mohammad Akram
Station Director
Radio Pakistan, Gilgit

Mr. Ghulam Qadir
Editor, Radio Pakistan, Gilgit

2. Chitral-based Friends

Mr. Latif Khan
Commissioner, Malakand Division

Mr. Sharif Ahmad
Deputy Commissioner,
Chitral District

Shahzada Mohiuddin
Member National Assembly

Mr. Afzal Ali
Director, AKRSP Board of Directors

Lt. Col. Murad Khan Nayyer
Commandant, Chitral Scouts

Mr. Sikandar Yar Khan
Superintendent of Police
Chitral

Major Kiyani
Wing Commander,
Chitral Scouts

Mr. Saifullah Khan
Executive Engineer,
C&W Department

Mr. Abdul Khanan
Executive Engineer,
Irrigation Department,

Mr. Penin Shah,
Extra Assistant Director,
Agriculture Department,
Chitral

Mr. Mohammadullah Khan,
Assistant director,
Animal Husbandry Department,
Chitral

Mr. Mustafa Kamal
Deputy Superintendent of Police
Chitral

3.

Baltistan-based Friends

Mr. Ghazi Johar,
Deputy Commissioner, Baltistan

Mr. Sajjad Ali,
Superintendent Police,
Baltistan

Mr. Mohsin Raza,
Assistant Commissioner, Skardu

Haji Fida Mohammad Nashad,
Chairman, District Council, Baltistan

Haji Mohammad Hussain,
Northern Areas Councillor, Shigar

Agha Mohammad Ali Shah,
Northern Areas Councillor, Kharmang

Aga Ahmed Ali Shah,
Northern Areas Councillor, Skardu

Mr. Mohammad Jaffar,
Northern Areas Councillor, Khaplu

Mr. Amanullah Khan
Assistant Director,
Agriculture Department, Skardu

Dr. Ehsan Ali,
Assistant Director,
Animal Husbandry, Skardu

Mr. Mohammad Afzal,
Divisional Forest Officer, Skardu

Mr. Daud Khan,
Assistant Commissioner, Shigar

Mr. Sami Quraishi,
Station Director, PBC, Skardu

Annexure - II

THE AGA KHAN RURAL SUPPORT PROGRAMME

EIGHTEENTH PROGRESS REPORT
April 1987 - June 1987

AKRSP
Babar Road, P.O. Box 506
Gilgit, Northern Areas, Pakistan
Phones: 2480, 2779, 3958
Cable: Agafound, Gilgit

TABLE OF CONTENTS

	Page
Preface	iii
Summary	iv
Statistical Abstract for the Project Area	viii
Part I: Gilgit District	1
Part II: Chitral District	54
Part III: Baltistan District	71
Appendix: Visitors to AKRSP and Project Area based friends	87

PREFACE

For the second phase of AKRSP activities and beyond, we have put together and refined a conceptual framework which is now being offered to the VOs by way of dialogues.

After a 'confidence-building' first phase, the time seems most appropriate to confront the Village Organisations with the main task of territorial development. This, in our view, is the only viable way for achieving sustainable development in the region. The concept of territorial development is based on a realistic understanding that there is a limit to expanding individual holdings. At most, the land available to an average farmer could be doubled in the next few years or the number of his animals could be increased, say from 10 to 15. But, the growing population and rising costs of living are enough to more than off-set such marginal increases in the real income. The only other alternative, therefore, is to focus on the greatest of all local resources namely, the effective ownership and control of vast territories surrounding each cluster of villages for collective development and exploitation. In specific terms, by extending fuller control and ownership over the adjacent territories, village communities will be the sole owners of thousands of acres of pasture lands, sizeable tracts of forests and large herds of animals. The service and processing industries emerging from this indigenous production base will contribute further to the growth of local economy.

There are two important aspects to this conceptual model. First, technological and second, institutional. The technological innovation involves a transition from labour-intensive, crop oriented land-based patterns to extensive agricultural development based on scientific techniques for optimal use of the entire territory available to a village, including its forests, pastures, watersheds, glaciers etc. The institutional innovation, parallel to the technological intervention, calls for a transition from subsistence production on each farm to specialisation of work within a village, labour-sharing and the exploitation of economies of scale in managing a large farm rather than a family farm.

The above message has been taken initially to a few advanced villages in Gilgit District and their response has been highly encouraging. The decision of 6 VOs in Chalt-Chaprote (reported in the last quarter) to extend their collective control over their common forest is precisely the way we want other VOs to follow. We will share further developments with our readers in this area.

Shoaib Sultan Khan
General Manager

SUMMARY

GILGIT DISTRICT PROGRAMME

I. Social Organisation

By the end of second quarter 1987, the number of village Organisations had increased to 355 with the splitting up of larger VOs into more manageable and cohesive units. However, the total membership has remained constant at 26,400. In their efforts to rise above the level of subsistence, the VOs in Gilgit District have been developing new institutional ways to adapt, profitable and more efficient techniques of farming, including the use of improved agricultural inputs and non-conventional patterns of land and labour use. Through the VO forum, villagers have been making successful attempts to bring old customs in conformity with changing requirements of the new times. These attempts, together with new institutional arrangements for credit, capital formation, land development, specialised services and cooperative marketing are contributing towards greater specialisation and commercialisation in the project area in an equitable and democratic manner.

II. Women In Development (WID)

During the review quarter, several productive packages introduced during the last quarter met with different phases of completion. In collaboration with PIES, three micro hydel units were installed, upgraded nut-cracking machines distributed, new technologies such as butter churners and oil expellers crafted and given out to the women at cost. Working with ARM experts, WID Section has completed the planting of vegetable demonstration plots for the season and a training related to improved vegetable cultivation was organised for village women. The mixed farming package introduced in one village as an experiment has produced good results after completion and the sales from the poultry unit commenced. The credit programme has been extended to cover the manufacture of technologies related to women's traditional tasks.

III. Productive Infrastructure & Engineering Services (PIES)

In Gilgit District, the emphasis has now progressively shifted from grant-assisted PPI projects to land development loan schemes, self-financed PPIs and the bio-chemical and electro-mechanical experiments and inputs.

With the addition of 7 more projects during the second quarter, the number of PPI schemes initiated in Gilgit District reached 280, at a total estimated cost of Rs. 42.30 million. Thus far, Rs. 37.41 have been disbursed to the implementing VOs. The number of completed projects has risen to 200, while the cumulative physical progress on the PPI programme was 76% in the district. Many technological innovations introduced are now being locally manufactured. Special emphasis continues to be given to the alleviation of heavy workload on women.

IV. Agriculture and Resource Management (ARM)

Important headways have been made in removing technical constraints in the way of increased agricultural productivity. These include the introduction of new crops, shortening of growing period - as a result of early-maturing varieties of crops to allow an additional (catch) crop for fodder, disease control measures and the supply of improved agricultural inputs. The adaptive research continued with satisfactory results. However, the diffusion of proven innovations requires still greater efforts by the AKRSP extension services through the VO forum.

Due to prolonged wet spells during this year, there was a rust epidemic in the two crop areas. According to wheat pathologists' report, the intensity of stripe rust infection ranged from 20 to 100 percent, mainly in the local varieties. Pak-81 wheat variety introduced by AKRSP was performing well; had no attack of rust and the standing was also good.

During the quarter, guidance was provided to 9 VOs for planting forest trees on scientific lines. The total number of forest trees planted by these VOs between April to June was 39,006. Nurseries established at various locations of the Gilgit District were followed-up and upgraded. A new package to develop regular orchards on commonly-owned land has been developed for the VOs. Mixed farming package developed in one village as an experiment was further refined by vegetable inter-cropping with fruit trees. A preliminary survey to develop alpine and sub-alpine pastures was carried out at four locations in Gilgit District.

The government Animal Husbandry Department has been pooling its supply of vaccines with stocks maintained by AKRSP for wider coverage. These subsidised vaccines were procured in higher quantities during the review quarter as compared to the same period in 1986. The corn silage made towards the end of last year has produced highly satisfactory results. The animals fed with corn silage during the winter season were reported to have gained both in milk production and body weight. The construction work on cattle sheds is nearing completion in all the Heifer Project villages. The actual transfer of newly purchased cattle to these sheds will be completed by the third quarter of 1987.

V. Savings and Credit

To gradually create an awareness for the cost of capital, the service charges on certain types of loans have been revised in a way that is acceptable to the borrowing VOs.

During the review quarter, 84 short-term production loans amounting to over Rs. 1 million were extended in Gilgit District benefitting about 3,700 households. With this, the total amount extended as short-term credit reached Rs. 16.59 million for the benefit of 66,579 households. The amount in default for short-term loans is Rs. 104,391 or only 0.6% of the total amount disbursed so far.

During the same period, Rs. 2.37 million of development (medium-term) loans were given to 1,052 households in 26 Village Organisations. Of this amount, 74% was given for land reclamation and 8% for agricultural machinery. The total medium-term credit disbursed so far in Gilgit District has amounted to Rs. 13.2 million, benefitting 6,851 households in 115 Village Organisations. The default rate has remained zero in the medium-term credit programme.

VI. Commercial and Industrial Development (CID)

The CID Division's focus during the review quarter was mainly on planning for the remaining two quarters of the year which is when the actual marketing of agricultural produce takes place in Gilgit District.

During the second quarter, a dialogue was held with a VO for the construction of dehydration chamber alongwith the installation of a low-head micro-hydel unit. So far, six units of this kind have been installed at various locations in Gilgit District. A regular marketing training course was organised for 18 nominees of those many VOs. As many as 12 VOs took a two year loan of Rs. 378,300 for investments in agro-industrial development. The service charge on this amount has been agreed at 7.5%.

VII. Monitoring, Evaluation and Research (MER)

During the review quarter, two case studies were completed on the institutional arrangements worked out by the VOs to manage new forms of common property - the tractors and a hydel unit in this case.

The MER and WID Sections have jointly organised a workshop on women and resource management in November this year. Six papers are currently under preparation by the MER staff and short-term consultants. These papers will cover major trends in resource use and management, such as land use patterns, water management, forestry development and management, livestock and pasture development and the management of crop - livestock interactions.

VIII. Budget and Accounts (B&A)

During the review quarter, AKRSP received formal approval of sound commitments made earlier, from its several donors. The Women's Division, Government of Pakistan approved and remitted Rs. 2.1 million to support a three year programme submitted for funding. The plans to integrate a 'receivables' package with the main computerised accounting programme has been delayed until the next quarter. The audit of AKRSP accounts has been completed and the audited accounts have been adopted by the AKRSP Board of Directors in its meeting held on June 8, 1987.

CHITRAL DISTRICT PROGRAMME

By the quarter ending June 1987, a total of 200 VOs, comprising 11,553 members and representing 11,447 rural households were operating in Chitral District. The combined deposits of these VOs amounted to Rs. 6.14 million, an increase of Rs. 0.64 million since the last quarter. In Chitral, a total of 147 PPI projects have been initiated so far including 19 new projects undertaken during the review quarter. These projects entail a total cost of Rs. 23.37 million, of these Rs. 17.5 million have been disbursed to the VOs. With the completion of 7 new projects during the quarter, the number of completed projects has risen to 73 in the district. The agricultural package for increased productivity continued its focus on disease control, input supplies and varietal testing of different crops. Thirteen VO nominees were trained as Plant Protection Specialists during the quarter. A refresher course was also organised for 10 specialists. During the current afforestation campaign, a total of 675,356 forest trees and 85,828 fruit trees were planted by the VOs in Chitral.

According to reports available from 14 livestock specialists, 863 large and 1,418 small animals were treated for various diseases and 1,210 large and 3,504 small animals were vaccinated. The cost of vaccines amounted to Rs. 4,958, while they received Rs. 4,600 in services. The Chitral Livestock Section has taken new steps in feed and breed improvement for the development of livestock in the district.

BALTISTAN DISTRICT PROGRAMME

By the end of June 1986, 118 VOs had been formed, comprising some 5,000 members with total bank deposits reaching Rs. 1.81 million. The programme has now extended to all the four valleys of Baltistan District namely, Skardu, Shigar, Khaplu and Kharmang. A portfolio of 200 PPI projects has been identified in Baltistan District at a total estimated cost of Rs. 31 million. So far, 51 PPI schemes had been initiated costing about Rs. 9 million. These projects are expected to benefit approximately 30,000 people. Ten schemes are reported complete. Demonstrations for improved varieties of cereals, legumes, tubers and vegetables continued to be held at the farmers' fields. Two courses were held for agricultural para-professionals of 39 VOs. Arrangements have been made with a local pharmacist to stock required medicines and vaccines for supplying them to the VOs. The planning for livestock development in Baltistan District has been stepped up with the addition of an experienced professional into the District Management Team. So far, 70 fertiliser loans have been issued in Baltistan District to the benefit of some 3,100 households. The total amount disbursed as short-term credit has reached Rs. 1.35 million. The recovery rate is 100%. During the review quarter, 6 of the 9 marketing loans issued earlier had been recovered on due date; the remaining 3 loans were not yet due for repayment. Land development (medium-term) loans worth Rs. 162,000 have been issued to 2 VOs. Of these, Rs. 150,000 was for the purchase of agricultural machinery and the remaining Rs. 12,000 for land reclamation.

STATISTICAL ABSTRACT*

Project Area

December 1982-June 1987

(* Subject to revision during on-going verification procedures)

	<u>Cumulative</u>	<u>Quarter's Addition</u>
I. Project Area		
1. Area (Sq.km)	69,200	
2. Population	802,000	
3. No. of rural households (approx)	98,400	
4. No. of potential Village Organisations (approx)	1,351	
II. Social Organisation		
1. No. of Village Organisations	673	53
2. Membership (estimated)	42,965	1,461
3. Bank deposits (million Rs.)	22.68	1.92
4. % of rural households covered by VOs.	43	1
III. Women in Development (WID) (Gilgit District only)		
1. Membership	6,770	0
2. Bank deposits (million Rs.)*	1.73	-
3. Credit disbursed (Rs.)	994,554	468,645
- short-term	792,554	468,645
- medium-term	202,000	0
4. No. of villages where appropriate technology package introduced	144	16
- by grant	51	9
- by credit	93	7
5. Agriculture & Resource Management PPIs	30	13
- nursery projects	6	0
- vegetable demonstration plots	22	13
- poultry farms	2	0
6. Human Resource Development No. of First Time Trainees	398	95
- poultry long Courses	137	0
- poultry short Courses	58	1
- silage preparations	15	0
- vegetable cultivation techniques	115	70
- fruit processing	43	0
- nursery management	30	24
(* Figures are based on partial information available from the banks.)		

IV. Productive Infrastructure & Engineering Services (PIES)

1. No. of projects identified	1,106	37
2. Estimated cost of projects identified (million Rs.)	163.23	6.06
3. No. of projects initiated	508	56
4. No. of beneficiary households	38,018	2,940
5. Cost of initiated projects (million Rs.)	79.01	8.04
6. Physical Progress (%)	69	-
7. No. of projects completed	293	27

V. Short-term Credit (includes marketing loans which are also reported separately)

1. Amount disbursed (million Rs.)	23.10	1.53
2.* No. of group loans for VOs.	1,777	103
3.* No. of beneficiary households	89,368	4,574
4. Amount in default (Rs.)	124,502	(-)19,583
5. Default as % of amount disbursed	0.57	
(* includes multiple loans to the same VO)		

VI. Medium-term Credit

1. Amount disbursed (million Rs.)	14.71	3.06
2.* No. of group loans for VOs	132	32
3.* No. of beneficiary households	7,727	1,260**
4. Default as % of amount disbursed	0	-
(* includes multiple loans to the same VO.)		
(** beneficiary households of Baltistan are not included)		

VII. Human Resources Development (HRD)

1. No. of Regular Courses	53	8
- Agriculture	22	4
- Livestock	16	0
- Poultry	9	2
- Marketing	5	1
- Accounts	1	1
2. No. of First-time Trainees	1,082	146
- Agriculture	406	79
- Livestock	326	0
- Poultry	231	33
- Marketing	103	18
- Accounts	16	16
3. No. of Refresher Courses	40	4
- Agriculture	16	1
- Livestock	18	2
- Poultry	3	1
- Marketing	3	0
- Accounts	0	0

VIII. Commercial & Industrial Development (CID)

1. No. of participating VOs	216	8
2. Gross sales (million Rs.)	4.65	0.05
3. Marketing expenses (million Rs.)	0.43	0.03
4. Farmgate Income (million Rs.)	4.22	0.02
5. Beneficiary households	7,033	360
6. Marketing production loans (million Rs.)	4.09	0.96
7. Marketing processing loans (million Rs.)*	3.78	3.78
8. No. of group loans for VOs (6)	219	39
9. No. of beneficiary households for loans	11,842	1,606
(* Gilgit District only)		

PART I
GILGIT DISTRICT

CONTENTS OF PART I

	Page
Statistical Abstract for Gilgit District	4
Chapter One Social Organisation	7
Chapter Two Women in Development (WID)	11
Chapter Three Productive Infrastructure and Engineering Services (PIES)	20
Chapter Four Agricultural and Resource Management (ARM)	26
Chapter Five Savings and Credit (S&C)	39
Chapter Six Commercial and Industrial Development (CID)	45
Chapter Seven Monitoring, Evaluation and Research (MER)	49
Chapter Eight Budget and Accounts (B&A)	51
 List of Boxes	
2.1 The First Village-owned Poultry Farm	13
2.2 The Story of First Women Plant Protection Specialist	14
2.3 Poultry Revolution in Yasin	15
3.1 The Completion of Hanuchal Irrigation Channel	23
 List of Tables	
2.1 Productive Infrastructure and Engineering Services Package for Women	16
2.2 Agriculture and Resource Management Package for Women	17
2.3 Human Resource Development Package for Women	18
2.4 Credit Disbursements for Women	19
3.1 PFI Commitment, Disbursement and Completed Projects.	24
3.2 Sub-Division Wise Distribution of Schemes and Costs	25
4.1 Human Resource Development, Training for PPP Specialists	33

4.2	Insecticides/Fungicides purchased by VO PPP Specialists	34
4.3	Vaccines and Medicines procured by VO Livestock Specialists	35
4.4	Human Resource Development, Training for Livestock Specialists	36
4.5	Quarterly A.I. Work Statement	37
5.1	Village Organisation, Bank Deposits	40
5.2	Loan-To-Deposits Ratios	40
5.3	Short-Term Credit, Disbursement Summary	41
5.4	Medium-Term Credit, Disbursement Summary	42
5.5	Credit Summary for all Loans	43
6.1	Cooperative Marketing	47
8.1	Sources and Application of Funds	52

STATISTICAL ABSTRACT*

Gilgit District

December 1982-June 1987

(* Subject to revision during on-going verification procedures)

	<u>Cumulative</u>	<u>Quarter's Addition</u>
I. Project Area		
1. Area (Sq.km)	28,500	
2. Population	277,000	
3. No. of rural households (approx)	29,600	
4. No. of potential Village Organisations (approx)	410	
II. Social Organisation		
1. No. of Village Organisations	355	5
2. Membership (estimated)	26,412	-
3. Bank deposits (million Rs.)	14.73	0.75
4. % of rural households covered by VOs.	90	-
Note:		
Figures reported on VO savings in Gilgit District only represent VOs' PLS Accounts and partial information available on term deposits from the Habib Bank Ltd. This does not include amounts invested by the VOs in Long-term saving schemes offered by the Post Office and the National Saving Centres. According to the field officers' information, the total saving deposits accumulated by the VOs have exceeded Rs. 16 million in Gilgit District.		
III. Women in Development (WID) (Gilgit District only)		
1. Membership	6,770	0
2. Bank deposits (million Rs.)*	1.73	-
3. Credit disbursed (Rs.)	994,554	468,645
- short-term	792,554	468,645
- medium-term	202,000	0
4. No. of villages where appropriate technology package introduced	144	16
- by grant	51	9
- by credit	93	7
5. Agriculture & Resource Management PPIs	30	13
- nursery projects	6	0
- vegetable demonstration plots	22	13
- poultry farms	2	0

(* Figures are based on partial information available from the banks.)

6. Human Resource Development		
No. of First Time Trainees	398	95
- poultry long Courses	137	0
- poultry short Courses	58	1
- silage preparations	15	0
- vegetable cultivation techniques	115	70
- fruit processing	43	0
- nursery management	30	24
(* Figures are based on partial information available from the banks.)		

IV. Productive Infrastructure & Engineering Services (PIES)

1. No. of projects identified	432	0
2. Estimated cost of projects identified (million Rs.)	57.70	0
3. No. of projects initiated	280	7
4. No. of beneficiary households	23,847	596
5. Cost of initiated projects (million Rs.)	42.30	1.12
6. Physical Progress (%)	76	-
7. No. of projects completed	200	10

V. Short-term Credit (includes marketing loans which are also reported separately)

1. Amount disbursed (million Rs.)	16.60	1.14
2.* No. of group loans for VOs.	1,289**	84
3.* No. of beneficiary households	66,412**	3,750
4. Amount in default (Rs.)	104,391	(-)1,155
5. Default as % of amount disbursed	0.63	0
(* includes multiple loans to the same VO)		
(** One loan has been written off since the last quarter)		

VI. Medium-term Credit

1. Amount disbursed (million Rs.)	13.19	2.36
2.* No. of group loans for VOs	115	26
3.* No. of beneficiary households	6,851	1,052
4. Default as % of amount disbursed	0	0
(* includes multiple loans to the same VO.)		

VII. Human Resources Development (HRD)

1. No. of Regular Courses	38	5
- Agriculture	13	1
- Livestock	10	0
- Poultry	9	2
- Marketing	5	1
- Accounts	1	1

2.	No. of First-time Trainees	813	91
-	Agriculture	275	27
-	Livestock	200	0
-	Poultry	231	33
-	Marketing	91	15
-	Accounts	16	16
3.	No. of Refresher Courses	32	3
-	Agriculture	12	0
-	Livestock	14	2
-	Poultry	3	1
-	Marketing	3	0
-	Accounts	0	0

VIII. Commercial & Industrial Development (CID)

1.	No. of participating VO's	180	0
2.	Gross sales (million Rs.)	4.22	0
3.	Marketing expenses (million Rs.)	0.38	0
4.	Farmgate Income (million Rs.)	3.84	0
5.	Beneficiary households	5,675	0
6.	Marketing production loans (million Rs.)	3.36	0.39
7.	Marketing processing loans (million Rs.)	3.78	3.78
8.	No. of group loans for VO's (6)	181	18
9.	No. of beneficiary households for loans	9,914	684

CHAPTER ONE

SOCIAL ORGANISATION

I. Overview

The socio-economic configuration of the rural communities in Gilgit District has been largely determined by the region's long isolation from the outside world as well as the difficulties of terrain and the extreme climatical conditions imposed by a harsh physical environment. Together, these factors necessitated a livelihood system that was at best reliable and self-sufficient but at worst, subsistence.

As a result of new developments during the past decade, notably the weakening and eventual abolition of feudal power and the increased communication with outside world through the opening of Karakorum Highway, the region's economy has experienced a significant change. An important question at this transitional stage is to ask what course this inevitable change will take in future?

One way to find an adequate answer is to look at the changing patterns of traditional institutions and their implications for the majority of people living in these communities. Since these trends reflect a clear manner in which societies create and evolve their socio-economic culture, we have devoted this chapter mainly to highlight the institutional trends in Gilgit District.

II. Subsistence Vs. Commercialisation

In their efforts to rise above the level of subsistence, farmers in Gilgit District have been giving increasing importance to non-conventional alternatives of land, labour and input use, to achieve optimum and sustained productivity. Some outstanding choices that are now being frequently debated at the VO forum are between open grazing and stallfeeding of animals, between annual and perennial crops, between various categories of livestock (goats and sheep for instance) and between the old and new varieties of cereals, fodder crops, vegetables, fruit and forest tree species and livestock breeds etc. The VOs also seem to be making other important decisions concerning their present division of labour in which every farmer performs a multitude of tasks and the need for efficient ways of labour-sharing and specialised services.

In rural Gilgit, customary rules do not permit individual farmers to independently choose a farming pattern that is outside the established practices. For instance, a farmer cannot independently convert his own piece of crop land into an orchard for it would shade the neighbouring field or reap its fertility through the long tree roots of an orchard. Similarly, if a farmer chooses to grow fodder instead of wheat on his farm, he must forego the senior water rights for his field which are reserved for a wheat crop only. Likewise, in villages where free grazing still continues as an old custom after the last harvest, farmers are constrained from growing an additional (catch) crop to supplement their animal feed requirements.

Customary rules governing agricultural practices require considerable overhauling to accomodate changing needs of the villagers and to benefit from the new economic opportunities now available to them. These modifications are also necessary to allow continuity in the institutional development. Village Organisation being a broad-based forum and the natural successor of traditional institutions, has the sanctioning authority to amend outdated practices and to enforce new rules.

In many villages of Gilgit District, the old practice of free animal grazing has been effectively stopped through the VO intervention. The direct outcome of this important step has been intensive cultivation and room for an additional catch crop. Other advantages include increased milk, meat and farm yard manure production and the time and labour savings as a result of stall feeding. The effective control over grazing has many promising implications for the long-term commercialisation and diversification efforts by the villagers. The VOs which have successfully taken such measures are now undertaking large-scale tree plantations both in forestry and fruit orchards.

The VO has been successful in removing other bottle-necks in the way of greater specialisation and commercialisation. For instance, in villages where improved farming techniques and the use of better inputs such as the correct fertilizer doses, new high-yielding varieties of seeds and the disease control measures have helped increase the per unit productivity of land, VOs are devising new rules to allow regular orchards and fodder production on parts of their existing crop land. In future, these VOs have plans to experiment with inter-cropping and to encourage regional specialisation. The first signs of regional commodity specialisation are already visible in many parts of Gilgit District. In Sherquila, Danyore, Sultanabad (Gilgit) and Jalalabad for instance, sale of surplus corn has risen considerably in recent years. Oshikhandass sells more fuelwood than before; villages in Upper Hunza (Gojal) area sell their animals in Central Hunza and the VOs in Gupis Valley have found a ready market in Chilas for their livestock across the Bathret Nullah.

Through the VO forum, villagers have been making successful attempts to bring old customs in conformity with the changing requirements of new times. These attempts, together with new institutional arrangements for credit, capital formation, land development, specialised services and cooperative marketing are contributing towards greater specialisation and diversification in rural Gilgit, in an equitable and democratic fashion.

III. Individual control Vs. Collective Management

The VO being a broad-based forum and its decision-making mechanism more democratic, it is expected to safeguard the collective interests of its entire membership against possible accesses and economic abuse by influential individuals. To see how this task is carried out by the VO, we have looked at some of its working mechanics in the following lines:

Decision-making: The VO forum is an open place for discussion by all the members and its decisions are based on popular support. In that, it is radically different from the traditional decision-making forums where only a few influential individuals were able to determine who gets what and how. The VO elects its office bearers through popular vote which in turn guarantees accountability on the part of elected members. The president and the manager of the VO remain in their positions as long as they enjoy the popular support of the members. The VO assembly judges its representatives against two main criteria namely, honesty and efficiency. If the elected officers fail to keep up to these standards set by the VO, they are simply removed from the office through a popular no confidence motion.

AKRSP has been observing these democratic processes developing in the villages with interest. In many instances, dormant VOs have suddenly revived themselves by the decision of members to replace their inactive office bearers. In the day-to-day affairs, the decisions are most commonly arrived at by consensus. The office bearers remain in the VO mainly as activists, allowing members to take active part in all the decisions. For instance, during the third dialogue, the terms of partnership are agreed with the members both verbally and also in writing. Similarly, in all subsequent agreements between AKRSP and the VO such as the training of village specialists, loans, marketing support activities and land development schemes etc., the general body of the VO passes and forwards a written resolution to AKRSP duly signed by all the members. This kind of popular participation removes possible causes of misgivings against the office bearers and other activists in the villages. Moreover, the open nature of VO proceedings prevents possible abuse of power by a few influential individuals who might otherwise use the village institution to further their own personal interests.

Savings and Credit: The majority of VOs follow an open policy for savings by encouraging the members to deposit whatever amount they can afford to save on a regular basis. In some VOs, however, members are obliged to save a fixed minimum amount during every meeting. In credit, the VO as a whole is responsible for taking the loan amount, distribution and repayment. The loan amount is distributed equally among all the members regardless of the size of their individual deposits. This clearly represents VO's resolve to work for greater equity within its membership. Some members having higher deposits than the others, sometimes voice their opposition to this policy and demand for a bigger share in the credit, proportional to their individual savings. For the VO however, the issue of equity is as important an objective as the productivity and growth. From this stand point, the right of individuals with higher savings rates to a greater share in credit amount becomes less important in the overall policy framework of the VO.

Land Development: The VO encourages every member to reclaim a minimum area of land and makes an equal amount of credit available for that purpose. This enables poor households to purchase necessary inputs. Since they already have an advantage over the rich in their labour, they are able to develop more or less the same area of land as the rich farmers who need to hire the labour.

Marketing Support: The VO avails marketing loans from AKRSP and provides much needed cash to its members to meet their requirements until their produce is ready for marketing. In this way, farmers are able to sell their produce at a higher price rather than submitting to the pre-mature bookings of their goods by the village shopkeeper at a much lower price. When the produce is ready, the VO organises all aspects of marketing, including picking, grading, packing, transportation and disposal at the distant markets. After deducting the floor price, transportation and other costs, the profits are distributed equally among all members of the VO, including those who had nothing to sell in the first place. In effect, by providing these services to its members, the VO checks the potential monopolies of shopkeepers and other middle men who would otherwise prosper at the expense of the entire village communities. However, those are not universal practices. Some VOs have adopted a different mode of distribution of marketing loans and profits.

Information control: The easy access to information enables people to progress faster than those who do not have such an opportunity. The VO in its open meetings provides easy access to information on such vital issues as loans, better farming techniques, new and improved varieties of seeds and other inputs to every member. For the greatest majority of villagers therefore, VO is the only forum which provides valuable information on all aspects of agricultural development in a useable form.

IV. The Number and Membership of VOs.

The number of VOs in Gilgit District has increased from 350 in the previous quarter to 355 by the end of June 1987. The total membership however, has remained unchanged at 26,400. The cumulative savings have increased from Rs. 13.98 million in the last quarter to Rs. 14.73, which include Rs. 1.73 million saved by the women*.

* Based on partial information available from the banks; reports received from the field officers put the VOs' total savings at Rs. 16 million.

CHAPTER TWO

WOMEN IN DEVELOPMENT SECTION

I. Overview

During the second quarter of 1987, numerous productive packages meant for rural women reached several phases of completion in the project area. Under the Productive Infrastructure and Engineering Services, three micro-hydel units have been installed, new nut-cracking machines distributed and local technologies crafted and given out such as butter churners and oil expellers. The Agriculture and Resource Management Programme has completed the planting of improved vegetable demonstration plots for the season and a related training on cultivation practices for women. A women plant protection specialist has been trained for the first time. The mixed farming package has gained momentum after completion and sales from the poultry farm commenced. Finally, the credit programme has extended loans for the manufacture of technologies related to women's traditional tasks.

II. Programme Packages

PIES: The Productive Infrastructure and Engineering Services Division has completed several components of the technology package. Eight nut-cracking machines which may be operated by electricity were given on a grant to Village Organisations. These are in the second experimental phase, being modified versions of the hand operated machines already tested at the village level. The new machines have a larger nut capacity than those previously tested. Three micro-hydel units have been completed with dehydration chambers attached. Work on six dehydration chambers is in progress. Two butter churners, two spinning wheels and one oil expeller were given on grant basis to Village Organisations. To establish local supply of spinning wheels, a carpenter from Hunza has crafted one New Zealand type spinning wheel this quarter as a pilot model. Similarly, a locally manufactured butter churner was supplied to a village. Twenty one wooden type and ten Hakim type sulphur tents were given to Social Organisation Units for demonstrations at the village level. The PIES package for women is given in Table 2.1.

ARM: Thirteen vegetable demonstration plots have been laid out in the villages of Yasin, Gupis and Gojal. The total number of demonstration plots planted this year is now 23 (Table 2.2).

The two Poultry farm packages one at Princeabad and the other at Garelth have been completed this quarter. Two poultry management training courses have been given to selected members of both villages. For details see box 2.1. Both poultry farms have been provided continued technical assistance and AKRSP staff time to ensure successful operations in the early critical stages.

HRD: Three types of training courses were extended through the Human Resource Development Division. At the Training Centre, Gilgit, a Poultry regular training course was given to members of 23 village Women's Organisations. Also, a poultry refresher training course was organised for ten trainees. One village-based

crash training was given for the prevention of Newcastle disease. During the review quarter, 65 women were trained in vegetable cultivation in 13 villages (Table 2.3).

A new step was taken when one woman from Oshikandass center was given plant protection training. The training given at the Training and Extension Centre, Gilgit, included pesticide spraying on field crops. This training course was arranged at the request of the village Women's Organisation (See Box 2.2).

Marketing Credit: The credit programme has extended 12 short-term loans for the manufacture of dehydration frames this quarter. This is the first time that loans for this purpose are given. For actuals see the Marketing Section (Table 2.4).

The First Village - Owned Poultry Farm

Garelth is a village located on the Karakorum Highway (KHH), in Central Hunza, at an altitude of 7,000 ft. Since landholdings are very small, and most men have found off-farm jobs, the village is suitable for testing an integrated farming package that emphasised management by women, and intensive use of land. Once the Village Organisation selected a 2 kanal (0.1 hectare) plot of land for the experiment, AKRSP's agricultural, livestock and WID experts began work with the villagers. A scheme was made on the physical layout and management plan for using the land for housing a poultry farm, planting an orchard with dwarf cherry and apple trees, and growing vegetables between the rows of fruit trees.

A medium-term loan of Rs. 50,000 was given to the VO, out of which Rs. 46,860 have been used to complete the construction of a 300-bird poultry farm. AKRSP has provided day-old birds transported from Lahore; payment for these will be made by the VO after sale of the chicken. All equipment for the farm has been given as a grant from AKRSP and is made in Pakistan. Finally, basic training in the management of the poultry farm has been given to two educated village women and one man.

The first sales of broiler chicken from Garelth have started. Careful daily records are kept of temperatures in the farm, feed given to chicks and their weight gains monitored. Some 250 chicken have been sold in the first 12 days. The turn-over time for adult chicken lots is 6-8 weeks and initially very close technical supervision has been provided by AKRSP livestock experts. Meanwhile, the adjoining orchard and vegetable garden is growing, with the first lot of chicken manure added to its soil. The Village Organisation is making concerted efforts to prove the farm a success. The facilities are being extended to accommodate 200 more chicks. For success, a high degree of maintenance and technical supervision is seen as a priority. For AKRSP, the Garelth poultry farm is a pilot project, testing a package which requires high levels of management at the village level. It is being carefully monitored and will certainly prove to be a learning experience.

The Story of the First Woman Plant Protection Specialist

In Oshikandass, close to Gilgit town, there are four Village Organisations. Only one of these Organisations namely, Pharfoo Pati, has a functional Plant Protection Specialist. Time is limited for this Specialist and he cannot operate for all four Organisations. With the introduction of an improved vegetable demonstration plot at Oshikandass Centre, the village women expressed a need for plant protection. The Women's Organisation suggested that one of its members, Zohra Bibi, was suitable for training as a specialist by AKRSP. Whilst 275 men have been trained by AKRSP as plant protection specialists, no woman had yet received this training.

Zohra Bibi is an enterprising woman, known to have undertaken an apprenticeship in plant protection from the Specialist in Pharfoo. She climbs fruit trees and wanders in wheat fields spraying the crop with borrowed equipment. Now Zohra Bibi has attended a formal training in pesticide spraying at the Training Centre in Gilgit. She and AKRSP have tread new ground together. A training programme was drawn up to teach her methods of spraying pesticide, the use and maintenance of equipment and the appropriate precautionary measures. Training was given both by our female Field Coordinator and by our Programme Agricultrurist.

Back in the village, Zohra Bibi is booked for her services to the Village Organisation for the summer season. She is able to earn Rs 250 a week for her services which she brings back to her nine-children home. The money from her earning, she says, will go towards the schooling of her elder daughter.

**Poultry Revolution in Yasin:
Collaboration with UNDP/FAO Hatchery**

Two years ago, in the remote valley of Yasin, there were few chicks to be seen on the farms. People were used to purchasing expensive chicken and eggs transported from outside the village. With the presence of AKRSP, a demand arose from the Village Organisations for supply of chicks to the households. The Programme responded by encouraging the interest in household poultry and by initiating a short-term loan scheme. These efforts were carefully tied to a Gilgit based UNDP hatchery. Thus a pathway was established in which a loan is collected from AKRSP by a Village Organisation, a demand sent to the hatchery with payment and finally UNDP delivers chicks at the village doorstep. It is an easy credit and supply system, and now in Yasin, every household has its own chicken and eggs to give to the children and guests. Trends are beginning to reverse; in Gilgit market there are eggs and chicken for sale from Yasin. In fact, the demand for chicks has increased so much that the UNDP hatchery may run short of supply.

Table 2.1

**PRODUCTIVE INFRASTRUCTURE & ENGINEERING SERVICES
PACKAGE FOR WOMEN**

A: Cumulative upto June, 1987

Gilgit District

<u>Type of Technology</u>	<u>No. of villages where technology is being currently introduced</u>		<u>No. of completed projects</u>
	<u>Grant</u>	<u>Loan</u>	
Nut cracking machines	34	38	72*
Dehydration chambers	6		6
Sulphering tents		25	-
Fuel-efficient stoves		30	-
Bio-gas Units	6		5
Micro-hydel unit	6		4
Butter churners	3		3
Spinning wheels	2		2

* The machines were given both on grant & loan in 9 villages.

B: Additions During the Quarter

<u>Type of Technology</u>	<u>No. of villages where technology is being currently introduced</u>		<u>No. of completed projects</u>
	<u>Grant</u>	<u>Loan</u>	
Nut-Cracking Machines	8	-	8
Dehydration Chambers	-	-	-
Spinning Wheel	-	-	-
Micro-hydel Unit	-	-	3
Butter Churners	1	-	1
Fuel efficient stoves	-	7	-

Table 2.2

**AGRICULTURE AND RESOURCE MANAGEMENT
PACKAGE FOR WOMEN**

A: Cumulative upto June, 1987

Gilgit District

<u>Type of Project</u>	<u>Valley in which project implemented</u>	<u>No. of villages in each valley</u>
1. Nursery Development	Hunza	3
	Nagar	2
	Yasin	1
2. Vegetable Demonstration Plot	Gilgit	5
	Nagar	3
	Hunza	1
	Yasin	5
	Gupis	6
	Gojal	2
3. Poultry Farm	Gilgit	1
	Hunza	1

B: Additions During the Quarter

<u>Type of Project</u>	<u>Valley in which project implemented</u>	<u>No. of villages in each valley</u>
1. Vegetable Demonstration Plot	Gojal	2
	Gupis	6
	Yasin	5
2. Poultry Farm	Gilgit	1
	Hunza	1

Table 2.3

HUMAN RESOURCE DEVELOPMENT
PACKAGE FOR WOMEN

A: Cumulative upto June, 1987

Gilgit District

<u>Type of Training</u>	<u>No. of Women Trained</u>	<u>No. of Villages with trained Women</u>
Poultry Training-Regular (Long)	137	75
Poultry Training-Refresher	42	35
Poultry Training-Regular (Short)	58	57
Silage preparations	15	NA
Vegetable Cultivation Techniques	115	23
Fruit processing	43	NA
Nursery Training	30	6
Plant Protection Specialist	1	1

B: Addition During the Quarter

<u>Type of Training</u>	<u>No. of Women Trained</u>	<u>No. of Villages with trained Women</u>
Poultry Regular Training	23	23
Poultry Refresher Training	10	9
Poultry Crash Training	1	1
Vegetable Cultivation Techniques	65	13
Plant Protection Specialist	1	1

Table 2.4

CREDIT DISBURSEMENTS FOR WOMEN

A: Cumulative upto June, 1987Gilgit DistrictI. Short-term Loans

<u>Type of Loan</u>	<u>No. of Loans</u>	<u>Amount (Rs)</u>	<u>Beneficiary Households</u>	<u>Default</u>
Fertiliser*	26	206,306	865	-
Poultry	33	170,856	1,219	-
Vegetable seeds	3	20,097	158	-
Marketing	2	17,000	64	-
Sulphuring tents	12	378,300	432	-
Total:	76	792,554	2,738	

II.

Medium-term Loans

<u>Type of Loan</u>	<u>No. of Loans</u>	<u>Beneficiary Amount (Rs)</u>	<u>Households</u>
Nursery Development	4	152,000	195
Mixed Farming	1	50,000	86
Total:	5	202,000	281

B: Additions During the QuarterShort-term Loans

<u>Type of Loan</u>	<u>No. of Loans</u>	<u>Amount (Rs)</u>	<u>Beneficiary Households</u>
Poultry	19	80,080	519
Sulphuring tents	12	378,300	166
Total:	31	458,380	685

* Including multiple loans.

CHAPTER THREE

PRODUCTIVE INFRASTRUCTURE & ENGINEERING SERVICES (PIES)

I. Overview

In Gilgit District, the emphasis ~~is now~~ progressively shifting from grant-funded PPI projects to land development loan schemes, self-financed PPIs and the bio-chemical and electro-mechanical experiments and inputs. The VOs' long-term planning for increased production and greater specialisation includes development and effective management of the vast territories of high pastures, afforestation and regular orchards, water management and the development of appropriate technologies. PIES role in promoting these objectives is to assist the VOs in the physical survey of high pastures for range management, design and development of low-cost technologies at household, farm and village levels and the diffusion of these innovations in the villages through extension and demonstration services.

II. PPI Projects

The portfolio of PPI project, identified in Gilgit District remains unchanged at 432, at a total cost of Rs. 57.7 million. With the addition of 7 more projects during the review quarter, the number of PPI schemes initiated had reached 280, at a total estimated cost of Rs. 42.30 million. Of this amount, Rs. 37.41 million or 88% of the total cost, were disbursed to the implementing VOs. The number of completed projects has risen to 200 while the cumulative physical progress of PPI programme was 76% in the district. Table 3.1A shows commitment disbursement and the number of completed projects by type of project and Table 3.1B by sub-division, while Table 3.2 summarises the distribution of these schemes and costs by sector and by sub-division.

In addition, the VOs have initiated or completed 19 PPI projects on self-help basis with no financial assistance from AKRSP.

III. Land Development

In Gilgit District, the reclamation of new land is progressing at an acceptable pace despite serious seasonal shortages of labour in many parts of rural Gilgit. AKRSP has so far extended Rs. 9.22 million in medium-term loans for the speedy implementation of land development projects. Though it is difficult to provide realistic estimates on how much land has been brought under cultivation at this stage, nevertheless, based on monthly diaries of the Social Organisers, the VOs have planted more than a million trees in Gilgit District during the last three years.

IV. Project Maintenance

Maintenance of the completed PPI projects is a routine function of the VOs. From time to time, AKRSP's field Engineers inspect the regular project maintenance and advise the VOs on technical matters wherever required. Based on field reports, all the completed projects in Gilgit District are well maintained and there were no serious issues worth reporting here.

V. Appropriate Technology

The appropriate technology section of PIES has continued with its development and distribution of specialised pieces of equipment and the identification, acquisition and distribution of specialised tools calculated to meet and satisfy local needs, while remaining within the local financial reach. Many of these innovations are now being manufactured locally and it is expected that others will follow. Special emphasis continues to be given to the alleviation of heavy work load carried by women.

Micro-hydel power: The first experimental micro-hydel unit set-up in November last year at Shahtote has been a success. So far, 6 similar units with capacities ranging from 3kVA to 5kVA have been installed in as many villages of Gilgit District. Each unit is linked to a dehydration chamber, also provided to the VOs by AKRSP on loan for the hygienic dehydration of apricot and other fruits.

Windmills: There are presently three wind machines working at two locations as pilot projects with a third and much larger machine nearing completion. These have all been made by local people working under our guidance and using locally available materials. Though they are all installed, adjustments are always being made with a view to coming more precisely to terms with the specific environment of the project area. Once this has been achieved and an acceptable type has been developed, with a specialised pump that will work at these high elevations, the prototypes will be turned out in required numbers by local workshops.

The Fruit Dehydration Plant: Fruit Dehydration Plant was designed and built last year to operate at the village level. Like all new designs, it will require some modifications, before going in full production this year. Plants are now being constructed in some twenty villages.

Nut Cracking Machines: have been redesigned to be promoted on waist-high metal stands, to facilitate their easier operation by hand cranks. These have received wider acceptance and are being made and distributed in considerable numbers by our Gilgit workshop.

In one village, this machine has been connected to a water wheel in conjunction with a washing machine so that they both work "automatically".

The Washing Machine: was first designed and developed to work on a wind machine, but has been adapted to work on an overshot water wheel in conjunction with a nut cracking machine. Water comes in through a plastic pipe from the irrigation channel and the used water runs out into a special waste channel so all the women have to do is to put their cloths in and turn a "switch" on while the water wheel does all the work. The quality of work has proven to be quite satisfactory. It is expected that the appreciation will be even greater in the winter when washing cloths by hand in the river becomes a very unpleasant business.

The Silage Cutters: Silage cutter has been designed to be run by six horse power petrol engines as hand turning was seen too labour intensive for the labour deficient villages. The one prototype made so far has met with approval so others are expected to go into immediate production.

The Petrol Driven Grain Mill: Petrol driven grain mill was designed for a village that has insufficient water and therefore, could not operate the usual water driven flour mill. Essentially it is a Chinese made disc mill powered by a six horse power Japanese petrol engine. Having performed to satisfaction in its testing stage, it will soon be sent to the selected village for trial.

The Donkey Gear: Donkey gear is a water pump operated by a Donkey walking in circles pulling the end of a long pole. The other end of the pole is attached to a gearing system which operates the water pump.

This, too, has proven satisfactory in its initial testing and will soon be sent to a requesting village for trial.

Biogas Plants: Biogas plants have proven successful as a means of providing clean and efficient gas for cooking while at the same time saving precious labour and energy of the women in firewood collection. At present, five units have been completed and are working to complete satisfaction during summer months only. AIRSP provides construction loans at the rate of ten thousand rupees per unit to the interested households whose applications are backed by the VO resolutions.

The Completion of Hanuchal Irrigation Channel

Hanuchal Irrigation Channel was originally proposed to be financed by the Canadian Mission Administrative Funds(MAF). The capital cost of the project was estimated at Rs. 546,255; the labour requirement was calculated as 10,796 mandays for completion in 12 months, provided two air compressors were made available to the VO. The work on the project started in June 1983, in anticipation of the MAF. However, subsequently, the project was adopted by CIDA with no provision of the compressors. It was understood that the project would take additional mandays of about six months, proportionate to the output of compressors. Construction of the water channel involved excavation amounting to 314,550 cft. Of this, 209,450 cft (66% of the total), had to be excavated by using high explosives. The rest of the excavation involved jumper, pick and shovel work. The extreme difficulty of terrain made the normal labour output per worker virtually impossible without the required machinery. Villagers thus started substituting labour with excessive quantities of blasting material (instead of deep manual-drilling and using minimum required explosives, they used maximum explosives in superficial drilling to achieve the same blasting results). As a consequence, the explosives consumed in the project far exceeded the original estimates. The difficult terrain also substantially slowed the speed of work; due to the limited and inaccessible working space, only a few workers were able to work at a time. The internal disputes of the village further slowed the pace of work. At one time, internal VO conflicts resulted in a complete stoppage of work on the project which lasted several months until a change in the leadership of the VO was made by the villagers and the work resumed. The VO was determined to finish the project at any cost. However, the difficult questions of finances remained, since the initial funds provided by AKRSP had already been exhausted. In view of the special nature of the Hanuchal Project, AKRSP agreed to 're-negotiate' the project with the VO. Under this arrangement, the project was divided into four stages of implementation. AKRSP agreed to provide equipment, diesel and explosives, while the VO undertook to contribute labour on self-help basis. This plan was discussed with the visiting CIDA officials who, in agreement to this proposal, offered to provide the extra finances for the early completion of the project. In May this year, the channel was finally completed at 12,500 ft as proposed in the original design. The VO wants to add another 2000 ft to the present length at an appropriate time. So far, the project has cost AKRSP a total of RS. 1,075,478. According to a rough estimate, the VO has meanwhile, contributed Rs. 240,000 worth of mandays towards its completion. The channel has provided additional water to some existing land, and has also opened up about 120 ha of previously barren land. According to custom, the new land has been distributed equally among the original settlers (64 out of 110 households). The new settlers have worked on the construction of the channel for wages and they will also benefit from the increased frequency of water to their existing lands. So far, the villagers have planted alfalfa on 10 ha of land, as well as 600 fruit trees and about 10,000 other trees.

Table 3.1

PRODUCTIVE PHYSICAL INFRASTRUCTURE

COMMITMENT, DISBURSEMENT AND COMPLETED PROJECTS AS ON JUNE 30TH 1987

Gilgit District

A: BY TYPE OF PROJECT

Type of Project	Number of Projects	Cost		DISBURSEMENT	
		Rs. '000	Rs. '000	As % of Cost	Completed Projects
Irrigation Channels	162	22,033	19,596	89	119
Syphon Irrigation	1	520	504	97	1
Pipe Irrigation	1	322	268	83	1
Lift Irrigation	2	247	245	99	1
Link Roads	45	8,016	7,028	88	32
Protective Works	29	5,292	4,776	90	21
Storage Reservoir	22	3,414	2,704	79	12
Mud-flow Control	1	54	54	100	1
Sedimentation Tanks	2	242	242	100	2
Pony Tracks	2	261	260	99	2
Bridges	6	1,198	1,079	90	3
Bridge/Link Road	2	204	185	91	2
Boundary Wall	2	192	170	88	2
Super Passage	1	189	189	100	1
Nursery	2	149	110	74	-
Total	280	42,303	37,410	88	200

B: BY SUB-DIVISION

Sub-Division	Number of Projects	Cost		DISBURSEMENT	
		Rs. '000	Rs. '000	As % of Cost	Completed Projects
Hunza-Gojal	56	9,196	8,192	89	41
Nagar-Sikandarabad	43	5,717	5,089	89	31
Gilgit	72	11,898	11,270	95	52
Punyal-Ishkoman	48	7,254	6,057	83	36
Gupis-Yasin	61	8,238	6,802	83	40
Total	280	42,303	37,410	88	200

Table 3.2

SUB-DIVISION-WISE DISTRIBUTION OF SCHEMES AND COSTS
AS ON 30TH JUNE 1987
 (Rs. '000)

Gilgit District

Sector	Hunza	Nagar	Gilgit	Punyal- Ishkoman	Gupis- Yasin	Total Gilgit Distt.
Irrigation Channels	5,306 (36)	2,542 (22)	6,483 (39)	3,686 (30)	3,984 (35)	22,003 (162)
Syphon Irrigation		520 (1)				520 (1)
Pipe Irrigation			322 (1)			322 (1)
Lift Irrigation			247 (2)			247 (2)
Link Roads	2,785 (11)	610 (5)	3,591 (22)	757 (4)	271 (2)	8,016 (44)
Protective Works	179 (2)	265 (1)	237 (2)	1,879 (9)	2,731 (15)	5,292 (29)
Storage Reservoir	213 (2)	957 (6)	699 (4)	551 (3)	993 (7)	3,414 (22)
Mud-flow Control					54 (1)	54 (1)
Sedimentation Tank		88 (1)	154 (1)			242 (2)
Pony Tracks	98 (1)		163 (1)			261 (2)
Bridges	614 (3)			381 (2)	203 (1)	1,198 (6)
Bridges/Link Roads		204 (2)				204 (2)
Boundary Wall		192 (2)				192 (2)
Super Passage		189 (1)				189 (1)
Nursery		149 (2)				149 (2)
	9,196 (56)	5,717 (43)	11,898 (72)	7,254 (48)	8,238 (61)	42,303 (280)

Note: The upper figure is cost in Rs. '000. The lower figure in parentheses denotes the number of schemes.

CHAPTER FOUR
AGRICULTURE AND RESOURCE MANAGEMENT
CROP DEVELOPMENT

I. Overview

Experiments with new, high-yielding/early maturing varieties of wheat, maize vegetables and fodder crops continued with satisfactory results. AKRSP attaches greater importance to adaptive research; the success of an innovation is considered incomplete unless it is readily accepted and rapidly multiplied within the target farming communities. The VO forum provides an ideal ground for the testing and widespread diffusion of an agricultural innovation.

The increased awareness of farmers about agricultural issues in general and the adoption of more efficient and profitable farming techniques in particular, has resulted in increasing the per unit productivity of land. On the technical front, small but significant headways have been made to increase the productivity of local agriculture. These include the introduction of new crop through the introduction of early maturing varieties, disease control and improved input supplies. The subsistence farming and cropping patterns is naturally a slower process than the technical one. The stage, however, is now set for both technical and institutional development of the VOs to achieve the long-term goals of productivity, sustainability and equitability.

II. Village Demonstration Plots

Wheat: Demonstration plots for improved varieties of wheat continued mainly in single-crop areas, in the following villages: Datuchi (Bagrote), Passu, Shishkat, Gircha, Ramingi, Shehrsabz, Kirmin, Thoi, Darkut, Shamaran, Teru, Barkulti and Bathret (Gupis).

Vegetables/Lentil/Chickpea/Vetch: Various types of vegetables with high yielding cultivars like pea, radish, cabbage, cauliflower, eggplant, tomato, Chinese cabbage, carrot, turnips were planted not only in the above villages but also in Hanuchal, Khaiber, Shonus, Hasis, Khunakoi and Damalgan. Other crops like lentil, sunflower, sugar beet, vetch and rye have also been planted in these villages.

Maize: Maize demonstration plots with high yielding cultivars were laid out in Harpoon (Thoi), Darkut, Morkha, Bathret (Gupis), Shamaran, Dar Barkulti, Khunakui, Aliabad (Gupis), Hakis, Golodas, Shonus, Mominabad, Hasis, Sherqilla, Oshikhandas, Princeabad (Danyore), Waziri Mohalla and Hanuchal.

Vetch: One bag of imported vetch seed was sent each to Chitral and Baltistan districts for trial and demonstrations. Vetch seed was also sold to the following regions in Gilgit District:

Nagar	11 VOs	172 kg
Punyal/Ishkoman	17 VOs	129 kg
Gupis/Yasin	20 VOs	172 kg
Chapursen Valley	2 VOs	100 kg

In view of growing demand for vetch, an order to import another ton of its seed from Australia has been placed.

III. Wheat Disease Survey

Due to prolonged wet spells during this year, there was a rust epidemic in the two crop areas. A team of wheat pathologists was invited from Pakistan Agricultural Research Center (PARC) to assess the intensity of rust infection on the varieties grown as well as to identify the prevalent rust races.

The team found that the intensity of stripe rust infection ranged from 20 to 100 percent mainly in the local varieties. Pak-81 introduced by AKRSP was performing well, had no attack of any rust and the stand was also good. Other varieties had lodged very badly. For epidemiological studies, the team has suggested trap nursery alongwith the AKRSP trial/demonstration plots next year. Samples of rust were taken for identification of races; the results are awaited.

IV. Nursery Development

Stool beds of dwarf cherry and apple rootstocks were established and forest tree cuttings were also planted in Yasin and Khaiber nurseries as detailed below:

<u>Variety</u>	<u>Yasin</u> (Nos.)	<u>Khaiber</u> (Nos.)
Cherry (colt)	25	35
Apple MM 106	140	140
Apple (crab)	130	730
Populus deltoides	75	40
Mulbery	25	-
Populus nigra	300	2000
Willow	100	-
Apricot Seedlings	-	200

The progress of fruit cum forest tree nurseries established at Ahmedabad, Chatorkhand and Rahbat Bala was satisfactory.

V. Mixed Farming Package

Regular orchard with dwarf apples and cherries established earlier in Garelt was inter-cropped with potato and vegetables like tomato, cabbage, carrot, turnips, Chinese cabbage, lettuce and cucumber.

VI. Forestry and Pasture Development

Forestry: Guidance was provided to the following VOs for planting forest trees on scientific lines. Number of trees planted during the quarter by each VO are reported below:

Khaiber	5,500
Sust	9,000
Jamalabad	4,000
Passu	2,000
Barkulti Paeen	7,000
Barkulti Par	5,000
Thingai	406
Serfet	1,900
Teru	5,200

Pasture Development: A preliminary survey to develop alpine and sub-alpine pastures was done in the following regions:

1. Boiber and Wadkhun Pasture belonging to the VOs of Morkhoon, Gircha, Jamalabad and Galapan
2. Kondahel Pasture commonly shared by the VOs of Gulmit and Gojal
3. Mamober Pasture A common property of the VOs Mamubar, Khai and Chatorkhand (Nagar)
4. Thole Pasture VO Thole's property

VII. New Production Package

A production package has been developed for planting regular fruit orchards on scientific lines with high yielding varieties, excellent culinary qualities, longer shelf-life and suited to long distance haulage. Each orchard would not be less than an acre and would be common property of the VO. The income may be used in developmental programmes of the VO.

VIII. Training

The tenth regular course on plant production and protection was held from 16-30 June 1987 in which 17 participants from as many VOs successfully completed the training (Table 4.1).

IX. Input Supplies

Pesticides worth Rs. 15,216 were purchased by the village plant production and protection specialists from the Extension, Training and Supplies Centre (Table 4.2).

LIVESTOCK SECTION

I. Training of Livestock Specialists and Disease Control

The Livestock Section's efforts to achieve increasing co-ordination of activities with government bodies have produced fruitful results.

The government Animal Husbandry Department has been pooling its supply of vaccines (costing Rs. 5,268 so far) with stocks maintained by AKRSP. This development has encouraged the village livestock specialists to procure more vaccines for wider coverage at the village level. These subsidised vaccines were procured in higher quantities during the review quarter as compared to the same period in 1986.

Details of vaccine procurement by the VOs are given in Table 4.3.

Training Courses: During the second quarter of 1987, one regular training course and one refresher were held for village poultry specialists. In addition, the first poultry management course was organised for two VOs where commercial poultry farms are to be set up shortly. A crash training course was also arranged for 14 VOs in poultry disease control and management.

In all, 55 VO nominees attended these courses which ranged from 6 to 10 days in duration. The details of these courses are given in Table 4.4.

II. Feed Improvement

Various feed development strategies reported in the last quarter have not as yet been followed-up fully since the winter has only just ended in some areas.

Corn Silage: As mentioned in the previous report, the silage made last year was highly satisfactory in terms of nutritional quality and its effects on milk yield.

The results of corn silage experiments for the 10 individual households who had made their own animal feed under our supervision were all favourable, except in one case where the owner claimed that field mice had burrowed into his silo causing air ingress and subsequent damage to his silage. This was not completely plausible; subsequent examination showed some small holes which wouldn't have caused such losses (50% loss was claimed). However, samples taken from his silage showed signs of heavy moulding. This is more indicative of the presence of water in the mass - both seepage and external influx.

These individuals, including the one who apparently suffered a loss, reported that the cattle fed on silage during the feed scarcity winter period were healthier throughout the winter as compared to other cattle which did not benefit from this new luxury. One person who was careless with his animals during the experiment, had found one day that the animals had mobbed the silo and finished off the silage.

All reported gains in milk production ranging from 25% to 100% in the silage-fed animals. The farmers frequently ignored directions regarding feeding ratios, choosing instead to feed the animals as they usually do and giving silage as a supplement in the order of 4-9 kg a day. In spite of this blatant underfeeding, the silage-fed animals showed gains in milking and in body weight.

However, given that average milk production is in the order of 1-2 liters a day at this time of the year, silage alone will not suffice to start a dairy industry since even a 300% increase in production would be too low to break-even the costs for a production unit. But the results indicate that the cattle in the Northern Areas which are at present are grossly underfed, possess the ability to respond well to improved feeding. It may well be that local breed females well fed and given a better start in life, could exceed their mothers' production substantially.

Pasture Development: Dialogues are currently underway to establish pasture development projects in many villages of Gilgit District. Forage seeds have been ordered from Canada to meet the needs of two projects. Two other projects will also be started using locally available varieties. The VOs involved will not only reap the benefits of improved livestock production but may also commence producing forage seeds for sale.

Poultry Feed: An experiment is currently underway to produce poultry feed using locally available feed materials to produce a durable high protein concentrate for feed production and as a winter ration.

III. Breed Improvement and Artificial Insemination

Artificial Insemination: During this quarter, the AI Technician was sent to Chitral on a trial basis to gauge the social and technical potential for AI in the district. His activities will be confined to a few villages.

In Gilgit District 105 cases were checked for pregnancy and 63 were found positive. Fourteen cases were checked for AI and found negative (not in estrus) Tables 4.5.

Dairy Goat Breeding: AKRSP is currently attempting to link up with the National Agricultural Research Centre (NARC) in a common strategy for the development of dairy goats for the Northern Areas. Through this joint strategy, AKRSP should be able to obtain breeding males (bucks) from the NARC for use in the Northern Areas.

On its part, AKRSP is currently attempting to import Swiss Alpine and Anglo-Nubian semen for use in breeding high-yielding local goats available with NARC. The bucks available from NARC breeding farms will be used by AKRSP in the same way as Rambouillet rams. Efforts are also underway to locate suitable sources of goat semen.

A.I. Training: As mentioned in the previous report, AKRSP has decided to train Junior Artificial Insemination Technicians (JAITS) one in each sub-division of Gilgit District. The eventual goal is to support an expanding AI programme by encouraging the users to pay for this service.

In this project, the government Animal Husbandry Department is collaborating with AKRSP and has nominated five para-veterinary compounders to be trained as AI specialists. Under the terms of this collaboration, AKRSP will bear the training and equipment costs as well as extend its field support. The government will continue to pay their salaries and relax their service rules for allowing them to take their due fees.

The government nominees are already in training at Faisalabad University and are expected to be back in Gilgit in the third quarter to commence their duties. The JAITS will charge Rs. 25 per conception.

The activities of these specialists will be coordinated by the relevant SOUs and their performance will be jointly evaluated by AKRSP and the government Animal Husbandry Department.

IV. Heifer Project and Dairy Improvement

The construction work on cattle sheds is at various stages in all the Heifer Project villages. AKRSP anticipates the actual transfer of the newly purchased cattle to these sheds by the third quarter of the current year.

The villages chosen for the Heifer Project Dairy Farm (HPDF) are:

<u>Tehsil (Sub-division)</u>	<u>Village Organization</u>
Gojal	Khyber
Hunza	Ahmedabad
Nagar	Chaprote Paeen
Gilgit	Jalalabad No. 2
Gilgit	Paidan Dass
Gilgit	Rahimabad
Punyal	Thing Dass
Yasin	Barkulti Paeen
Ishkoman	Shonus

Readers of the previous report may note some changes in the above list of villages chosen for the heifer project. The new list is based on the final dialogues held in all the prospective villages.

During the review quarter, the Livestock Section commenced the purchase of cross-bred cows for the Heifer Project. Unfortunately, the Jersey-Sahiwal and Jersey-Sindhi crosses that we had desired were not available except the odd one. Consequently, the strategy has shifted in favour of the more available Friesian-Sahiwal cross. This has a slightly lower butterfat level in the milk as opposed to the Jersey-Sahiwal cross, but will make up for it by a higher milk production.

The total cost of 36 cows (22 of them with calves) purchased so far was Rs. 318,500 with a price tag ranging from Rs. 5,000 to Rs. 10,000 or, at an average price of Rs. 8,847 per cow. The first group of cows has been shipped to a government owned Livestock Experimental Station at Jaba. AKRSP will pay for the costs involved in housing these cattle until conditions are favourable for moving them to their final destinations in the Northern Areas.

It is planned that while at JABA, the cattle will be innoculated against every possible disease they could encounter in the Northern Areas. Arrangements have also been made for improving the condition of some of these cattle by higher plane feeding, deworming, insemination of open cows, drying off of late lactation cows and weaning of older calves.

The cattle will be moved to Gilgit District once their HPD farms are completed and feed (silage and hay) is available. This will be from late August onwards.

Training of HPD Farm Managers: The Military Dairy Farms (MDFs) in Pakistan are among the best run and are well staffed with trained and experienced professionals. For this reason, AKRSP has successfully attempted to build a liaison with the MDF in which the latter has accepted to provide training facilities, on their farms. Farm Managers chosen from 8 HPDF VOs have just completed their training at one of the Military farms in Rawalpindi. The objective of this training was to provide an opportunity to the VO farm managers to acquaint themselves with the management and day-to-day operation of a commercial dairy farm. In particular, these trainees exposed to such vital aspects of dairy management as heat detection and disease recognition, cleanliness, sanitation, animal husbandry, feeding, milking and milk management.

V. Poultry Development

Commercial Poultry Unit: The commercial poultry production unit in Danyore (Princeabad) is still under construction. AKRSP anticipates its completion in the third quarter. The Garelth has already started its operations as of June 11, with 600 day-old birds bought from PIA-Shaver.

The next quarterly report will provide details on the cost of production, biological efficiency, disease and management problems encountered on the first cycle. The cycles are projected to be 7-9 weeks in length depending on the absence of problems and satisfactory housing.

Table 4.1

**10TH PPS SPECIALISTS TRAINING COURSE
For the 2nd Quarter of the Year, 1987**

Gilgit District

<u>No. of days</u>	<u>participants</u>	<u>Honorarium to Instructor</u>	<u>TA/DA to participants</u>	<u>Direct Costs (Rs.)</u>	
				<u>Kits cost</u>	<u>Prizes Total</u>
15	17	1,800	10,250	24,000	1,000
					37,050

N.B. Initially there were 18 nominees but one Mr. Rahmat Wali from Hassis Paeen left earlier due to illness.

Table 4.2

**INSECTICIDES/FUNGICIDES PURCHASED BY VO SPECIALISTS
DURING 2ND QUARTER 1987 (APR-JUN 1987)**

Gilgit District

Name of Sub Division	Pesticides/ Fungicides	Quantity (Ltrs & Kgs)	Cost (Rs.)	Expected Coverage		
				Land (ha)	Seed (kg)	Trees (No.)
Hunza	Insecticide	35.5	4,172	156	-	1,063
	Fungicide	1	270	-	400	-
Nagar	Insecticides	41	5,685	168	-	1,300
	Fungicide	-	-	-	-	-
Gilgit	Insecticides	13	1,114	40	-	500
	Fungicide	-	-	-	-	-
Punyal/ Ishkoman	Insecticides	17	2,285	96	-	330
	Fungicide	-	-	-	-	-
Gupis/ Yasin	Insecticides	10	1,555	8	-	600
	Fungicide	500 gm	135	-	200	-
Total	Insecticides	117.5 ltr	14,811	468	-	3,793
	Fungicide	1.5 kg	405	-	600	-

Table 4.3

**VACCINES AND MEDICINES PROCURED BY VO LIVESTOCK SPECIALISTS
During Second Quarter 1987**

Gilgit District		Projected No. of Animals			
S.No.	Vaccines/ Medicines	Quantity	Cost (Rs.)	Vaccinated/Treated	
				Cattle	Sheep/Goats Poultry
1.	Newcastle	99 vials	346.50	-	9,900
2.	Enteroxaemia	106,800 ml	4,556.78	-	35,600
3.	Black Quarter	97,200 ml	4,147.20	19,440	-
4.	Foot and Mouth	91,500 ml	4,556.78	18,480	-
5.	Pleuropneumonia	362 vials	1,737.60	-	36,200
6.	Goat Pox	27 vials	129.90	-	2,700
7.	Anthrax	5,400 ml	1,152.00	2,700	5,400
8.	Haemorrhagic Septicemia	1,800 ml	76.20	360	-
Total for Vaccines			16,702.96	40,980	79,900
1.	Gamatox	9 kg	2,430.00	2,250	3,150
2.	Oxytetracycline	252 vials	2,772.00	630	1,890
3.	Dertil-B Tabs	1,550 tabs	2,247.00	1,550	-
4.	Dertil-O Tabs	1,300 tabs	1,001.00	-	1,300
5.	Sulfadiazine	8,000 ml	1,090.00	75	230
6.	Pencilline	30 vials	255.00	15	30
7.	Combiotic	97 vials	824.00	27	104
8.	Ducoxine	150 gm	70.00	-	-
9.	ESB-3	200 gm	144.00	-	-
10.	Neoterra	150 ml	30.00	-	-
Total for Medicines			10,813.00	4,547	6,704
					4,100

Table 4.4

10TH PPS SPECIALISTS TRAINING COURSE
For the 2nd Quarter of the Year, 1987

No. of days	participants	Honorarium to Instructor	TA/DA to participants	Direct Costs (Rs.)			Remarks
				Kits cost	Prizes	Total	
10	25	1,800	12,892	12,100	1,000	27,792	7th regular poultry training course
6	10	1,050	3,150	-	-	4,200	3rd refresher poultry training
7	14	1,050	10,044	14,924	-	26,018	Short training course for livestock specialists
7	6	1,650	1,770	-	-	1,800	1st poultry management course for 2 VOs.

Table 4.5

QUARTERLY A.I. WORK STATEMENT

Gilgit District

	Hunza	Nagar	Gilgit	Punyal	Gupis	Total
No. of animals checked	8	-	6	-	-	14
Total No. of animals injected with Estrumate	-	-	-	-	-	-
Successful effect of Estrumate after 72 hrs.	-	-	-	-	-	-
No. of cows inseminated	-	-	-	-	-	-
No. of buffaloes inseminated	-	-	-	-	-	-
No. of A.I. pregnancy checked	4	-	1	-	-	5
No. of cases found pregnant	2	-	1	-	-	3
No. of inseminated cows sold off	-	-	-	-	-	-
No. of inseminated cows dead	-	-	-	-	-	-
No. of inseminated cows aborted	-	-	-	-	-	-
A.I birth confirmed and recorded	-	-	-	-	-	-
Males:	-	-	-	-	-	-
Females:	-	-	1	-	-	1
No. of Genital Diseases Cases treated	-	-	-	-	-	-

CHAPTER FIVE

SAVINGS AND CREDIT

I. Overview

To gradually create an awareness for the cost of capital, the VOs borrowing medium-term loans have been levied a service charge of 5% for land development and 7.5% for agricultural machinery, repayable over 5 years with a moratorium on repayments for the first 2 years. The quantum of such loans is fixed on the basis of Rs. 2,000 per individual member loanee. For requirement of loans above this quantum, the service charge is raised to 10% for the excess and repayments are scheduled "in proportion" i.e. each instalment includes repayment of both elements of loan. Penalties for late repayments include a 3% p.a. surcharge.

Loans of shorter duration for production inputs, marketing or processing purposes now carry a service charge of 7.5 - 10%.

A decision has been taken to "educate" the loanees that there is a cost to capital as also there is a cost to "administer" the entire credit operation. The method selected is to levy service charges which take into account the cost to obtain resources and the need to encourage innovative initiatives by the VOs towards income generation.

II. Saving Deposits

For the sake of authenticity, we base our reporting of VO savings on the official statements provided to us by the banks. However, lately, many VOs have been investing parts of their savings in relatively high yielding long-term schemes offered by the Post Office and the National Saving Centres. The figures provided in the following lines are therefore, less than the actual amounts saved by the VOs.

Based on partial information available from the banks, the total saving deposits in Gilgit District were about Rs. 14.72 million by June 1987. The Women's Organisations have accumulated a savings of about Rs. 1.73 million. However, according to the figures reported by the field officers, the total saving deposits accumulated by VOs, including the Women have exceeded Rs. 16 million.

The highest deposits are in the Gupis-Yasin Sub-division, coming to approximately Rs. 3.77 million. Gilgit and Hunza have slightly above Rs. 3 million each. The lowest deposits are in Nagar Sub-division where they are about Rs. 1.6 million (Table 5.1).

III. Loan-to-Equity Ratios

The aggregate loan-to-equity ratio is 1.18. The highest ratios are in Nagar, Gilgit and Punyal where they exceed one. They are lower than one in the remaining sub-divisions (Table 5.2).

IV. Production Loans

During the quarter, 84 short-term production loans of over Rs. 1.1 million were extended in Gilgit District, benefitting about 3,750 households. The highest proportion (56%) of these loans were taken for the purchase of fertiliser, while 34% was for marketing purposes; women's poultry and purchase of seeds and plants made up the rest. The total loans extended for short-term purposes since the inception of the Programme reached Rs. 16.59 million. This amount has been given to 66,579 households (Table 5.3).

V. Development Loans

During the review quarter, Rs. 2.37 million of development loans were extended to 1,052 households in 26 Village Organisations. Of the total amount, 74% was given for land reclamation and 8% for agricultural machinery, the remaining 18% was given for sulphur tents and drill machines. The total medium-term credit distributed so far has been about Rs. 13.2 million, benefitting 6,851 households of 115 Village Organisations (Table 5.4).

VI. Repayment and Disbursal Summary

A total of 1,404 loans have been extended so far. Out of these 1,289 are for short-term purposes and 115 for medium-term purposes, benefitting 66,579 and 6,851 households respectively. The total amount of disbursal has been for Rs. 29.8 million. Of this, 56% is for short-term and 44% for medium-term. From these, Gupis Yasin has 22% of the loan; Hunza 17%, Punyal-Ishkoman 22%, Nagar 14%, and Gilgit 25%.

The amount in default for short-term loans is Rs. 104,391. The default is 0.6% of total loans disbursed so far for short-term purposes. This is still a reasonable figure and speaks about the viability of the programme (Table 5.5).

Table 5.1

VILLAGE ORGANISATIONS' BANK DEPOSITS
Cummulative, up to June 1987
 (Rs. '000)

Gilgit District

Sub-Division	Men		Women	Total
	Saving Account	Term Deposit	Saving Account*	
Hunza	1,127	1,243	641	3,011
Nagar	591	1,052	8	1,651
Gilgit	1,778	1,231	607	3,616
Punyal-Ishkoman	923	1,497	252	2,672
Gupis-Yasin	2,239	1,315	224	3,778
Total	<u>6,658</u>	<u>6,338</u>	<u>1,732</u>	<u>14,728</u>

* Includes term deposits of Rs. 463,700

Table 5.2

LOAN-TO-DEPOSITS RATIOS
April - June 1987

	Total Loans Outstanding		Total	Deposits	Loan/ Deposit Ratios*
	Short-term	Medium-term			
Hunza	846,507	1,994,900	2,841,407	3,011,174	0.94
Nagar	612,586	2,016,490	2,629,076	1,651,029	1.59
Gilgit	1,274,508	2,758,000	4,032,508	3,616,336	1.11
Punyal-Ishkoman	1,095,211	3,096,872	4,192,083	2,671,821	1.56
Gupis-Yasin	1,208,021	2,539,000	3,747,021	3,778,423	0.99
Total	<u>5,036,833</u>	<u>12,405,262</u>	<u>17,442,095</u>	<u>14,728,783</u>	<u>1.18</u>

* For all outstanding loans.

Table 5.3

SHORT-TERM CREDIT, DISBURSEMENT SUMMARY*

Giliqt District

	No. of Borrowing** VOs	Household	Amount Disbursed(Rs.)	Average (Rs.) Per Loan	Per Household
A. Cumulative up to June 1987					
Fertiliser	1,024	52,051	12,663,405	12,367	243
Marketing	181	9,914	3,360,700	18,670	337
Plants	11	644	105,440	9,585	164
Seed	39	2,449	297,079	7,617	121
Poultry	34	1,354	167,315	4,921	124
Total	1,289	66,412	16,599,334	12,877	249
B. For April - June 1987					
Fertiliser	44	1,744	639,524	14,535	367
- in kind	15	475	115,126	7,675	242
- by cheque	29	1,269	524,398	18,083	413
Marketing	18	684	390,300	21,683	571
Plants	0	0	0	0	0
Seed	2	126	10,900	5,450	87
Poultry	20	1,016	102,539	5,127	101
Total	84	3,570	1,143,263	13,610	305

* Subject to revision during on-going verification procedures.

** Borrowing VOs and households include multiple loans to the same VO.

Table 5.4

MEDIUM-TERM CREDIT, DISBURSEMENT SUMMARY

Giligt District

	No. of Borrowing* VOs	Household	Amount Disbursed(Rs.)	Average (Rs.) Per Loan	Per Household
A. Cumulative up to June 1987**					
Land					
Development	78	4,919	9,220,833	118,216	1,875
- land					
reclamation	72	4,443	8,998,833	124,984	2,025
- nursery	5	390	172,000	34,400	441
- Mix-farming	1	86	50,000	50,000	581
Agri.					
Machinery	22	1,328	3,392,000	154,182	2,554
Marketing	1	86	55,000	85,000	988
Saw-mill	1	35	100,000	100,000	2,857
Drill Machine	1	51	50,000	50,000	980
Sulphur Tents	12	432	378,300	31,525	876
Total	115	6,851	13,196,133	114,749	1,926

B. For April - June 1987

land					
Development	12	532	1,749,500	145,791	3,289
- land					
reclamation	12	532	1,749,500	145,791	3,289
- nursery	0	0	0	0	0
- Mix-farming	0	0	0	0	0
Agri.					
Machinery	1	37	190,000	190,000	5,135
Marketing	0	0	0	0	0
Saw-mill	0	0	0	0	0
Drill Machine	1	51	50,000	50,000	980
Sulphur Tents	12	432	378,300	31,525	876
Total	26	1,052	2,367,800	91,069	2,251

* Borrowing VOs and households include multiple loans to the same VO.

** Subject to revision during on-going verification procedures.

Table 5.5

CREDIT SUMMARY FOR ALL LOANS

Gilgit DistrictA. Disbursements, Cumulative up to June 1987

	Short-term Loans	Medium-term Loans	All Loans
No. of Borrowing			
- VOs	1,289	115	1,404
- households	66,579	6,851	73,430
Amount disbursed (Rs.)	16,599,334	13,196,133	29,795,467

B. Short-term CreditLate Repayments, Cumulative up to June 1987

1. Amount not yet repaid 9-12 months after disbursement of loan:	Rs. 286,972
2. Amount technically in default, i.e., not yet repaid more than 12 months after disbursement:	Rs. 104,391
3. Total of late repayments: (1)+(2)	Rs. 391,363
4. Amount disbursed up to 12 months ago:	Rs. 6,116,159
5. Default as % of (4):	1.7%
6. Default as % of amount disbursed to date	0.63%

C. Medium-term CreditLate Repayment, Cumulative up to June 1987

1. Amount due	Rs. 832,612
2. Amount repaid	Rs. 820,871

CHAPTER SIX

COMMERCIAL AND INDUSTRIAL DEVELOPMENT (CID)

I. Overview

Nearly all the actual marketing of agricultural produce in Gilgit District takes place in the second half of the year. This fact makes the quarter under review extremely important for planning and preparation for the marketing season.

II. Sulphuring and Dehydration Technology

A dialogue was held with the Hassis VO for the construction of a dehydration chamber alongwith the installation of a low-head micro-hydel turbine unit. This brings the number of units to be tried in Gilgit District to six.

	<u>Name of VO</u>	<u>Valley</u>
1.	Nomal	Gilgit (Constructed in 1986)
2.	Aishi Bala & Paeen	Punyal
3.	Barkulti	Yasin
4.	Gupis Centre	Gupis
5.	Nasirabad	hunza
6.	Hassis	Ishkoman

Nagar is now the only valley in the district where an appropriate site has not yet been determined. All the SOUs were optimistic that the chambers would be operational before the drying season.

Demonstration in the use of sulphur tents last year generated tremendous interest among the VO's. The Village Organisation of Garelti improved upon the design of the sulphur tent and lowered the construction cost as well. This was another manifestation of the ingenuity and resourcefulness of the VO. The tent development by Garelti enables the user to sulphurate and dehydrate the apricots in the same tent. This tent also uses the traditional drying trays made of willow branches locally known as shaqs.

III. Training

The illustrated leaflet mentioned last quarter has been completed and sent for printing. It should be ready for distribution in the villages early next quarter.

The 5th Regular Marketing Training Course was held from 4th to 14th June. A total of 18 Village Organisations sent their nominees to attend this course including three from Baltistan District. The Organisations that sent their members were primarily those where:

- a) Sulphuring demonstration had been given in 1986 but were without a specialist;
- b) Sulphuring demonstrations were planned in 1987 and did not have a trained marketing specialist;

- c) dehydration chambers were being constructed; and
- d) collective marketing had been organised in 1986 without a specialist.

A special feature of this training course was the collaboration with Aga Khan Education Services (AKES). The AKES sent five teachers to be trained in the improved methods of apricot dehydration, jam and squash making. These teachers are expected to return to their schools and teach these skills to selected female students.

A similar plan for providing village-based training has been drawn with the help of the SOUs. Each SO Unit provided the names and dates on which CID and WID personnel would visit the villages to teach sulphuring, drying, grading and packing, jam and squash making to the villagers. A total of three field-based demonstrations were held in June in sulphuring techniques.

IV. Experimental Central Purchasing and Processing Unit

A local entrepreneur who had been given training in fruit processing finalised plans for establishing a Central Purchasing and Processing Unit (CPPU) in Gilgit with the help of CID. This project is an attempt to encourage local entrepreneurs to undertake supra-village processing. The CPPU would serve as a central mechanism for the purchase of fruits from Village Organisations and would be a central processing facility for the production of high quality processed products. This unit will be fully functional during the next quarter.

V. Cooperative Marketing

Considerable headway was made in the marketing of seed potatoes by VOs in the Gojal Area. A comprehensive package for the production and subsequent marketing of high grade seed potato was formulated with the collaboration of ARM, the government Agriculture Department, the FAO and the Pak-Swiss Potato Development Programme (PSPDP) in Islamabad. The exercise was a consequence of the realisation that the VO was the most viable body to exercise the kind of quality control that is necessary for a successful seed potato marketing operation. The package clearly defines the responsibilities of all the actors involved, including the Village Organisation. Dialogues were held with three VOs and all three agreed to the terms and conditions presented to them. This was the first increased productivity package that also showed the villagers the steps necessary to market the quality produce.

Table 6.1 summarises goods marketed by the VOs both cumulative upto June 1987 and for the quarter.

VI. Marketing Loans

This quarter was the first time in which the VOs demonstrated a willingness to invest in agro-industrial development. As many as twelve VOs took a two-year loan of Rs. 378,300 on 7.5% per annum

for the construction of sulphur tents. This loan would equip each household with the technology to produce a higher grade dried apricot in the coming season. The acceptance of the VOs to take out a loan with a service charge also augurs well for the credit programme. It might well be an indication of VO's willingness to pay a service charge on the short-term marketing loans as well.

VII. Marketing and Case Studies

The case study initiated last quarter on the Danyore shop has been completed. This study proved extremely helpful in discussing the reorganisation of the shop with the concerned SO. The SO has in turn initiated the process to do so with the Village Organisation.

There has been growing realisation that input from CID division is needed at an early stage to aid in identifying early and profitably marketable agriculture products for propagation. The livestock section of ARM was keen to have marketing studies conducted on pashmina, meat, milk and dairy products. As a first step, a study on the poultry market was conducted. This was followed by one on the retail market of mutton and beef in Gilgit city. The studies on pashmina, milk and dairy products will be undertaken during the coming quarters.

Two studies were initiated for the agriculture section of ARM. An exercise focussing on apricot and apples is underway by summer interns of the Lahore University of Management Sciences under the supervision of a junior faculty member and an associate dean. This will be completed in the next quarter. The other is on the wood market in Gilgit town. The two studies will be available during the next quarter. Another exercise to be conducted in the coming three months is to determine the type and quantity of vegetables being 'imported' from down-country.

VIII. Concerns of VOs

In one of the recent Managers Conferences, the distribution of profits from co-operative marketing endeavors was debated at length. This issue was especially important when a marketing loan had been utilised by only part of the membership. The loan is given to the VO on the collective savings of all the members and if only part of the VO actually participated in cooperative marketing, then what benefit do the non-participants get?

Three models of profit-sharing emerged from the discussions. CID division will now write a pamphlet in Urdu describing the models and will emphasize that equitability is essential. The VOs should make sure that whatever decision it takes regarding profit distribution, it should be with the consent of all the members and should not make the poor any poorer.

Table 6.1

COOPERATIVE MARKETINGGilgit DistrictA. Cumulative upto June, 1987

Participating VOs	(Nos.)	180
Gross sales	(Rs.)	4,223,890
Marketing expenses	(Rs.)	383,218
Farm gate income	(Rs.)	3,840,672
Beneficiary households	(Nos.)	5,675
Income per VO	(Rs.)	21,337
Income per households	(Rs.)	677

Marketing CreditProduction Loans

Borrowing VOs	(Nos.)	181
Borrowing households	(Nos.)	9,914
Amount disbursed	(Rs.)	3,360,700

Medium Term Loans

Borrowing VOs	(Nos.)	12
Amount disbursed at 7.5% per annum	(Rs.)	378,300

Training

No. of regular courses	5
No. of first time trainees	103*
No. of refresher courses	3

(* includes 5 participants from Chitral and 7 from Baltistan District.)

B. For April to June 1987

Participating VOs	(Nos.)	8
Volume marketed	(kgs.)	16,680**
Livestock marketed	(Nos.)	231***
Gross sales	(Rs.)	313,251
Marketing expenses	(Rs.)	8,768
Farm gate income	(Rs.)	303,483
Beneficiary households	(Nos.)	280
Income per VO	(Rs.)	37,935
Income per household	(Rs.)	1,084

Marketing CreditProduction Loans

Borrowing VOs	(Nos.)	18
Borrowing households	(Nos.)	684
Amount disbursed	(Rs.)	390,300

Medium Term Loans

Borrowing VOs	(Nos.)	12
Amount disbursed	(Rs.)	378,300
(at 7.5% per annum)		

Training

No. of regular courses	1
No. of first time trainees	18
No. of refresher courses	0

(** Items marketed comprise of walnut, kernel, potatoes, firewood and butter oil.

(*** Animals marketed includes yaks, cows/oxes and goats/sheep.

CHAPTER SEVEN

MONITORING, EVALUATION AND RESEARCH

I. Monitoring and Ongoing Evaluation

Our efforts to upgrade monitoring systems for each Programming Division of AKRSP are producing good results. The involvement of each Section in the monitoring and ongoing evaluation of its own specific activities in the field is not only economical and efficient but also provides instant feedback to the management for timely policy adjustments, planning and implementation. The flow of information from other Programming Divisions of AKRSP to the MER, at the end of every quarter, now takes approximately 10 days. This enables the MER Section to produce timely progress reports, management reports and update other information on a regular basis. Our eventual aim is to reduce this time even further, which we hope to achieve once a centralised data bank is established at AKRSP. For this purpose, the MER Section has successfully lobbied and got the approval of the Management Group and the Board of AKRSP to add the services of a full-time Computer Programmer to the present staff strength of the MER Section.

During the second quarter of 1987, the MER staff completed two case studies. One, a case study on the cooperative management of VO owned tractors; another, a similar study on the institutional arrangements worked out by a VO to manage its micro-hydel unit. These studies were intended to document initial experiences of the VOs in managing new forms of common property. The case studies reveal interesting insights to the VO dynamics and provide important lessons for AKRSP as well to the hundreds of other VOs which will be involved in similar ventures in future.

II. Planning

A significant development during the review quarter has been the promotion of our Programme Economist to a newly created position of Deputy General Manager for MER and Planning. The decision by the company's Board of Directors to create this new post reflects the need for greater coordination of AKRSP activities and planning in the second phase.

III. Research

As part of the continuing process of research and programme development that is aimed at AKRSP support of villages working towards sustainable resource management, the MER and the WID sections have organised a workshop on Women and Resource Management in November this year. The proposed workshop will be the venue at which AKRSP staff will discuss six papers on resource management with scientists, academicians and administrators. The six studies under preparation for this workshop are:

1. Major trends in resource use and management - an overview.
2. Case studies in the development of new land - land use patterns and village management systems.
3. Irrigation development and water management.
4. Forest management and forestry development.
5. Livestock and pasture development.
6. The management of crop-livestock interactions.

CHAPTER EIGHT

BUDGET AND ACCOUNTS

I. Overview

During the quarter under review, 54 PPIs were initiated at a cost of Rs. 7.493 million bringing the total cost of PPI in the project area to Rs. 78.976 million by the end of June 1987. The PPI breakdown by district is as following:

a)	<u>March-June 1987</u>	<u>No. of PPIs</u>	<u>Cost (Rs.) million</u>
	Gilgit	5	0.594
	Chitral	19	2.812
	Baltistan	30	4.087
	Total	54	7.493

b)	<u>Cumulative</u>	<u>No. of PPIs</u>	<u>Cost (Rs.) million</u>
	Gilgit	279	42.172
	Chitral	155	23.369
	Baltistan	82	13.435
	Total	516	78.976

The total disbursement against the cumulative commitment was Rs. 60.436 million at the end of the second quarter.

II. AKRSP Donors

Our heartfelt thanks are due to all our valued donors for their generous contributions to AKRSP. It is heartening to report that on funding front tremendous inroads have been made by AKRSP with the overall support of the AKF Head Office and its affiliates. The Women's Division, Government of Pakistan has sanctioned and remitted Rs. 2.1 million to support a three-year programme submitted for funding to improve living conditions of women in the project area.

III. Management and audit of AKRSP Accounts

Computerisation of AKRSP accounts is moving ahead smoothly and the records are now regularly updated. Jean Pierr Naz's visit to Gilgit in connection with integration of a "receiveables" package with the main accounting programme has been delayed until the next quarter. The receiveables package is deemed necessary for the fast expanding credit programme of AKRSP.

AKRSP accounts were audited by M/S Ford, Rhodes, Robson, Morrow, reknown Chartered Accountants of Pakistan from April 27 to May 15 in Gilgit and the audited accounts have since been adopted by the BOD of AKRSP in its meeting held on June 8, 1987.

The summary of sources and applications of funds as of June 1987, is given in Table 8.1.

Table 8.1

SOURCES AND APPLICATIONS OF FUNDS
(Project Area)

(Rs. '000)

a)	<u>Sources</u>		<u>44,654.9</u>
	balance brought from 1986	24,215.80	
	<u>Donor Receipt in 1987</u>	<u>20,439.1</u>	
	- CIDA	3,246.2	
	- ODA	181.6	
	- USAID	3,111.5	
	- Dutch	5,384.6	
	- CEC	2,390.6	
	- Govt. Sources	75.0	
	- AKF Network*	6,049.6	
b)	<u>Applications</u>	<u>29,287.2</u>	<u>29,287.2</u>
	- General Administration	3,302.6	
	- Agriculture Extension	3,092.0	
	- Social Organisation	2,014.3	
	- Engineering Survey and Res.	1,923.7	
	- Marketing Research	646.9	
	- MER	1,172.1	
	- Audio Visual Unit	308.7	
	- Women in Development	1,541.9	
	- PPI Grants	7,197.5	
	- Credit Programme	8,087.5	
	Carry Forward to next quarter**		<u>15,367.7</u>

* AKF funds includes generous contribution from AKF Geneva, AKF Canada, AKF (UK) and AKF (USA).

** This carry forward would be utilised to finance outstanding commitments on PPI projects in the subsequent quarters of 1987.

PART II
CHITRAL DISTRICT

CONTENTS OF PART II

	Page
Statistical Abstract for Chitral District	55
I. Overview	57
II. Social Organisation	57
III. Productive Infrastructure and Engineering Services (PIES)	57
IV. Agricultural and Resource Management (ARM)	58
V. Savings and Credit (S&C)	61
VI. Commercial and Industrial Development (CID)	61
VII. Monitoring, Evaluation and Research (MER)	62
VIII. Women in Development (WID)	62
List of Tables	
CP.1 Village Organisation, Membership and Bank Deposits	63
CP.2 Categorisation of VOs.	63
CP.3 Commitment, Disbursement and Completed PPI Projects	64
CP.4 Sector and Sub-division-wise Distribution of Schemes and Costs	65
CP.5 Vaccines and Medicines Procured by Village Livestock Specialists	66
CP.6 Short-term Production Loans	67
CP.7 Credit for Fertiliser, Seeds and Trees	68
CP.8 Medium-term Credit Disbursement, Summary	69
CP.9 Loan-to-Deposit Ratios.	69

STATISTICAL ABSTRACT*

Chitral District

December 1982-June 1987

(* Subject to revision during on-going verification procedures)

	<u>Cumulative</u>	<u>Quarter's Addition</u>
I. Project Area		
1. Area (Sq.km)	14,850	
2. Population	253,000	
3. No. of rural households (approx)	23,600	
4. No. of potential Village Organisations (approx)	500	
II. Social Organisation		
1. No. of Village Organisations	200	13
2. Membership (estimated)	11,553	389
3. Bank deposits (million Rs.)	6.14	0.62
4. % of rural households covered by VOs.	35	0.01
III. Productive Infrastructure & Engineering Services (PIES)		
1. No. of projects identified	474	-
2. Estimated cost of projects identified (million Rs.)	74	-
3. No. of projects initiated	147	19
4. No. of beneficiary households	9,996	1,292
5. Cost of initiated projects (million Rs.)	23.37	2.83
6. Physical Progress (%)	73	-
7. No. of projects completed	73	7
IV. Short-term Credit (includes marketing loans which are also reported separately)		
1. Amount disbursed (million Rs.)	4.98	0.39
2.* No. of group loans for VOs.	416	19
3.* No. of beneficiary households	19,709	824
4. Amount in default (Rs.)	5,427	-
5. Default as % of amount disbursed (* includes multiple loans to the same VO)	0.1	-
V. Medium-term Credit		
1. Amount disbursed (million Rs.)	1.36	0.55
2. No. of group loans for VOs	15	5
3. No. of beneficiary households	796	208
4. Default as % of amount disbursed	0	0

VI. Human Resources Development (HRD)

1. No. of Regular Courses	10	1
- Agriculture	6	1
- Livestock	4	0
- Poultry	0	0
- Marketing	0	0
2. No. of First-time Trainees	157	13
- Agriculture	77	13
- Livestock	75	0
- Poultry	0	0
- Marketing*	5	0
3. No. of Refresher Courses	6	1
- Agriculture	3	1
- Livestock	3	0
- Poultry	0	0
- Marketing	0	0
(* trained in Gilgit District)		

VII. Commercial & Industrial Development (CID)

1. No. of participating VOs	28	0
2. Gross sales (million Rs.)	0.374	0
3. Marketing expenses (million Rs.)	0.02	0
4. Farmgate Income (million Rs.)	0.35	0
5. Beneficiary households	998	0
6. Marketing loans (million Rs.)	0.475	0.315
7. No. of group loans for VOs (6)	29	12
8. No. of beneficiary households for loans	1,402	396

CHITRAL PROGRAMME

I. Overview

The highlights of the second quarter (April to June 1987) for AKRSP in Chitral was the highly successful visit by an ODA team to the district in April. Subsequently, ODA approved a grant of GBP 3.06 million to support AKRSP and other AK network activities in Chitral over a period of three years starting from July this year.

AKRSP began its operations in Chitral in 1983 with the establishment of a Social Organisation Unit. But it was in 1986 that a Programme Office manned by professional staff was established here. Therefore, in real terms, 1986 can be considered as the first year of AKRSP operations in Chitral.

The focus of AKRSP in Chitral during this quarter was on the quality of productive packages. The Livestock and Agriculture Sections devoted increasing attention to further improving village specialists' skills to ensure effective use of their services by the villagers. The SOs were encouraged to conduct indepth studies of the villages they visit for greater understanding of the village issues. The Marketing Section is in the process of training specialists whose expertise will be utilised in the forthcoming marketing season.

II. Social Organisation

During the second quarter, the institutional growth of the VOs continued at a desirable pace. In Rech Valley, a cluster conference for eight VOs of Turkhow tehsil was held in April. This was the second conference of its kind in Chitral District. A similar conference was held in Yarkhoon Valley in the first quarter of the current year. These supra-valley activities are expected to evolve into permanent bodies which would eventually take over the supply of fertiliser, seeds, pesticides and medicines - the tasks currently performed by AKRSP. These institutions are also expected to develop pastures, forests and other resources commonly owned by the VOs. Moreover, it is anticipated that these forums will also organise collective marketing and the processing of surplus produce coming from each valley.

By the end of June 1987, a total of 200 VOs, with 11,553 members and representing 11,447 rural households were functioning in Chitral District. The combined Bank deposits of these VOs had reached Rs. 6.14 million. The savings and membership figures of the VOs in Chitral District and performance is summarised in Tables CP.1 and 2.

III. Productive Infrastructure and Engineering Services (PIES)

PPI Projects: The number of PPI projects identified in Chitral District remains unchanged at 474 with a total estimated cost of Rs. 74 million. By the end of June 1987, a total of 147 PPI projects had been initiated in Chitral District at a total cost

of 23.37 million. Of these, Rs. 17.50 million, or 75% of the total cost has been disbursed to the implementing VO's. Irrigation projects account for 62% of the total initiated schemes, followed by link roads (18%), protective works (16%) and bridges (2%). The hydel stations and storage reservoirs account for 1% each. A total of 73 projects have been completed and the cumulative physical progress of the PPI programme in the district was 73%. Table CP.3A illustrates commitment, disbursement and the number of completed schemes by type of project and Table CP.3B by Sub-division. While Table CP.4 shows distribution of these schemes and costs by sector and by Sub-division.

Land Development Projects: The land development efforts of the VO's is supported by AKRSP with medium-term loans and technical advice. About 446 ha of new land will be available to VO's at the completion of current land development projects in Chitral. This land will be utilized for crop cultivation, orchards, forestation, pastures and nursery development. The labour and material cost on these schemes has amounted to Rs. 2,557,601.

Appropriate Technology: The PIES is setting up two experimental hydel units alongwith dehydration chambers, one each in lower and upper Chitral. In collaboration with Pakistan Centre for Appropriate Technology (PCAT), AKRSP is also trying to set-up three larger hydel units with a capacity of upto 50 kVA. In addition, AKRSP is collaborating with GTZ in introducing low consumption stoves in the district.

IV. Agriculture and Resource Management (ARM)

Crop Development: Experimental trial plots of wheat variety Pirsabak laid out last year, were followed-up and found to be doing very well. Pirsabak variety was found resistant to rust and did not lodge while most of the traditional varieties were found rusted and badly lodged. Attention of the VO's has been drawn to this difference that in the same vicinity two varieties of wheat were grown, one was badly damaged by rust and lodging, while the other was healthy. Farmers have showed an interest to replace their traditional wheat with the new varieties to get increased yields.

The performance of wheat variety Pak-81 will be examined this year in July-August which has been grown in single crop areas on experimental basis.

Due to the late planting of maize trials in 1986, the crop could not mature in time. However, the farmers liked the plant growth, and cob size. This year again, 20 maize trials have been laid out on the farmers' fields.

Disease Control: Under this package, 13 VO nominees were trained as plant production and protection specialists during this quarter. In addition, a refresher training course was organised for 10 specialists.

A general survey was carried out to assess the performance of trained specialists in the district. The results showed that in areas where VOs supervised their specialists' activities there were significant reductions in the agricultural losses. It was also found that the performance of PPP specialists in some villages had still not come up to the expected standards. In a few cases, trained PPP personnel were not efficient enough in carrying out their jobs or they had left the village in search of employment in the cities. These issues were discussed at length with the General Manager during his recent visit to Chitral and a decision was made to stop further training of PPP specialists until the screening of some 77 trained specialists is done and they are made functional again.

During the second quarter, reports received from 15 VOs showed that pesticides worth Rs. 4,778.73 were utilized by the PPP specialists. Work done was as follows:

No. of trees sprayed	2,326
Crops-area sprayed (ha)	112
No. of trees budded	95
Seed treated (Kg)	490
Rumenerations received(Rs)	2,054.30

Forest and Range Management: Importance has been given to the development of valley-based, commonly-owned pastures and forests. During the current afforestation campaign, a total of 675,356 forest trees and 85,828 fruit trees were planted. In comparison to this, 491,309 forest trees and 77,575 fruit trees were planted last year by the VOs. Advanced VOs have put a ban on free grazing of animals for the protection of their forests and fruit trees. Three cases for land development were filed. Manoor Fruit cum vegetable nursery is almost established and the VO is earning from the sale of plants. The services of a budder have been acquired for the Manoor nursery to do budding on some 2,000 apple plants. Some of the newly established nurseries like Droneel, Shahnoon, Deize were visited and the villagers were advised on technical and management aspects.

A number of VOs have shown an interest in establishing village-level nurseries. These VOs will be visited during the next quarter for holding nursery dialogues after the harvest of their wheat crops.

Small quantities of vetch seed were distributed to 10 farmers in different valleys to see the performance during the last quarter. Out of 10 locations, only five could be followed-up during this quarter. The farmers around the plots were asked to see the growth and utility of the crop so that it could be planted in larger areas as a catch crop to supplement animal feed, specially for winters. During this quarter, 100 kg of vetch seed has been received from Gilgit which will be planted after wheat harvest.

Future Programme: Farmers will be motivated to learn improved methods agriculture through field demonstrations and the presentations by the agriculture staff in the VO meetings. Moreover, specific production plans will be prepared through dialogues with the VOs aimed at increasing the productivity of existing crops. Special attention will be given to tree plantations and the development of common pasutres. Also, to increase awareness among the farmers on new methods of farming techniques, audio-vidual materials will be used during the training sessions and in the field demonstrations. The supervision of village level fruit nurseries will be stepped up and vegetables will be inter-cropped with trees by the Agriculture Section.

LIVESTOCK DEVELOPMENT

The focus of the livestock development package being offered in the entire district is primarily based on disease control, breed improvement, feed improvement and poultry development.

Disease Control: At present 58, out of 75 VOs which have their own livestock specialists are using the vaccines and the services. During the second quarter, 20,000 doses of caprine pleuropneumonia for goats and 25,000 doses of new castle vaccine for poultry were distributed to 58 VO at cost. The Livestock Section expects that 12,000 cattle will be vaccinated in the second round starting from September to October 1987, thus raising the total coverage to a target 46,000 animals by the end of the third quarter 1987.

Information on 14 livestock specialists was available at the end of the review quarter. During the first and second quarters of 1987, 14 specialists collectively treated 863 large animals and 1,418 small animals for various diseases and vaccinated 1,210 large animals and 3,504 small animals. The cost of medicine/vaccines collected by these specialists amounted to Rs. 4,958.04 while they received Rs. 4,600 in services. The data collected on the specialists' performance is given in Table CP.5.

Breed Improvement: The programme has taken a further step towards the improvement of cattle breed by inviting A.I. Technician from Gilgit during the review quarter. The A.I. Technician remained in the field for two weeks testing and inseminating cows in a few selected VOs. During the period, a total of 406 cows, 175 in Sub-division Chitral and 231 in Sub-division Mastuj were tested; only 29 cases were detected positive and inseminated.

The breed-wise break up is as under:

New Jersey	11 Cows
Red Sindi	12 Cows
Fresien-Sahiwal Cross	4 Cows
Sahiwal	2 cows

Sheep Breeding: Four Rambouillet rams have been acquired from the Jaba Sheep farm in Mansehra. Of these, 3 rams have been given to the VO Kargin where a sheep breeding project is in progress while one ram has been given to the VO Shanoon which is interested in sheep breeding.

V. Savings and Credit

By the end of the second quarter, the total deposits of all Village Organisation had reached 6.14 million.

Production Loans: During the quarter, short-term production loans were extended to 19 VOs, benefitting some 824 households. These loans amounting to Rs. 392,317 were given mainly for marketing, fertiliser, trees and plants. Total short-term loan extended by the end of this quarter was Rs. 4.98 million (Tables CP.6-7).

Medium Term Loans: During the review quarter, land development loans amounting to Rs. 101,000 and the agricultural machinery loans totalling Rs. 450,000 were extended to the VOs. A total of 95 members representing these VO benefitted from the land development loans while 113 members from 2 VOs benefitted from the machinery loans. Total medium-term loans extended so far, exceeded Rs. 1.4 million (Table CP.8).

Loan to Equity Ratios: By the end of the second quarter of 1987, the overall loan to equity ratio stood at 0.47. Table CP.9 gives loan to equity ratios by Sub-division.

VI. Commercial and Industrial Development

During the second quarter, 12 VOs have taken loans amounting to Rs. 315,000, benefitting 396 households. The quarter under review being just the beginning of the marketing season in Chitral, no major fruits were ready for marketing. However, there are indications that the marketing exercise will prove fruitful this year. A number of VOs have rented shops in Chitral Town to serve as outlets for their surplus produce.

A marketing census is being carried out. This census will help us in convincing the District Administration on the need for allowing fruit to be exported out of Chitral. Currently, the government trade policy does not allow sale of fruit to markets out side Chitral.

A marketing course is also planned for early July which will include visits to down country mandis and farms for the participants of the course.

VII. Monitoring, Evaluation and Research Section

During the second quarter, two village case studies were prepared by the SOs. The village impact studies have also been planned for the later part of the year. Consultants have been approached in this regard.

VIII. Women-in-Development Section

Our progress in this quarter had been hampered by the non-availability of suitable female staff in Chitral. As an ultimate measure, the posts were advertised in the national news papers. The response was good; one Women Programme Coordinator and three Field Coordinators have been selected after interviews in Peshawar. They are expected to report in Chitral on August 1st after receiving a two-week orientation in Gilgit.

Table CP.1

VILLAGE ORGANISATIONS, MEMBERSHIP AND BANK DEPOSITS
Cumulative as of June 1987

Chitral District

Sub-Division	No. of VOs	Member ship	Deposits Rs. 000	Average Rs.	
				Per VO	Per Member
Chitral	104	5,122	2,836	27,269	554
Mastuj	96	6,431	3,307	34,447	535
Total	200	11,553	6,143	30,715	531

Table CP.2

CATEGORISATION OF VOs

Sub-Division	Advanced	Potentially Advanced	Average	Inactive	Total
	A	B	C	D	
Chitral	14	40	30	20	104
Mastuj	24	42	26	4	96
Total	38	82	56	24	200

COMMITMENT, DISBURSEMENT AND COMPLETED PPI PROJECTS
Cumulative As of June 1987

Chitral District

A: By Type of Project

Sector	No. of Projects	Cost Rs.'000	Disbursement		Completed PPIs
			Rs.'000	As % of Cost	
Irrigation channels	91	14,292	9,838	69	33
Protective Works	24	3,544	3,225	91	21
Link Roads	26	4,028	3,077	76	14
Bridges	3	187	187	100	3
Syphon Irrigation	1	1,024	975	95	1
Hydel Power	1	89	89	100	1
Storage Reservoirs	1	202	104	51	-
Total:	147	23,366	17,495	75	73

B: BY Sub-Division

Sub-division	No. of Projects	Cost Rs.'000	Disbursement		Completed PPIs
			Rs.'000	As % of Cost	
Mastuj	62	10,807	8,051	74	29
Chitral	85	12,559	9,444	75	44
Total:	147	23,366	17,495	75	73

SECTOR AND SUB-DIVISION WISE DISTRIBUTION OF SCHEMES AND COSTS
Cumulative As of June 1987

Chitral District

Sector	Sub-Division Mastuj	Sub-Division Chitral	Total	No. of PPIs Completed
Irr. Chnl	6,883 (41)	7,409 (50)	14,292 (91)	33
P.Works	2,039 (13)	1,505 (11)	3,544 (24)	21
Link Roads	861 (7)	3,167 (19)	4,028 (26)	14
Bridges	-	187 (3)	187 (3)	3
Syphon Irr.	1,024 (1)	-	1,024 (1)	1
Hy. Power	-	89 (1)	89 (1)	1
Strg. Resvoir	-	202 (1)	202 (1)	Nil
Total	10,807 (62)	12,559 (85)	23,366 (147)	73

Note: The upper figure is cost in Rs. '000.
 The lower figure in parenthesis denotes the number of schemes.

Table CP.5

VACCINATION COVERAGE DURING THE QUARTER ENDING JUNE 1987

VO Code	Name of VO	TREATMENT			VACCINATION				TOTAL CHARGES		
		No. of Large Animals	No. of Small Animals	Medicine Cost (Rs.)	Fee (Rs.)	No. of Large Animals	No. of Small Animals	Medicine Cost (Rs.)	Fee (Rs.)	Cost of Medicine/Vaccines	Specialist Fee
10-10	MARTING	79	10	215	30	30	20	50	35	200	65
10-45	PARDAN	78	65	488	170	130	900	245	450	783	620
13-02	HINJEEL	24	204	227	98	205	-	250	150	477	248
13-13	SHERSHAL	25	40	100	100	25	146	240	245	340	425
13-16	GRAM	91	151	782	242	370	800	192.50	1,170	969.50	1,470
13-19	GAGAL	10	40	77.50	1,550	54	90	9,335	5,480	165.85	70.30
13-21	MADASHEEL	135	175	308	285	100	108	100	200	288	530
13-23	GAREE	150	177	334.25	362	150	205	45	83.50	379.25	442.50
13-27	SUSOOM	66	45	100	112	-	-	-	-	100	162
13-29	ORGOUCH	76	228	305.69	101.25	115	200	106	215	407.31	480
13-31	SHOOT I	35	60	94.50	45.50	31	-	7.25	31	101.75	161
13-34	DARMAIR	12	59	150.50	70	-	100	125	60	275.50	130
13-42	MIGIGRAM	-	-	-	-	-	400	190	200	190	266
13-51	UTRAI	82	164	82	-	-	535	50	75	214	246
TOTAL		863	1,418	3,264.44	1,631.25	1,210	3,504	1,694.10	2,968.80	714	4,600.05
AVERAGE		61	101	233	116.52	85	250	121	212	51	354.14
											460

SHORT TERM PRODUCTION LOANS

CHITRAL DISTRICTA. Cumulative As of June, 1987

	No. of VOs	Borrowing H.Hold	Amount Disbur. (Rs.)	Average Loan (Rs.)	
				Per VO	Per H.Hold
Fertilizer	373	17,702	4,461,506	11,961	252
Marketing	29	1,402	474,965	16,377	339
Seed	10	418	38,295	3,829	91
Trees plant	4	187	7,960	1,990	43
Total	416	19,709	4,982,717	11,978	253

B. Addition During the Quarter

Fertilizer	5	263	73,042	14,608	278
Marketing	12	396	315,000	26,250	795
Seed	-	-	-	-	-
Trees plant	2	165	5,275	2,638	32
Total	19	824	393,317	20,700	477

CREDIT SUMMARY FOR ALL SHORT-TERM LOANS
A: Cumulative As of June, 1987

Chitral District

Sub-Division	No. of Loans Issued	No. of Loanee Members	Amount Advan- ced	Amount Reco- vered	Amount Overdue (Three Months Grace Period)	Default (Not-Repaid Within 12 Months)
Chitral	203	7,999	1,638,620	1,261,554		4,834
Mastuj	170	9,703	2,822,886	1,860,288		593
Total	373	17,702	4,461,506	3,121,842		5,427

B. Additions During the Quarter

1. Fertiliser Credit

Chitral	3	147	31,720	202,142		
Mastuj	2	116	41,322	471,824		
Total	5	263	73,042	673,966		

2. Seed Credit

Chitral	-	-	-	-	-	-
Mastuj	-	-	-	11,708	-	-
Total	-	-	-	11,708	-	-

3. Credit for Plants

Chitral	-	-	-	-	-	-
Mastuj	2	165	5,275	-	-	-
Total	2	165	5,275	-	-	-

Table CP.8

MEDIUM TERM CREDIT DISBURSEMENT, SUMMARY
(Rs.)

CHITRAL DISTRICTA. Cumulative As of June, 1987

	No. of VOs	Borrowing H.Hold	Amount Disbur.	Average Loan	
				Per VO	Per H.Hold
Land Development	8	374	335,000	41,875	896
Nursery	1	100	46,000	46,000	460
Sheep Breeding	1	45	60,000	60,000	1,333
Agri.Machinery	5	277	925,000	185,000	3,330
Total	15	796	1,366,000	91,066	1,716

B. Additions During the Quarter

Land Development	3	95	101,000	33,666	1,063
Agr.Machinery	2	113	450,000	225,000	3,982
Total	5	208	551,000	110,200	2,649

Table CP.9

LOAN-TO-DEPOSIT RATIOS
As Of June, 1987

	Total Loans Outstanding			Deposits	Loan Deposit Ratios
	Short Term	Medium Term	Total		
Chitral	707	312	1,019	2,836	0.35
Mastuj	831	1,054	1,885	3,307	0.57
Total	1,538	1,366	2,904	6,143	0.47

PART III
BALTISTAN DISTRICT

CONTENTS OF PART III

	Page
Statistical Abstract for Baltistan District	72
I. Overview	74
II. Social Organisation	74
III. Productive Infrastructure and Engineering Services (PIES)	74
IV. Agricultural and Resources Management (ARM)	76
V. Women in Development (WID)	78
VI. Commercial and Industrial Development (CID)	79
VII. Savings and Credit (S&C)	80
List of Tables	
BP.1 Village Organisations, Membership and Deposits	81
BP.2 PPI Commitment and Completed Projects	82
BP.3 Human Resource Development, Training for PPP and Livestock Specialists	83
BP.4 Pesticides Procured by PPP Specialists	84
BP.5 Medicines and Vaccines Procured by Livestock Specialists	85

STATISTICAL ABSTRACT*

Baltistan District

December 1982-June 1987

(* Subject to revision during on-going verification procedures)

	<u>Cumulative</u>	<u>Quarter's Addition</u>
I. Project Area		
1. Area (Sq.km)	25,850	
2. Population	272,000	
3. No. of rural households (approx)	36,200	
4. No. of potential Village Organisations (approx)	370	
II. Social Organisation		
1. No. of Village Organisations	118	35
2. Membership (estimated)	5,000	1,072
3. Bank deposits (million Rs.)	1.81	0.55
4. % of rural households covered by VOs.	14	0.03
III. Productive Infrastructure & Engineering Services (PIES)		
1. No. of projects identified	200	37
2. Estimated cost of projects identified (million Rs.)	31.53	6.06
3. No. of projects initiated	81	30
4. No. of beneficiary households	4,175	1,052
5. Cost of initiated projects (million Rs.)	13.34	4.09
6. Physical Progress (%)	59	-
7. No. of projects completed	20	10
IV. Short-term Credit (includes marketing and fertilizer loans.)		
1. Amount disbursed (million Rs.)	1.62	0.11
2.* No. of group loans for VOs.	79	7
3.* No. of beneficiary households	3,693	203
4. Amount in default (Rs.)	-	0
5. Default as % of amount disbursed	-	0
(* includes multiple loans to the same VO)		
V. Medium-term Credit		
1. Amount disbursed (million Rs.)	0.16	0.15
2. No. of group loans for VOs	2	1
3. No. of beneficiary households	80	40

VI. Human Resources Development (HRD)

1. No. of Regular Courses	5	2
- Agriculture	3	2
- Livestock	2	0
- Marketing	0	0
2. No. of First-time Trainees	112	42
- Agriculture	54	39
- Livestock	51	0
- Marketing*	7	3
3. No. of Refresher Courses	2	0
- Agriculture	1	0
- Livestock	1	0
- Marketing	0	0
(* trained in Gilgit District)		

VII. Commercial & Industrial Development (CID)

1. No. of participating VOs	8	8
2. Gross sales (million Rs.)	0.05	0.05
3. Marketing expenses (million Rs.)	0.03	0.03
4. Farmgate Income (million Rs.)	0.02	0.02
5. Beneficiary households	360	360
6. Marketing loans (million Rs.)	0.26	0.26
7. No. of group loans for VOs (6)	9	9
8. No. of beneficiary households for loans	526	526

BALTISTAN PROGRAMME

I. Overview

Due to the cooperation and receptiveness of the people of Baltistan, almost all targets set for the duration ending June 1987 have been achieved.

The Programme has now expanded to all four valleys of the district, namely Skardu, Kharmang, Khaplu and Shigar; in all, 118 VOs have been formed in these valleys. PPI projects have been initiated in 81 VOs, of which 20 have been completed and it is expected that another 30 will be completed by the end of the next quarter. The combined bank deposits of all the VOs reached Rs. 1.8 million. Over one hundred VO nominees have been given training in agriculture, livestock and marketing skills. The concept of remuneration to the village specialists is gaining wider acceptance. The VOs are beginning to make collective decisions about collective issues such as free grazing of animals and adopting more profitable practices of farming such as the use of improved agricultural inputs and disease control measures.

As a result of additional staff recruitment, the present office space is no longer adequate. In near future, a second office building, apart from the Training Centre, will have to be rented. The computer for the Baltistan office has reached Gilgit and will soon be installed at the Skardu Office. Two more air compressors as well as more surveying equipment have been received by the Engineering Section.

The PPI projects already initiated are expected to directly benefit a population of over 30,000 people.

II. Social Organisation

By the end of June 1987, 118 VOs had been formed, comprising some 5,000 members. The combined bank deposits of all the VOs had risen to Rs. 1,811,000. Table BP.1 illustrates VO membership and bank deposits by Sub-division.

At the end of June, the Programme Social Organiser (PSO), who oversees all Social Organisation Units in the three districts, himself went to the Khaplu Valley to initiate the AKRSP activities there. During the next three months, he will establish the programme in the valley and give further training to the newly recruited intern Social Organisers. Earlier, the PSO had been responsible for initiating the Programme in Baltistan District by establishing the Skardu office.

III. Productive Infrastructure and Engineering Services (PIES)

PPI Projects: By the end of June 1987, a portfolio of 200 potential PPI projects had been identified. Based on current averages, these projects would cost approximately Rs. 31 million, when initiated.

So far, 81 projects have been initiated at a cost of slightly over Rs. 13 million. Of these, 20 projects have been completed, and another 20 projects will be completed within the next quarter (Table BP.2). Once completed, a population of some 30,000 people is expected to directly benefit from these projects.

Irrigation channels constitute the majority of PPI projects initiated so far; they will cost Rs. 6.3 million and have a total length of 90.7 km. Some 7,650 ha of new and old land will be irrigated by these channels. Apart from the channels, 7 pipe-line irrigation projects have been initiated. They entail a cost of Rs. 1.5 million and are expected to provide water for irrigating nearly 485 ha of land. Approximately, 1,100 ha of land, supporting 600 households is expected to be protected as a result of the 12 protective bund projects; this will cost Rs. 2.1 million. To accumulate water for irrigation purposes, especially in the sowing season, 7 storage reservoirs have been initiated. The VOs have also started work on 11 link road projects, 4 of which have been completed. In addition, four poney track schemes have been initiated for taking the livestock to high pastures. Also under construction is one foot-bridge.

In the Northern Areas, the villagers have developed traditional systems for the maintenance of irrigation channels. Now, they are evolving ways for jointly maintaining new types of common projects such as link roads and protective bunds.

In Baltistan, progress on the PPI Programme had been somewhat slow due to the non-availability of explosives. The PIES has made arrangements to assist the VOs in the procurement of explosives. Other major factors contributing to the slow rate of progress are: high altitude and extreme weather conditions, a short working season, the labour shortages specially at peak agriculture seasons such as sowing and harvesting, age-old disputes over water rights and land distribution, migration of people to the cities, reliance on labour rather than machinery and most importantly, the lucrative tourism related labour. The local labour is often tempted to accept the compelling terms offered by the expedition teams, rather than to work on the PPI projects.

Appropriate Technology: The appropriate technology section of PIES is collaborating with the WID Section in the design, demonstration and distribution of technological inputs in the VOs. Currently, five large fruit/vegetable solar-dryers are being constructed in the VOs of Kachura, Hurchus, Biansa, Kazboorthang and Aliabad Pari. These VOs have formally agreed to involve women in this activity. The solar dryers are equipped with a mini hydel generator, which will also supply some electricity to the village households. Different types of sulphuring tents are being introduced to complement that activity. In the next quarter, some 50 of such tents will be distributed.

To reduce workload on women and to encourage efficient production, nut cracking machines have been introduced in the VOs of Hoto, Biansa, Kazboorthang and Hurchues. During the third quarter, some 20 more nut cracking machines will be distributed among the VOs.

A spinning wheel imported from abroad has been duplicated by a local carpenter. The locally constructed version will be provided to the interested VOs in the third quarter.

IV. Agriculture and Resource Management

During the second quarter of 1987, two plant protection and production training courses were held. These courses were attended by 39 VO nominees (Table BP.3). Each successful candidate was presented a kit containing essential equipment at the course conclusion. The Field Coordinators of the WID section also took part in the training. The total number of agricultural para-professionals trained so far in the district has now reached to 54 (Table BP.3). These trainees will play an essential part in implementing the agricultural packages for increased productivity.

The Agriculture Section arranges the supply of inputs to the VOs from the government departments where possible, or itself procures and issues to the VO specialists. During the review quarter, pesticides were applied to some acres of crop land. Table BP.4 gives the details of pesticides procured by the VO para-professionals during the April-June quarter. Demonstration of spraying against caterpillar were held in VOs Kamango-Gones and Sermik; some 250 affected apricot trees were treated in these VOs.

The Agriculture Section has been laying out trial/demonstration plots for new varieties of crops, vegetables, legumes and fodder. Cabbages and cauliflower have been planted in VO Thorgo Bala. Vegetable trials are also being laid out in the VO Hoto. Swiss Chard (improved spinach) has been planted on a small plot belonging to the government Agricultural Department for seed multiplication. Gravia (pistonia) evergreen fodder tree seeds have been planted in tubes, on trial bases. Vetch and alfalfa fodder has been planted at plots provided by the VOs of Sildhi and Kasmal, as well as at the Training Centre, to study its characteristics under local conditions. Tomatoes grown under a plastic tunnel have shown early maturity as compared to those grown in the open air. As a disease control measure, potato disease samples have been referred to a plant pathologist at National Agricultural Research Centre (NARC), Islamabad.

The lagumes, cereals, fodder and vegetable (i.e. potato, cabbage, Swiss Chard) trials are showing encouraging results.

The Agriculture Section has also held vegetable drying demonstrations. Results have shown that after sun drying, the weight of Chinese cabbage was reduced by a ratio of 1:12 to its fresh state. A leaflet has been prepared and distributed on the apricot drying techniques.

Plantation targets achieved from each of SOU's is as under:

	<u>Fruit Plants</u>	<u>Forest Plants</u>
Shigar	6530	50800
Kharmang	10503	30850
Skardu	13400	52400
Total	30433	134050

The increased awareness on comparative advantages of various crops has enabled the VOs to change their traditional cropping patterns to achieve optimum productivity from the available land. For instance, recently, the VO Biadong decided to sow turnips after its Pak-81 wheat harvest, instead of buckwheat following its barley harvest. Some VOs are sowing potatoes in 'ridges', which was not previously practiced. Probably the most effective change will result from the use of improved seeds now made available to them.

The Agriculture and WID Sections have been jointly establishing vegetable demonstration plots and providing technical guidance to rural women in improved methods of high nutrient vegetable cultivation.

V. Livestock Development

According to rough estimates, there are some 113,000 cattle, 194,000 sheep and 247,000 goats in Baltistan District.

The cattle are small in body size, undernourished and otherwise non-descript. They are used for milk and meat production and sometimes also for farm operations. Milk yield is extremely low, usually one or two litres a day. Fodder cultivation is rare and the entire livestock population subsists on grazing crop residues and on tree leaves during the winter. No systematic breeding method is in practice. Accessibility to most of the remote villages in the district is poor due to lack of infrastructure and severe climate; depriving many villages from prompt veterinary aid and common medicines for livestock. Contagious and parasitic diseases are rampant.

To assist in making accurate development plans, the Livestock Section is in the process of gathering further baseline data, including feed and forage sources, ownership of both land and animal grazing rights, use of animal products and by-products and further details about the state of animal health.

Disease Control: Parasitic infestation (both internal and external) may be the single most important cause of losses to livestock owners in the Northern Areas. High parasite infestation results in delayed maturity, longer calving or breeding intervals, low production, poor fertility and high mortality. Parasitic load alone may reduce production by upto 20%. It may be necessary to carry out an epidemiological survey with the assistance of an external research institute to determine the extent and types of prevalent diseases and parasite infestation. As yet, some 50 VO nominees have been given training in methods of parasitic reduction.

Feed Improvement: In livestock husbandry, feed costs account for at least 60% of the production costs and sometimes as much as 90%. Therefore, low-cost feeding is imperative. Silage and hay-making are methods of forage preservation. Wheat straw and other dry grasses treated with urea and for grain, mollasses are the most economic substitutes for oil cakes and legumes. Forage can, to a large extent, be replaced by chemically treated wheat

straw or other crop residues. Both for the sake of economy and for nutrition, it is important to utilize crop residues and if possible, cheap agro-industrial by-products such as sugar cane mollasses, etc. Feed demonstrations have been held at Thorgo Bala, Rang Maiya, Biansa, Biangpaya and Gzwapa VOs.

Breed Improvement: The quickest way of breed improvement is the grading-up of indigenous breeds with already improved local as well as exotic breeds. A cattle survey conducted by the Livestock Section has unearthed progency of Baltistan during 1967-68, by a government department. These breeds are still producing 4-5 liters of milk per day, without receiving any special care. The Livestock Section is also proceeding with its natural selection breeding campaign and in coordination with the Gilgit office, with the AI programme.

The Baltistan Livestock Section has proposed to arrange regular weekly or monthly cattle shows, with the cooperation of the local Administration. The purpose is to encourage the VO livestock owners to market their animals and to raise local interest in animal husbandry. Available modern equipment and demonstrations of improved feed will be an important part of the cattle shows.

Input Supplies: Arrangements have been made with a local Pharmacist to stock required livestock medicines and to sell them to the VOs as needed. This arrangement will make available timely and assured supply of common medicines. Table BP.5 shows Vaccines and medicines procured by the Livestock Specialists during the quarter.

The poultry development programme is being developed jointly by the Livestock and WID Sections. The programme has three main aspects: (1) mass vaccination of birds in all the VOs to control contagious diseases; (2) introduction of better poultry husbandry techniques and (3) the availability of superior breeds to the interested VOs.

During the quarter, 800 units (6 birds each) of Fayoumi birds have been reserved with the Poultry Directorate Rawalpindi. These will be distributed to the VOs through the WID Section.

V Women in Development (WID)

As a result of the promotional efforts and motivation by the Social Organisation Units and the WID Section, 18 VOs have sent resolutions expressing their wish to participate in the women programme packages. During the quarter, resolutions were received from VOs of Sordas, Chang Chungpa, Banpa, Shupa, Khalung Khong Gzwapa and Aliabad Pari to this effect.

The WID Section, in conjunction with the appropriate technology staff of the PIES, is working to introduce appropriate technology packages in the VOs. As part of this programme, 5 dehydration/hydel plants are nearing completion. It has also been decided to provide one of the two types of drying/sulphuring tents that have been developed, to each participating VO. However, the VOs will be required to build similar tents for their future requirement.

The nut-cracking machines have so far been given to the VOs of Hurchus, Kazbourthang, Hoto and Biansa. It is expected that some 20 machines will be distributed during the third quarter. Spinning wheels are being built by a local manufacturer based on an imported model. During the third quarter, these machines will be available for distribution to the selected VOs.

With the technical assistance of the Agriculture Section, the WID Section has planted vegetable demonstration plots. The demonstration plots at both Hoto and Kazbourthang have shown good progress and women members from other VOs have been taken there to show the results.

Since the village women are mainly responsible for poultry keeping, a poultry development package has been developed jointly by the Livestock Section and the WID Section. Female trainers from the Poultry Institute in Rawalpindi will tour the selected VOs in Baltistan and impart training to the village women at their respective villages or at a central location in each sub-division. More resolutions have been received from the VOs of Ghasing, Biadong, Hoto, Kazbourthang and Akhunpa Ghasing, for the purchase of the Fayoumi birds. The Poultry Training is scheduled for the third quarter and the SOs have selected the VOs of Gzwapa, Biansa, Hoto, Kazbourthang, Biadong and Hurchus for the training.

VII Commercial and Industrial Development (CID)

In Baltistan District, the marketing programme is as yet in a nascent stage. The Social Organisers and the Marketing Section are in the process of preparing VOs for participation in the programme. The search is still on to hire staff for the vacant positions.

During the first six months of 1987, 4 VOs undertook marketing ventures. The total amount of dried fruit marketed grossed Rs. 12,380. After deducting expenses, a net income of Rs. 5,286 resulted; some 200 households benefitted from it. Firewood was marketed by 4 VOs. Gross sales equalled Rs. 36,080 and after deducting marketing expenses, the net income of Rs. 14,655 was distributed to 160 beneficiary households. It is expected that some 20 VOs will actively participate in the marketing programme during 1987, and some 25 VOs will be issued marketing loans.

As yet, 7 marketing para-professionals have been trained through the Gilgit office. The trainees were taught fruit picking, grading and packing at Gilgit. They were then taken on a tour of fruit/vegetable marketing centers at Mansera, Rawalpindi and Peshawar. The first marketing training course at Skardu is scheduled for mid-July. It is expected that 3 VO nominees will participate from each of the four sub-divisions.

The 5 solar dehydration plants being constructed under the auspices of the WID will help improve the quality of dried fruit. The VOs have also been encouraged to build dehydration and sulphurising tents/trays at household level. They are being offered short-term loans for the purpose. These are some of the initial stages towards improving product quality.

VIII Savings and Credit

By the end of June 1987, the combined deposits of all the 118 VO's amounted to Rs. 1,811,394. The average saving deposits of VO's is Rs. 15,350. Skardu Sub-division has the highest savings per VO and per VO member as Rs. 19,001 and Rs. 399 respectively.

So far, 70 fertilizer loans have been issued (including multiple loans to the same VO). The total amount loaned out is Rs. 1,351,667 and is expected to directly benefit some 3,167 VO members. There are no overdue or defaulted loans.

By June 1987, 6 of the 9 marketing loans issued earlier had been recovered. The remaining 3 loans were not due. No new marketing loans were issued during the quarter.

Land development loans worth Rs. 162,000 have been issued to 2 VO's. Rs. 150,000 for the purchase of agricultural machinery and Rs. 12000 for land development purposes.

Table BP.1

VILLAGE ORGANISATIONS, MEMBERSHIP AND DEPOSITS
AS OF JUNE 1987

Baltistan District

Sub-Division	No. of VOs	Membership	Deposits (Rs. '000)	Average (Rs.)	
				Per VO	Per Member
Skardu	41	1,948	779,062	19,001	399
Kharmang	31	1,278	440,394	14,206	344
Shigar	27	1,035	398,001	14,740	384
Khaplu	19	739	193,927	10,207	262
Total	118	5,000	1,811,384	58,154	1389

Table BP.2

SECTOR/SUB-DIVISION WISE PROJECTS WITH COST
ENDING JUNE 1987
(Rs. 000)

Baltistan District

Sector	Sub-Division				Total	Completed Project
	Skardu	Shigar	Khaplu	Kharmang		
Irr. Channels	(2104) 12	(1087) 9	(583) 5	(2609) 13	(6383) 39	4
Pipe Lines	(670) 3	(725) 3	-	(127) 1	(1522) 7	1
Protective Works	(533) 3	(863) 5	-	(780) 4	(2176) 12	6
Link Roads	(490) 4	(199) 2	(441) 2	(454) 3	(1584) 11	4
Pony Tracks	(506) 4	-	-	-	(506) 4	2
St. Reservoir	(736) 5	(140) 1	-	(43) 1	(919) 7	3
Foot Bridge	-	-	(254) 1	-	(254) 1	-
Total	(5039) 31	(3014) 20	(1278) 8	(4013) 22	(13344) 81	

The upper figures shows the cost in Rs. '000
The lower figures denotes no of projects.

Table BP.3

**AGRICULTURE AND LIVESTOCK TRAINING COURSES
DURING 2ND QUARTER (APRIL - JUNE 1987)**

	No. of days	participants	Honorarium to trainers	TA/DA to trainees	Training Kits	Prizes	Total
AGRICULTURE							
2nd Reg. PPP	21	20	-	-	20	-	-
3rd Reg. PPP	21	19	-	-	19	-	-
	42	39	-	-	39	-	-
LIVESTOCK							
2nd refresher	5	10	-	-	-	-	-

**PESTICIDES PROCURED BY VILLAGE SPECIALISTS
DURING 2ND QUARTER 1987**

BALTISTAN DISTRICT

S. NO.	PESTICIDES	QUANTITY (Kgs. Ltrs)	AMOUNT (Rs.)	EXPECTED COVERAGE	
				Acres of Crops	No. of Trees
1.	Enderine	60 ltrs	2,280.00	15	250
2.	Dielderine	88 "	4,229.00	22	
3.	Gozathion	3 "	507.00	3	
4.	Nogos	6.5 "	1,027.00	26	
5.	Folidol	2 "	276.00	2	
6.	Toprin M-70	3 kgs	223.20	3	
7.	D.D.T.	15 "	66.,00	5*	
Total		-	8,603.20	76	

* Dust spray

Table BP.5

**VACCINES AND MEDICINES PROCURED BY VO LIVESTOCK SPECIALISTS
During Second Quarter 1987**

S.No.	Vaccines/ Medicines	Quantity	Cost (Rs.)	Projected No. of Animals Vaccinated/Treated		
				Cattle	Sheep/Goats	Poultry
1.	Newcastle	15 vials	75.00	-	-	915
2.	Enterotoxaemia	20 btl	320.00	-	1,714	-
3.	Black Quarter	23 btl	345.00	383	-	-
4.	Pleuropneumonia	5 vials	25.00	80	260	-
Total for Vaccines				463	1,974	915
1.	Diadine 33.33%	50 btl	3,800.00	46	55	-
2.	Pof. Permagnate	1 kg	64.00	22	20	-
3.	Neguvan	3 kg	600.00	14	80	-
4.	Dertil-B Tabs	200 tabs	340.00	153	-	-
5.	Dertil-O Tabs	300 tabs	210.00	-	207	-
6.	Distodine	100 tabs	55.00	-	-	-
7.	Oxytetracycline	24 vials	240.00	15	32	-
8.	Pencilline	36 vails	396.00	26	10	-
9.	Zinc Oxide	1 kg	27.00	41	10	-
10.	Mag. sulphate	8 kg	104.00	40	64	-
11.	Systamex	1 btl	43.00	10	70	-
12.	Tr. Iodine	5 btl	150.00	5	29	-
13.	Kaoline	5 kg	100.00	2	34	-
14.	Neocidol	1 kg	200.00	-	-	-
Total for Medicines				374	611	-

APPENDIX

Visitors to AKRSP and Project Area Based friends

VISITORS TO AKRSP AND PROJECT AREA BASED FRIENDS

1. Government Officials

The following high-ranking representatives of the Government of Pakistan visited AKRSP during the quarter:

Arbab Mohammad Jehangir
Chief Minister
N.W.F.P.

Mr. Nawaz Sharif
Chief Minister
Punjab Province

Mr. K.S. Mujahid Baluch
Minister
Local Government & Rural Development
Sind Province

Mr. Safdar Kazmi
Federal Secretary
Ministry of Local Government & Rural Development
Islamabad

Mr. Manzurul Hasan
Additional Chief Secretary (LG&RD)
Government of Sind

Mr. Mahmood Khan
Secretary, (LG&RD)
N.W.F.P.

Mr. Bashir Ahmed Khan
Additional Secretary
Department of LG&RD
Government of Punjab

Dr. Ghulam M. Samdani
Director (Research)
Pakistan Administrative Staff College
Lahore

Mr. M. Abid Malik
Director
WAPDA Academy and course participants

Mr. Riaz N. tarar
Principal
WAPDA Administrative and
Management Staff College
Terbela

Rao Abdur Rauf Khan
Director
Economic Research Department
Agriculture Development Bank of Pakistan
Islamabad

2. AKF Network

The following representatives of AKF Institutions visited AKRSP:

Mr. Ramzan Merchant
Chairman,
Board of Directors (AKRSP)
Aga Khan Foundation (Pakistan)

Mr. Robert d'Arcy Shaw
Director Special Programmes
Aga Khan Foundation (Geneva)

Mr. Asif B. Fancy
Chairman
Aga Khan Education Services (Pakistan)
Pakistan

Brig. Iqbal M. Shafi
Director Liaison
Aga Khan Foundation
Rawalpindi

Dr. Barkat Charania
Aga Khan Health Services (Pakistan)
Karachi

Mr. Alnasir Visram
Executive Officer
Aga Khan Foundation
Kenya

Mr. Aziz G. Currimbhoy
President
Aga Khan Health Services (Pakistan)
Karachi

Mr. Abdul Jetha
Chief Executive Officer
Aga Khan Foundation
U.K.

Mr. Noor Mohammad Bhamani
Chief Executive Officer
Aga Khan Health Services (Pakistan)
Karachi

Mr. Akbar Hashwani
President
Aga Khan Economic Planning Board
Karachi.

Mr. Hasan Saleh
Member
Aga Khan Economic Planning Board
Karachi.

Mr. Aslam Dossa
Member
Aga Khan Economic Planning Board
Karachi

Mr. Nizar Gulamhusein
Member
Aga Khan Economic Planning Board
Karachi

3. **Representatives of International Development Agencies**

Mr. Sean Collin
Overseas Development Agency
U.K.

Mr. Alan Stubbs
Overseas Development Agency
U.K.

Mr. Brian Little
Overseas Development Agency
U.K.

Ms. Penelope Key
Overseas Development Agency
U.K.

Mr. Victor Heard
Overseas Development Agency
U.K.

Mr. David Donaldson
Overseas Development Agency
U.K.

Mr. Peter Scopes
Overseas Development Agency
U.K.

Mr. & Mrs. Andrew Carr
Unilever
New Zealand

Mr. & Mrs. Allan Marshall
Chairman
Lever Brothers (Pakistan) Ltd.

4. **Scholars & Academicians**

Dr. Akhter Hameed Khan
Director, Orangi Pilot Project
Karachi-41

Prof. Gordon R. Conway
Imperial College of Science & Technology
London

Mr. M. Alim Mian
Director General
Soil Survey of Pakistan
Lahore

Dr. Yang Wen Guang
Vice President
Xinjiang Medical College
China

Dr. Li Goung Young
Vice Director
Bureau of Public Health
Xinjiang China

Dr. Zhang Yug Mien
Associate Professor
Xinjiang Medical College
China

Mr. Wang Shohua
Professor
Xinjiang Medical College
China

Dr. G.A. Allana
Vice Chancellor
Allama Iqbal Open University
Islamabad

Prof. Javed Iqbal
Dean
Faculty of Social Sciences & Humanities
Allama Iqbal Open University
Islamabad

Dr. Azhar Hameed
Director
Allama Iqbal Open University
Islamabad

Dr. Melville G. Kerr
University of Calgary
Canada

Mr. Bill Warden
University of Calgary
Canada

Dr. Mohamood Hussan Khan
Professor
Simon Fraser University
Canada

5. Journalists

Ms. Hella Pick
"The Guardian"
London

6. Representatives of Foreign Missions in Pakistan

Mr. Richard Fyres Walker
Ambassador of the United Kingdom
Islamabad

7. Gilgit-based Friends

The Management of AKRSP takes this opportunity to reiterate its most sincere thanks and appreciation to its project area-based friends for their continued support and cooperation with the Programme.

We are particularly indebted to:

Mr. Abdul Qayyum Khan
Administrator, Northern Areas,
and
Major General Hamayun Khan Bangash,
Forces Commander of Northern Areas,

for their patronage and encouragement.

We are also grateful for their support to:

Mr. Ghulam Jilani Khan
Additional Commissioner
Planning & Development
Gilgit

Mr. M.A. Afridi
Additional Commissioner
General, Gilgit

Mr. Tariq PEROZ
Deputy Commissioner, Gilgit

Wazir Muhammad Ali
Deputy Inspector General Police,
Northern Areas

Mr. Mohammad Alam
Conservator of Forests,
Northern Areas, Gilgit

Raja Ali Ahmed Jan
Assistant Inspector General Police,
Northern Areas

Mr. latif Hassan
Member, Northern Areas Council

Mir Ghazanfar Ali Khan
Member, Northern Areas Council

Pir Karam Ali Shah
Member, Northern Areas Council

Mr. Mirbaz Khan
Chairman, District Council, Gilgit

Mr. Tariq Hafiz Raja
Airport Manager
Civil Aviation Authority, Gilgit

Khawaja M. Anis
Station Manager, PIA, Gilgit

Mr. Faqir Mohammad
District Sales Manager, PIA, Gilgit

Mr. Mohammad Akram
Station Director
Radio Pakistan, Gilgit

Mr. Ghulam Qadir
Editor, Radio Pakistan, Gilgit

8. Chitral-based Friends

Mr. Latif Khan
Commissioner, Malakand Division

Mr. Sharif Ahmad
Deputy Commissioner,
Chitral District

Shahzada Mohiuddin
Member National Assembly

Mr. Afzal Ali
Director, AKRSP Board of Directors

Lt. Col. Murad Khan Nayyar
Commandant, Chitral Scouts

Mr. Sikandar Yar Khan
Superintendent of Police
Chitral

Major Kiyani
Wing Commander,
Chitral Scouts

Mr. Saifullah Khan
Executive Engineer,
C&W Department

Mr. Abdul Khanan
Executive Engineer,
Irrigation Department

Mr. Penin Shah,
Extra Assistant Director,
Agriculture Department,
Chitral

Mr. Mohammadullah Khan,
Assistant director,
Animal Husbandry Department,
Chitral

Mr. Mustafa Kamal
Deputy Superintendent of Police
Chitral

9. **Baltistan-based Friends**

Mr. Ghazi Johar,
Deputy Commissioner, Baltistan

Mr. Sajjad Ali,
Superintendent Police,
Baltistan

Mr. Mohsin Raza,
Assistant Commissioner, Skardu

Haji Fida Mohammad Nashad,
Chairman, District Council, Baltistan

Haji Mohammad Hussain,
Northern Areas Councillor, Shigar

Agha Mohammad Ali Shah,
Northern Areas Councillor, Kharmang

Aga Ahmed Ali Shah,
Northern Areas Councillor, Skardu

Mr. Mohammad Jaffar,
Northern Areas Councillor, Khaplu

Mr. Amanullah Khan
Assistant Director,
Agriculture Department, Skardu

Dr. Ehsan Ali,
Assistant Director,
Animal Husbandry, Skardu

Mr. Mohammad Afzal,
Divisional Forest Officer, Skardu

Mr. Daud Khan,
Assistant Commissioner, Shigar

Mr. Sami Quraishi,
Station Director, PBC, Skardu

Annexure - III

THE AGA KHAN RURAL SUPPORT PROGRAMME

NINETEENTH PROGRESS REPORT

July 1987 - September 1987

AKRSP

Babar Road, P.O. Box 506,
Gilgit, Northern Areas, Pakistan

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TABLE OF CONTENTS

	Page
Summary	iv
Statistical Abstract for the Project Area	ix
Part I: Gilgit District	1
Part II: Chitral District	45
Part III: Baltistan District	62
Budget & Accounts	83
Appendix: Visitors to AKRSP and Project Area based friends	87

PREFACE

The third quarter of 1987 has been an unusually busy and productive period for AKRSP. We received dozens of important visitors; hosted the film crew which is making the second film on AKRSP activities; and held intensive discussions among ourselves and with the villagers on new programming initiatives.

Many of our friends, impressed by what they perceive to be our "successes", pointedly ask us to reveal our "failures", particularly in our reports and in meetings with donors, journalists, academics and other visitors. We have always maintained that the evolution of our work has to be understood in the context of the capacity of villagers to undertake specific development functions. Ours has been a partnership between AKRSP managers and the thousands of village managers who control the resources of this region. As development managers, we have usually followed the villagers' lead, but we have also steered them, through motivation and incentives, in directions which we feel will improve their welfare in the long term. In the process, literally dozens of institutional and technological innovations have been tested; some have been adopted more widely than others. In one sense, therefore, there are, indeed, identifiable successes and failures, many of which are noted in our reports (starting with the Second Progress Report), while others have become part of an oral tradition of development management within AKRSP.

Important as it is in its own right, the success or failure of individual innovations appears to us to be secondary to the process through which innovations are identified, tested, and either rejected or replicated. Simply put, this is a learning process, for both AKRSP and the villagers it works with. The outcome of this process is an improved capacity to manage the human, physical and financial resources of the region. Over a period of nearly five years, we have witnessed significant improvements in the capacity of AKRSP and the villagers to manage village resources in the context of the ever-expanding development agenda.

Those who have viewed Valleys in Transition (a video on AKRSP, filmed in May 1983) have seen examples of the Village Organisation managing a small number of development projects. After seeing this film at the AKRSP offices, Dr Mahbub ul Haq, the Federal Minister for Commerce, Planning and Development, wrote the following remarks in the Visitor's Book: "One of the best examples of bottom-up planning and development. It is an ideal arrangement to tailor development programmes to the needs of the villagers through their own organisations." The potential for managing development which Dr Haq sees in the Village Organisation is beginning to emerge in numerous new ways throughout the project area; some particularly instructive experiences have been recorded for the second film on AKRSP.

These new experiences have given hope to the villagers that many of the dreams to which they aspired as petitioners can now be fulfilled by themselves as managers. If the villagers can demonstrate an ever-expanding capacity to manage their common concerns, a time will come when change will not merely be thrust upon these rural communities, but will also be effected organically within them.

Shoaib Sultan Khan
General Manager

SUMMARY

GILGIT DISTRICT PROGRAMME

Overview

During the third quarter of 1987, the Programme's Gilgit-based Management Group decided to establish a District Programme Office in Gilgit. The underlying objective behind this decision was to consolidate operational responsibility for Gilgit within one office, headed by the District Programme Officer.

With the expansion of AKRSP activities in the three districts of the project area, it was being felt that the management group was over-stretched and the interdisciplinary coordination at the operational level was becoming increasingly difficult. Moreover, the experiences of Chitral and Baltistan in terms of the establishment of the District Programme Offices have been extremely encouraging. In the new set-up the responsibility of policy making and package development will rest with the Programme's central office in Gilgit. The newly established, District Programme Office will be responsible for the implementation of the Programme in Gilgit District. Furthermore, effective interdisciplinary coordination would also be ensured at the operational level. It is envisaged that more concerted efforts for the promotion of seasonal activities, like, vaccination, pesticide spraying and large scale plantations etc. would also be made possible within the structure of the District Programme Office.

I. Social Organisation

By the end of the review quarter, the number of Village Organisations formed in Gilgit District had increased to 370 with an estimated total membership of 26,500, representing 90% of the rural households in the district. Since the growth of VO numbers and membership in Gilgit District has come close to its peak, the major focus of the programme is on the consolidation of the activities initiated so far in the district.

Some of the advanced Village Organisations with the assistance of AKRSP are in the process of developing a comprehensive resource development plan for their entire territory, which consists of communal forests, pastures, orchards, water resources and crop lands.

II. Women in Development (WID)

During the quarter, productive programme packages introduced for rural women reached various phases of completion in the district. Under the Productive Infrastructure and Engineering Services Division, sixteen butter churners were distributed to the Village Organisations. In addition to this, a productive physical infrastructure scheme of nursery development was given to a

women's group. Under the Human Resources Development Division, a poultry regular training course was organised in the district. Ten women specialists from as many VOs attended the course. The short-term credit programme was extended to the women's groups to facilitate the purchase of fertiliser and poultry chicks. Seven Village Organisations received short-term credit amounting to Rs. 92,878, benefiting 284 rural households.

III. Productive Infrastructure and Engineering Services (PIES)

To date, a total of 283 projects have been initiated in Gilgit District at a total cost of Rs. 43.22 million, of which Rs. 38.68 million, or 89% of the total cost have been disbursed to the VOs. These projects benefit about 24,016 rural households in the district. A total of 214 projects have been reported completed and the cumulative physical progress of the PPI programme in the district stands at 82%. A significant development during the review quarter was the increase in the demand for the low cost micro hydel units developed by PIES. Initially these micro hydel units were introduced in the district with the dehydration chambers. The experience with the dehydration chambers has not proved to be very successful, but this endeavour has led towards the generation of a demand for micro hydel units in different parts of the district. These micro hydel units are being utilized to power basic communal machinery and implements such as nut-crackers and maize shellers at the village level, in addition to providing primary lighting facilities to the houses.

IV. Agricultural and Resource Management (ARM)

During the present quarter, yield information from the demonstration plots of high yielding varieties of wheat and vegetables, planted in the double-cropped areas earlier this year, was collected. From the single-cropped areas, data are being collected. The findings would be made available in the next quarterly report. A manual seed potato grader was developed with the collaboration of Pak-Swiss Potato Development Project. Five seed potato graders were distributed to 3 Village Organisations in Gujal. One regular plant production and protection course was held during the review quarter and 9 specialists from as many VOs attended. A five-day mushroom cultivation training course in collaboration with the University of Agriculture, Faisalabad was also organised in the district. Pesticides worth Rs. 2,408 were purchased by VO plant production and protection specialists from the Extension Training Centre. Maintenance and up-keep of forest plants was carried out in VO nurseries.

During the present quarter, four Village Organisations received cows under the Heifer Project. Representatives from these VOs have already been trained as farm managers and instructions regarding feeding and management have already been given to these farm managers. But inspite of all these measures, the desired results from the project could not be

achieved. In some cases the overhead expenditure far exceeds the output. The livestock section has identified a number of milk production constraints and is closely monitoring the entire process. During the quarter, feed improvement activities were confined to the Heifer Project VOs. To date a total of 80,420 kg of silage has been prepared in four Heifer Project villages. As part of the artificial insemination programme, 423 animals were checked for insemination, out of which only 35 could be found in heat and were inseminated. For pasture development, a detailed resource inventory survey was carried out in the Chalt-Chaprote range. The major recommendation for the development of the high pastures of Chalt-Chaprote is the development of a system of grazing management through the introduction of rotational grazing in the area.

V. Savings and Credit

By the end of September 1987, the total saving deposits of VOs and WOs in Gilgit District had reached Rs. 17.10 million, an increase of Rs. 2.37 million over the last quarter. During the review quarter, 96 short-term production loans amounting to Rs. 2.17 million were extended, benefiting 4,603 households. With this, the total loans extended so far for short-term production purposes, reached Rs. 18.76 million, benefiting a total of 71,015 rural households. During the present quarter, 16 medium-term loans amounting to Rs. 2.31 million were given to 835 households. The total medium-term credit disbursed so far amounts to Rs. 15.50 million, benefiting 7,754 households of 129 VOs.

The amount in default i.e. amount not yet paid more than 12 months after disbursement, for short-term credit has totalled Rs. 178,173. This is 0.95% of the total amount disbursed so far for short-term purposes.

VI. Commercial and Industrial Development (CID)

During the quarter under review, 26 VOs reported on marketing of fruits, agricultural produce and livestock. The reported farm gate income from this cooperative endeavour was Rs. 413,690, benefiting 1,385 households. Short-term marketing loans amounting to Rs. 1.50 million were advanced to 2,796 beneficiaries of 55 VOs. Medium-term loans amounting to Rs. 0.06 million were advanced to 2 VOs. During the present quarter, a refresher course was organised and a total of 9 marketing specialists from as many VOs attended the course. A total of 40 demonstrations in sulphuring and improved dehydration techniques were organised in which 1,052 VO representatives participated.

VII. Monitoring, Evaluation and Research (MER)

During the review quarter, the MER Section underwent an adjustment period in terms of personnel which temporarily reduced the momentum of work. Efforts continue towards the computerisation process of routine project data. This would

enable computerised preparation of reports for management purposes, including the Quarterly Progress Reports. Four papers were prepared by the WID and MER Sections for the November Workshop on Women and Resource Management.

CHITRAL DISTRICT PROGRAMME

By the end of September 1987, 208 VOs with an estimated membership of 11,857 had been formed, with total bank deposits of Rs. 7.04 million. A total of 157 PPI projects have been initiated at a cost of Rs. 24.49 million of which Rs. 19.42 million or 79% has been disbursed to the implementing VOs. Eighty-three projects are reported complete. During the review quarter, Pirsabak 85 wheat variety was harvested which showed higher yields against the local variety for both grain and straw which has encouraged the farmers to plant the new variety. The maize variety under testing is also showing promise over local varieties. A number of VOs have planted vetch on an experimental basis. A fruit and vegetable nursery was developed by one VO while another has initiated common forestation and pasture during the review quarter. Medicines costing Rs. 7,046 will be supplied to livestock specialists to treat an estimated 4,881 small and large animals. The second round of livestock vaccination was completed during the quarter with an estimated coverage of 11,520 animals. The third round of poultry vaccination was initiated and the supplied vaccines will cover 80,000 birds. To improve poultry breed, 264 Fayumi chicks were distributed to 2 women's group on loan basis. To improve sheep breeding, 3 Rambouillet rams were supplied to 2 VOs for cross-breeding. During the review quarter, fertiliser credit amounting to Rs. 135,600 was extended to 9 VOs benefitting 296 households, while 638 households of 6 VOs received Rs. 140,000 as marketing credit. Under the medium-term loan package, 369 households of 5 VOs received Rs. 232,126 for land development purposes while another 5 VOs received Rs. 906,000 for agricultural machinery benefitting 300 households. A number of VOs engaged in marketing activities despite the fact that a large quantity of fruit was destroyed in the district due to rains and persistent cold weather. The first marketing regular course was held in the district for 7 members. This included a trip for the trainees to down-country fresh and dry fruit markets. The staff of the WID Section was active in promoting the women folk of the area to organise. The number of women's group in the district rose from 8 to 20 during the review quarter, with membership of 587 and total savings of Rs. 89,687. Under the WID package, 75 GTZ stoves, 100 Fayumi chicks and 10 nut-cracking machines were distributed to the VOs.

BALTISTAN DISTRICT PROGRAMME

By the end of September 1987, 127 VOs had been formed, comprising 5,256 members with total bank deposits of Rs. 2.20 million. By the third quarter's end, 88 PPI projects had been initiated at a

total cost of Rs. 14.15 million, of which Rs. 9.10 million or 64% of the cost had been disbursed to the implementing VOs; 34 projects were reported complete and the overall VO maintenance performance on completed schemes was deemed satisfactory. The PIES section had stepped up its activities and by the quarter's end 21 VOs in all had received nut-cracking machines and 5 micro-hydel units had been installed to fruit dehydration chambers on an experimental basis. A windmill for water lifting purposes from a river was also installed on trial basis. The ARM Division continued with its trial/demonstration plots for several varieties of wheat, chickpeas and vegetables at various locations. Yield data of previously laid trial plots of Pak-81 wheat variety, potatoes and other vegetables was collected. The PPP specialists procured pesticides worth Rs. 3,855 during the review quarter and received Rs. 950 in remuneration for their services. The Livestock Section conducted a field survey to assess the performance of some 50 livestock specialists trained to date. Feedback was analysed and conclusions drawn regarding future training and trainee selection. The livestock specialists purchased medicines/vaccines worth Rs. 2,524 during the review quarter. Activities were underway to improve the quality of available forage in an attempt to address the acute shortage of animal feed in the district. Methods of hay-making and silage were introduced and there are plans to demonstrate urea treatment of wheat straw before the year's end. Maize will be promoted as a second crop to meet fodder needs through silage. Artificial insemination for breed improvement is being proposed and many VOs are expected to cover several rounds of vaccination before the AI programme can be initiated. The introduction of Fayoumi poultry birds has been well received by VOs. WID efforts continued and at the quarter's end 22 VOs had expressed willingness to nominate women for village based-training and other development activities. Twenty VOs are expected to participate in marketing activities during the current season. VOs have dried significant quantities of apricots using new sulphuring and other techniques introduced by AKRSP. During the quarter under review, 8 fertiliser loans amounting to Rs. 186,041 were advanced to 328 rural households and 10 VOs received marketing loans totalling Rs. 203,500 benefitting 370 households. Under the medium-term credit programme, 3 loans amounting to Rs. 0.50 million were provided to 180 households for the purchase of agricultural machinery.

STATISTICAL ABSTRACT
Project Area
December 1982 - September 1987

	<u>Cumulative</u>	<u>Quarter's Addition</u>
I. Project Area		
1. Area (Sq.km)	69,200	
2. Population	802,000	
3. No. of rural households (approx)	98,400	
4. No. of potential Village Organisations (approx)	1,280	
II. Social Organisation		
1. No. of Village Organisations	705	32
2. Membership (estimated)	43,613	648
3. Bank deposits (million Rs.)	26.34	365
4. % of rural households covered by VOs.	44	1
III. Women in Development (WID) (Gilgit District only)		
1. Membership	7,300	530
2. Bank deposits (million Rs.)	2.6	0.17
3. Credit disbursed (Rs.)	695,596	92,878
- short-term	493,596	92,878
- medium-term	202,000	-
4. No. of villages where appropriate technology package introduced	226	75
- by grant	130	72
- by credit	96	3
5. Agriculture & Resource Management PPIs	32	1
- nursery projects	7	1
- vegetable demonstration plots	23	0
- poultry farms	2	0
6. Human Resource Development		
No. of First Time Trainees	408	10
- poultry long courses	147	10
- poultry short courses	58	0
- silage preparation	15	0
- vegetable cultivation techniques	115	0
- fruit processing	43	0
- nursery management	30	0

IV. Productive Infrastructure & Engineering Services (PIES)

1. No. of projects identified	1,110	4
2. Estimated cost of projects identified (million Rs.)	164.37	0.64
3. No. of projects initiated	528	20
4. No. of beneficiary households	38,547	1,821
5. Cost of initiated projects (million Rs.)	81.86	2.85
6. Physical Progress (%)	78	-
7. No. of projects completed	331	38

V. Short-term Credit
(includes marketing loans which are also reported separately)

1. Amount disbursed (million Rs.)	26.02	2.82
2.* No. of group loans for VOs.	1,912	129
3.* No. of beneficiary households	96,049	6,235
4. Amount in default (Rs.)	181,879	137,923
5. Default as % of amount disbursed	0.69	-
(* includes multiple loans to the same VO)		

VI. Medium-term Credit

1. Amount disbursed (million Rs.)	18.65	3.94
2.* No. of group loans for VOs	159	27
3.* No. of beneficiary households	9,479	1,684
4. Default as % of amount disbursed	0	-
(* includes multiple loans to the same VO.)		

VII. Human Resources Development (HRD)

1. No. of Regular Courses	58	5
- Agriculture	23	1
- Livestock	16	0
- Poultry	10	1
- Marketing	8	3
- Accounts	1	0
2. No. of First-time Trainees	1,131	40
- Agriculture	415	9
- Livestock	326	0
- Poultry	241	10
- Marketing	133	21
- Accounts	16	0

3. No. of Refresher Courses	41	1
- Agriculture	16	0
- Livestock	18	0
- Poultry	3	0
- Marketing	4	1

VIII. Commercial & Industrial Development (CID)

1.* No. of participating VOs	260	44
2.* Beneficiary households	9,302	2,269
3.* Marketing production loans (Rs. million)	5.92	1.83
4.* No. of group loans for VOs	290	71
5.* No. of beneficiary households for loans	15,646	3,804

(* includes multiple beneficiaries from the same VO)

PART I

GILGIT DISTRICT

CONTENTS OF PART I

Statistical Abstract for Gilgit District	4
Chapter One Social Organisation	7
Chapter Two Women in Development (WID)	9
Chapter Three Productive Infrastructure and Engineering Services (PIES)	17
Chapter Four Agricultural and Resource Management (ARM)	24
Chapter Five Savings and Credit (S&C)	33
Chapter Six Commercial and Industrial Development (CID)	39
Chapter Seven Monitoring, Evaluation and Research (MER)	44
List of Boxes	
2.1 Vegetable Package Evaluation	11
List of Tables	
2.1 Productive Infrastructure and Engineering Services Package for Women	13
2.2 Agriculture and Resource Management Package for Women	14
2.3 Human Resource Development Package for Women	15
2.4 Credit Disbursements for Women	16
3.1 Number of PPI Projects Identified	19
3.2 Estimated Cost of PPI Projects Identified	20
3.3 PPI Commitment, Disbursement and Completed Projects	21
3.4 Sub-Division Wise Distribution of Schemes and Costs	22
3.5 Land Development Projects Initiated	23
4.1 Agricultural Training Courses	29
4.2 List of Participants in the Mushroom Training Course	29
4.3 Pesticides/Fungicides purchased by VO PPP Specialists	30

4.4	Poultry Training Course	31
4.5	Vaccines and Medicines procured by VO Livestock Specialists	31
4.6	Quarterly A.I. Work Statement	32
5.1	Village Organisation, Bank Deposits	35
5.2	Loan-To-Deposits Ratios	35
5.3	Short-Term Credit, Disbursement Summary	36
5.4	Medium-Term Credit, Disbursement Summary	37
5.5	Credit Summary for all Loans	38
6.1	Cooperative Marketing	42

STATISTICAL ABSTRACT

Gilgit District

December 1982-September 1987

	<u>Cumulative</u>	<u>Quarter's Addition</u>
I. Project Area		
1. Area (Sq.km)	28,500	
2. Population	277,000	
3. No. of rural households (approx)	29,600	
4. No. of potential Village Organisations (approx)	410	
II. Social Organisation		
1. No. of Village Organisations	370	15
2. Membership (estimated)	26,500	88
3. Bank deposits (million Rs.)	17.10	2.37
4. % of rural households covered by VOs.	90	0
III. Women in Development (WID)		
1. Membership	7,300	530
2. Bank deposits (million Rs.)	2.6	0.17
3. Credit disbursed (Rs.)	695,596	92,878
- short-term	493,596	92,878
- medium-term	202,000	0
4. No. of villages where appropriate technology package introduced	226	75
- by grant	130	72
- by credit	96	3
5. Agriculture & Resource Management PPIs	32	1
- nursery projects	7	1
- vegetable demonstration plots	23	0
- poultry farms	2	0
6. Human Resource Development No. of First Time Trainees	408	10
- poultry long Courses	147	10
- poultry short Courses	58	0
- silage preparations	15	0
- vegetable cultivation techniques	115	0
- fruit processing	43	0
- nursery management	30	0

IV. Productive Infrastructure & Engineering Services (PIES)

1. No. of projects identified	436	4
2. Estimated cost of projects identified (million Rs.)	58.84	0.64
3. No. of projects initiated	283	3
4. No. of beneficiary households (estimated)	24,016	169
5. Cost of initiated projects (million Rs.)	43.22	0.92
6. Physical Progress (%)	82	-
7. No. of projects completed	214	14

V. Short-term Credit (includes marketing loans which are also reported separately)

1. Amount disbursed (million Rs.)	18.76	2.16
2.* No. of group loans for VO's.	1,384	96
3.* No. of beneficiary households	71,015	4,603
4. Amount in default (Rs.)	178,173	139,644
5. Default as % of amount disbursed	0.95	-
(* includes multiple loans to the same VO)		

VI. Medium-term Credit

1. Amount disbursed (million Rs.)	15.50	2.31
2.* No. of group loans for VO's	129	14
3.* No. of beneficiary households	7,754	835
4. Default as % of amount disbursed	0	0
(* includes multiple loans to the same VO.)		

VII. Human Resources Development (HRD)

1. No. of Regular Courses	41	3
- Agriculture	14	1
- Livestock	10	0
- Poultry	10	1
- Marketing	6	1
- Accounts	1	0
2. No. of First-time Trainees	846	33
- Agriculture	284	9
- Livestock	200	0
- Poultry	241	10
- Marketing	105	14
- Accounts	16	0

3. No. of Refresher Courses	33	1
- Agriculture	12	0
- Livestock	14	0
- Poultry	3	0
- Marketing	4	1
- Accounts	0	0

VIII. Commercial & Industrial Development (CID)

1. No. of participating VOs	206	26
2. Gross sales (million Rs.)	4.66	0.44
3. Marketing expenses (million Rs.)	0.40	0.02
4. Farmgate Income (million Rs.)	4.25	0.41
5. Beneficiary households	7,060	1,385
6. Marketing production loans (million Rs.)	4.85	1.49
7. Marketing processing loans (million Rs.)	0.44	0.06
8. No. of group loans for VOs	236	55
9. No. of beneficiary households for loans	12,710	2,796

CHAPTER ONE

SOCIAL ORGANISATION

I. Overview

During the quarter under review, 15 new Village Organisations were formed in Gilgit District taking the total number of Village Organisations formed in the district to 370. The total number of rural households that these Village Organisations represent is about 26,500. The combined bank deposits of these Village Organisations, including deposits operated by women's groups have increased from Rs. 14.73 million in the previous quarter to Rs. 17.10 million by the close of September 1987.*

At this stage it is clear that the growth of VO numbers and membership has come close to its peak. Most of the increase in the number of Village Organisations for the present quarter can be attributed to the fact that many Village Organisations operating in the district have decided to form more cohesive collectively run rural organisations. In addition to this, a few entirely new Village Organisations have come into existence in Gilgit District.

During the review quarter, the major focus of the programme was placed on the consolidation of the activities initiated so far in the district.

II. Concept of Territorial Management

One of the significant features of the present quarter was the introduction of the concept of territorial management in some of the advanced Village Organisations of the district by Dr. Akhter Hameed Khan. Traditionally, the rural farmers in Gilgit District have had very clear and definite perceptions of private property, its development and maintenance. But their perceptions of the maintenance and development of common property is either non-existent or very obscure. The rural farm households should realise that common property must be developed and maintained in the same manner as private property. It is imperative that the Village Organisations should first of all assume the responsibility of ownership.

Some of the advanced Village Organisations with the assistance of AKRSP are in the process of developing a comprehensive development plan for their entire territory, which consists of communal forests, pastures, orchards, water resources and crop lands.

* Based on partial information available from the banks; reports received from the field officers put the VO's total savings at Rs. 18.60 million.

The first exercise which has already been initiated in some of the villages would be a complete mapping and classification of all the resources in the territory. Future directions and territorial development plans of the Village Organisations would be based on this resource identification and development exercise.

During the present quarter, a detailed resource inventory survey was conducted in the Chalt Chaprote range. The findings of this exercise were discussed with the members of the Village Organisations of Rahbat Bala, Chaprote Bala and Chaprote Paeen. A territorial development committee has been constituted in the village which is in the process of formulating a development plan in the light of the recommendations made by the technical experts of AKRSP.

III. Valley-based Institutions

An interesting development of the present quarter was the emergence of the model of collective management of rural resources at the supra village level. In all the tehsils of the district, physical boundaries for these potential valley-based institutions have been identified. With the assistance of AKRSP personnel, a resource development planning exercise has already been initiated.

CHAPTER TWO

WOMEN IN DEVELOPMENT

I. Overview

During the present quarter, productive programme packages introduced for rural women, reached various phases of completion in the project area. These include the packages of Appropriate Technology, Agriculture and Resource Management, Human Resource Development, Credit for essential inputs, etc.

II. Programme Packages

PIES: Under the Productive Infrastructure and Engineering Services, sixteen butter churners were distributed to the Village Organisations. Out of these, thirteen were given on grant for collective management and operation at the village level while three were given on loan to interested members of the Village Organisation for on-farm use. In view of the fact that butter making is a women's activity and the conventional method is slow and time consuming, community managed butter churners were distributed to the Heifer Project villages, where efforts are underway to promote collectively managed dairy farming.

Unfortunately, the programmes experience with the dehydration chambers did not prove to be very successful. One of the findings was that the time required for dehydration did not reduce as planned. At several locations it took more time than open air drying. In some cases where the regularity of electricity could not be ensured, apricots were totally wasted due to humidity. Further development of such chambers has now been stopped. The chambers constructed can however be utilized for storage of fruits, potatoes etc, if the VO so desires. At five locations, micro hydel units had also been installed with the chambers, these have been completed and made functional. These micro-hydel units could be utilized for the provision of electricity to the nut cracking machines, butter churners, oil expellers and silage choppers etc. This in turn would play an effective role in reducing the work load of the rural women.

ARM: During the review quarter an evaluation of the vegetable demonstration plots laid out in Gilgit, Nagar and Hunza subdivisions, was carried out in 10 villages (See box # 2.1).

The WID section is closely monitoring the progress made in the nursery development programme. It has been observed that growth of plants in the Khyber nursery has been slow due to high altitude, while in Chatorkhand, Ahmedabad, Sherabad/Roshanabad and Rahbat Bala it was found satisfactory. At certain locations, minor pest attacks were identified and the ARM division has taken the necessary action in this regard. The high maintenance standards of the nurseries indicate that the women's involvement in the nursery package is satisfactory.

During the review quarter, a nursery development project was given as a PPI to a women's group in Gilgit sub-division. The overall performance of this organisation in terms of participation, regular meetings and savings etc has been extremely good. Also, there is no government nursery in the vicinity to cater for the plants supply of the village. The first instalment amounting to Rs. 19,000 has been disbursed to the women's group and the fencing for the nursery establishment has been completed.

At the Garelth poultry farm, in the first cycle, 600 poultry chicks were sold and a profit of Rs. 5,000 was earned. In its second cycle, 1,000 chicks are being reared at the farms. This poultry unit is now being managed by representatives of the Village Organisations.

HRD: Under the Human Resource Development Division, a poultry regular training course was held from September 21 to September 30, 1987. Ten women trainees representing ten women's groups participated in the course.

Under the credit and input supply arrangement, seven Village Organisations obtained short-term production loans. The total amount of these loans issued during the quarter was Rs. 92,878, benefitting 284 households. This short-term credit was utilized for the purchase of fertilizer and poultry chicks.

WOMEN IN DEVELOPMENT

 Vegetable Package Evaluation

During the period March 9 - May 11, thirteen new and improved vegetable seeds and simple cultivation practices were introduced in 23 villages. These villages are located in the areas of Gilgit, Nagar, Hunza, Gupis and Yasin.

The objectives were:

- to introduce new and improved vegetable seeds.
- to promote higher yields with simple cultivation practices.
- to expand vegetable cultivation. The women's groups were encouraged to market the vegetables.

Members of the WID section went at least once a month for follow-up work to the villages.

The evaluation was done during the period of 17-23 September in 10 villages located in Gilgit, Nagar and Hunza.

Observations were made of the vegetable plots and discussions were held with the women responsible for the plot on the problems, the yields and the marketing situation.

Observations are indicated below:

<u>Class</u>	<u>Vegetables</u>
1.	Potato, carrot, turnip, lettuce, China cabbage, peas
2.	Beetroot, cabbage, tomato
3.	Radish, bell-pepper
4.	Aubergine (eggplant)
5.	Cauliflower

Key

1. Widely successful vegetables over the surveyed area.
 2. Fairly successful vegetables, some relevance to altitude/temperature.
 3. Success related to altitude/temperature and management.
 4. Success dependant on altitude/temperature and high management.
 5. Failure of vegetable, unsuited to the surveyed area.
-

Across villages where the new and improved seeds grew successfully, they showed superior qualities to local seed varieties. The yield was higher, the crops matured quicker and most of them had a better palatibility.

The suitability of cultivation practices was high. The transplanting frame, plastic tunnel and the seed potato techniques had an adoption of 100%.

The acceptance of seedbed and line sowing was low.

The level of activity of the plant production and protection specialist in the 10 villages evaluated was 50%. The reasons for not spraying were either that the crops appeared healthy or the plant production and protection specialist was not available.

The marketing was only successful in villages where the marketing specialist was active. If the women had to do it themselves it was only possible within the village.

The vegetable package was successful and the acceptance of the given seeds and most of introduced cultivation practices was high.

The results will be compiled in detail and circulated in Urdu to the SOU. Seeds will be made available for the next growing season at the AKRSP outlet in Gilgit.

Training courses in vegetable production for women are planned, for the coming year.

Table 2.1

PRODUCTIVE INFRASTRUCTURE AND ENGINEERING SERVICES

PACKAGE FOR WOMEN

A: CUMULATIVE UPTO SEPTEMBER, 1987

Type of technology	No. of villages where technology is being introduced		No. of completed projects
	Grant	Loan	
1. Nut Cracking Machines	37	38	75
2. <u>Dehydration Chambers</u>			
i) Chambers	6	-	6
ii) Micro-hydel	5	-	5
3. Sulphuring tents	59	25	84
4. Bio-gas units	6	-	6
5. Butter Churners	16	3	19
6. Micro-hydel units	1	-	1
7. Fuel-Efficient stoves	-	30	30
Total	130	96	226

B: ADDITIONS DURING THE QUARTER

Butter churners	13	3	16
Sulphur tents	59	-	59
Total	72	3	75

AGRICULTURE AND RESOURCE MANAGEMENT

Table 2.2

PACKAGE FOR WOMEN

A: CUMULATIVE UPTO SEPTEMBER, 1987

Type of project	Valleys in which projects implemented	No. of villages in each valley
1. Nursery Development	Gojal	1
	Hunza	2
	Nagar	2
	Gilgit	1
	Yasin	1
2. Vegetable demonstration plots	Gojal	2
	Hunza	2
	Nagar	3
	Gilgit	5
	Gupis	6
	Yasin	5
3. Poultry Farm	Hunza	1
	Gilgit	1

B: ADDITIONS DURING THE QUARTER

1. Nursery Development	Gilgit	1
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Table 2.3

HUMAN RESOURCE DEVELOPMENT

PACKAGE FOR WOMEN

A: CUMULATIVE UPTO SEPTEMBER, 1987

Type of project	No. of Women trained	No. of villages with trained women
Poultry Training Regular (Long)	147	77
Poultry Training Refresher	42	35
Poultry Training Regular (Short)	58	57
Silage Preparation	15	-
Vegetable Cultivation Techniques	115	23
Fruit Processing	43	43
Nursery Training	30	6
Plant Protection Specialist	1	1

B: ADDITION DURING THE QUARTER

Poultry Regular Training	10	10
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Table 2.4

CREDIT DISBURSEMENT FOR WOMEN

A: CUMULATIVE UPTO SEPTEMBER 1987

Short-term Loans

Type of loan	No. of loans	Amount (Rs.)	Beneficiary Households	Default
Fertilizer	29	236,184	495	
Poultry	37	230,315	1,515	
Vegetable Seed	3	20,097	158	
Marketing	1	7,000	32	
Total	70	493,596	2,200	

Medium-term Loans

Mixed Farming	1	50,000	86	
Nursery dev.	4	152,000	195	
Total	5	202,000	281	

B: ADDITIONS DURING THE QUARTER

Short-term Loans

Poultry	4	63,000	161	
Fertilizer	3	29,878	123	
Total	7	92,878	284	

CHAPTER THREE

PRODUCTIVE INFRASTRUCTURE AND ENGINEERING SERVICES

I. Portfolio of Engineering Projects

By the end of September 1987, a total of 436 projects had been identified in Gilgit district and the total estimated cost for the implementation of these projects amounts to Rs. 58.84 million (Table 3.1-2).

By the end of the review quarter, a total of 283 projects had been initiated in Gilgit District at a total cost of Rs. 43.22 million, of which Rs. 38.68 million or 89 percent has been disbursed to the implementing Village Organisations. Irrigation projects account for 58% of the total initiated schemes in the District.

A total of 214 projects have been reported complete and the cumulative physical progress of the PPI programme in the district stands at 82%. Table 3.3A illustrates commitment, disbursement and the number of completed projects by type of project and Table 3.3B by sub-division, while Table 3.4 summarises the distribution of these schemes and costs by sector and by sub-division.

II. Land Development

In Gilgit District, AKRSP has so far extended Rs. 10.94 million in medium term loan for facilitating the implementation of land development projects in the district. Though at this stage it is extremely difficult to quantify the figures pertaining to land that would be brought under irrigation, nevertheless an effort has been made to provide some information on it.

In Table 3.5, details pertaining to the land development projects initiated by the Village Organisations have been illustrated tehsil-wise. With the 84 land development projects initiated in the district so far, it is estimated that a total of 1,719 hectares of waste land will be brought under irrigation benefitting approximately 5,381 households of Gilgit District.

During the review quarter, a total of 13 land development loans, amounting to Rs. 1.9 million were disbursed in the district.

III. Appropriate Technology

During the review quarter, demand for the low cost micro hydel unit developed by PIES increased substantially in the district. Initially the micro hydel units were introduced with the dehydration chambers. The experience with the dehydration chambers has not been very encouraging but this endeavour has certainly led towards the generation of a demand for micro hydel units in different regions of the district. Demand for these units is generally from the areas where the government power

system has not been extended as yet due to remoteness and other factors. Also the chances for the extension of government power supply in the near future are very slim. In addition to this, there are also certain villages where power supply is not available round the clock, and the need for power supply augmentation is very much there.

A training programme for the micro-hydel recipient Village Organisations is also organised by PIES on an on-going basis. The nominee of the recipient VO receives 15 days training at Shahtote and the running-in and testing of the equipment is also done at Shahtote. Mr. Iqbal of Shahtote, who has been associated with the programme since the inception of this package, serves as the master-trainer.

In order to facilitate the availability of spare parts, an outlet has recently been opened in Gilgit town.

Future innovations in this field would consist of experimentations with an electronic load controller, which is being imported from UK. This electronic load controller of 10 kW capacity will be installed with 10 kW generator. This would be done essentially to control voltage and frequency by keeping the load constant.

In addition to this, medium head turbines as suggested by Professor Burton of Reading University UK, would also be introduced in the district.

Table 3.1

GILGIT DISTRICT
NUMBER OF PPI PROJECTS IDENTIFIED

DECEMBER 1982 - SEPTEMBER 1987

S.No.	Sector	Gilgit	Hunza Nagar		Punyal/ Ishkoman	Gupis/ Yasin	Total
1.	Irrigation Channel	53	48	28	30	69	228
2.	Lift Irrigation	5	-	-	-	-	5
3.	Link Road	21	26	12	6	16	81
4.	Protective Works	6	6	4	13	39	68
5.	Storage Reservoir	6	4	5	3	16	34
6.	Sedimentation Tank	1	1	1	1	-	4
7.	Bridge	1	3	-	-	2	6
8.	Land Development	4	1	1	2	2	10
Total		97	89	51	55	144	436

Table 3.2

GILGIT DISTRICT
ESTIMATED COST OF PPI PORTFOLIO IDENTIFIED
DECEMBER 1982 - SEPTEMBER 1987
(Rs. '000)

S.No.	Sector	Gilgit	Hunza	Nagar	Punyal/ Ishkoman	Gupis/ Yasin	Total
1.	Irrigation Channel	9,932	5,625	3,087	2,864	10,020	31,528
2.	Lift Irrigation	1,050	-	-	-	-	1,050
3.	Link Road	2,426	3,011	1,085	872	2,089	9,483
4.	Protective Works	840	1,007	546	1,626	6,654	10,673
5.	Storage Reservoir	972	419	475	394	1,932	4,192
6.	Sedimentation Tank	136	131	88	180	-	535
7.	Bridge	100	362	-	-	80	542
8.	Land Development	340	100	100	200	98	838
Total:		15,796	10,655	5,381	6,136	20,873	58,841

Table 3.3

PRODUCTIVE PHYSICAL INFRASTRUCTURE

COMMITMENT, DISBURSEMENT AND COMPLETED PROJECTS
AS ON SEPT 30TH 1987

A: BY TYPE OF PROJECT

Gilgit District

Type of Project	Number of Projects	Cost Rs.'000	DISBURSEMENT		Completed Projects
			Rs.'000	As % of Cost	
Irrigation Channels	163	22,507	20,286	90	126
Syphon Irrigation	1	520	504	97	1
Pipe Irrigation	1	322	268	83	1
Lift Irrigation	2	247	245	99	2
Link Roads	46	8,308	7,306	88	36
Protective Works	28	5,235	4,891	93	21
Storage Reservoir	22	3,402	2,799	82	12
Mud-flow Control	1	54	54	100	1
Sedimentation Tanks	2	242	242	100	2
Pony Tracks	2	261	260	100	2
Bridges	6	1,198	1,114	93	5
Bridge/Link Road	2	204	185	91	2
Boundary Wall	2	192	192	100	2
Super Passage	1	189	189	100	1
Nursery	4	345	148	43	-
Total	283	43,226	38,683	89	214

B: BY SUB-DIVISION

Sub-Division	Number of Projects	Cost Rs.'000	DISBURSEMENT		Completed Projects
			Rs.'000	As % of Cost	
Hunza	56	9,592	8,673	90	43
Nagar	44	5,841	5,261	90	31
Gilgit	74	12,392	11,372	92	60
Punyal-Ishkoman	48	7,234	6,324	87	36
Gupis-Yasin	61	8,167	7,053	86	44
Total	283	43,226	38,683	89	214

Table 3.4

SUB-DIVISION-WISE DISTRIBUTION OF SCHEMES AND COSTS
AS ON 30TH SEPT 1987
(Rs. '000)

Gilgit District

Sector	Hunza	Nagar	Gilgit	Punyal-Ishkoman	Gupis-Yasin	Total Gilgit Distt.
Irrigation Channels	5,630 (36)	2,666 (23)	6,540 (39)	3,686 (30)	3,985 (35)	22,507 (163)
Syphon Irrigation		520 (1)				520 (1)
Pipe Irrigation			322 (1)			322 (1)
Lift Irrigation			247 (2)			247 (2)
Link Roads	2,843 (12)	610 (5)	3,903 (23)	757 (4)	195 (2)	8,308 (46)
Protective Works	179 (2)	265 (1)	237 (2)	1,888 (9)	2,666 (14)	5,235 (28)
Storage Reservoir	228 (2)	958 (6)	701 (4)	522 (3)	993 (7)	3,402 (22)
Mud-flow Control					54 (1)	54 (1)
Sedimentation Tank		88 (1)	154 (1)			242 (2)
Pony Tracks	98 (1)		163 (1)			261 (2)
Bridges	614 (3)			381 (2)	203 (1)	1,198 (6)
Bridges/Link Roads		204 (2)				204 (2)
Boundary Wall		192 (2)				192 (2)
Super Passage		189 (1)				189 (1)
Nursery		149 (2)	125 (1)		71 (1)	345 (4)
	9,592 (56)	5,841 (44)	12,392 (74)	7,234 (48)	8,167 (61)	43,226 (283)

Note:

The upper figure is cost in Rs. '000. The lower figure in parentheses denotes the number of schemes.

Table 3.5

**LAND DEVELOPMENT PROJECTS INITIATED IN GILGIT DISTRICT
CUMULATIVE**

TEHSIL	NO. OF LAND DEV. PROJECTS	MEMBERS	TERRACES (ha)	FODDER (ha)	AFFORE- STATION (ha)	ORCHARDS (ha)	TOTAL AREA (ha)
Gujal	15	458	143	10	75	27	255
Hunza	2	94	7	5	22	11	45
Nagar	6	267	5	-	12	6	23
Sikandarabad	6	323	126	28	44	48	246
Gilgit	19	1,773	148	152	12	14	326
Punyal	14	1,238	40	36	131	30	237
Ishkoman	5	400	11	18	42	26	97
Gupis	9	416	79	20	128	18	245
Yasin	8	412	114	18	106	7	245
	84	5,381	673	287	572	187	1,719

CHAPTER FOUR
AGRICULTURE AND RESOURCE MANAGEMENT
CROP DEVELOPMENT

I. Research and Demonstration

Wheat: Yields from the research and demonstration plots planted in the two cropped area have been obtained. From the single cropped area these are being collected. As soon as the data are compiled, it would be analysed.

Maize: The crop has not yet matured. The maturity is 10-15 days late due to early on setting of cold weather this year. Cultivars in all the demonstration plots were very vigorous in growth. Besides yield, their maturity at the time of the local varieties would be very important because of the free grazing practice after harvest. No disease or insect attack was observed.

II. Seed Potato Grader

A manual seed potato grader was developed and manufactured in close collaboration with Pak-Swiss Potato Development Project. The six manufactured graders cost Rs. 1,900 a piece. Seed sizes from 25 mm to 55 mm and above can be graded. It grades 40 kgs of seed within 7-10 minutes. The grader is portable and can easily be taken from one field to another. Passu and Shishkat VOs were provided 2 graders each while Khaiber got one. During a follow-up visit the farmers expressed their satisfaction regarding its operation.

III. Training

Two training courses were organised during the quarter.

Plant Production and Protection Regular Course: The eleventh plant production and protection regular course was held from July 18 to August 1, 1987 at the Extension Training Centre, Gilgit. Nine VO specialists were trained from as many VOs. For details refer Table 4.1.

Mushroom Cultivation Training Course: A five day (Aug. 15-19, 1987) mushroom cultivation training course in collaboration with the University of Agriculture, Faisalabad was organised at Gilgit. The purpose of this course was to train the staff of Agriculture and WID sections of AKRSP in the mushroom cultivation and production technology, so that this could be demonstrated in selected villages to develop an income generating package if adopted. Classroom lectures were followed by practical cultivation of various types of mushroom on different substrates. List of participants is attached as Table 4.2.

IV. Pamphlet

A pamphlet on cultivation of 'Vetch' was written in Urdu and printed for the benefit of the farmers. Copies were sent to all VOs.

V. Input Supplies

Pesticides worth Rs. 2,408 were purchased by the village plant production and protection specialists from the Extension Training Centre supplies. Details are given in Table 4.3.

VI. Pasture Development Programme

During the third quarter of 1987, a detailed resource inventory survey was conducted in the Chalt Chaprote range. In this connection, a dialogue was held with the Village Organisations of Rahbat Bala, Chaprote Paeen and Chaprote Bala and the package of pasture development was explained at length.

The recommendations for the development of the high pastures of Chalt Chaprote included the following:

- Development of a system of grazing management by the introduction of rotational grazing in the area.
- Opening of new pastures by the improvement of spring and access paths.
- Development of irrigated pastures on summer/winter ranges.
- Afforestation in the natural forests and winter ranges.
- Improvement of low-lying pastures.
- Improvement of summer ranges.

A committee comprising the members of the Village Organisations of Rahbat Bala, Chaprote Paeen and Chaprote Bala has been formed in the area. The primary responsibility of this committee would be to formulate a plan of development for the Chalt Chaprote range in consultation with the AKRSP experts.

VII. Forestry Programme

During the review quarter, maintenance and upkeep of forest plants was carried out in the AKRSP mother nursery and Village Organisation nurseries.

A nursery development manual has been prepared for training Village Organisation nursery specialists and women work groups.

The forestry section is closely monitoring the progress on the six Village Organisation nurseries being managed by women groups.

VIII. Cultivation of Fodder Crops in Heifer Project Villages

194 kgs of rye and 200 kgs of vetch seed were supplied to four Heifer Project villages and guidelines on the cultivation of these seeds were provided.

LIVESTOCK SECTION

I. Training

During the third quarter of 1987, one regular course was held for poultry specialists. Women's representatives of 10 Village Organisations participated in the course. Details are given in table 4.4.

Two regular courses for the livestock specialists scheduled in this quarter were cancelled. It is felt that unless the existing trained specialists demonstrate sound performance, no further regular training would be held. The livestock specialists already trained would be urged to play an effective role in their respective VOs and their performance will be closely monitored by the Livestock Section. Future regular training and strategy would be subject to the performance of the existing livestock specialists and the VOs acceptance towards the prevention of losses package. Refresher courses on the other hand would be conducted for those VOs where the livestock specialists are rendering their services with better output. To date, 200 livestock specialists have been trained in Gilgit District but there are still over 100 VOs where there are no trained livestock specialists.

Vaccination: During the first round of vaccination, the livestock specialists procured 145,550 doses of vaccine, a capacity to cover equal number of animals. The second round of vaccination will be in October following a refresher course organised for the representatives of those VOs who are likely to participate in the second round of vaccination (about 148 VOs). During the review quarter, the VO livestock specialists procured vaccines and medicines worth Rs. 4,930. Details are provided in Table 4.5.

In the next quarter, for the first time follow up visits will be made in two selected VOs in each sub division to monitor the actual vaccination carried out within the village. This monitoring would ultimately be helpful in evaluating the prevention of losses package and determining the actual coverage of animals through vaccination. Realistic targets could then be set for the future.

II. Heifer Project

As reported in the last quarter, AKRSP had purchased 35 cows for Heifer Project VOs, which were stationed at Government sheep farm Jabba near Mansehra. Out of these, 24 cows were lactating ones, giving an average milk yield of 4 litres per day. Prior to

distribution and shipment, the animals were categorised on the basis of their biological score. This included scores of milk yield, milking behaviour, pedigree status, pregnancy, general health condition etc. On the basis of their score they were categorized into 'A', 'B', 'C', and 'D'. These animals were eventually divided into groups comprising equal number of each category in each group, thus making aggregate milk score the same, i.e. 30 litres in each group. Following this distribution, the cows were transported to Gilgit on August 19 for the following recipient VOs: (1) Juglote, (2) Jalalabad, (3) Rahimabad, and (4) Chaprote.

These villages are near the KKH thus easily accessible and have abundant green fodder. Feeding arrangements were already made prior to the delivery of animals to the 4 VOs.

Out of 35 cows, 3 were in their advance pregnancy, therefore they could not be transported in order to avoid stress. The technical instruction regarding feeding and management was also given to the farm manager.

AKRSP facilitated the training of one member from each Heifer Project VO as a farm manager at the Army dairy farm Rawalpindi. But in spite of all these measures, the output of these Heifer Projects dairy farms is not very encouraging. In some of the villages it has been observed that the overhead expenditure exceeds the output. In few cases, some members have refused to participate in the project. In Rahimabad, the management & nutrition was far better than in other VOs, but the production is lower than earlier expected. The possible reasons for low production could be:

- 1) Environmental change (It will take time to get the animals acclimatized).
- 2) Change in ration/nutrition. (In down country the dairy cows are fed with high energy commercial rations as concentrate as well as green burseen (fodder) throughout the year). Only Jalalabad and Rahimabad could provide green fodder i.e. alfalfa.
- 3) Lack of intensive management, managerial defects on the part of VO, has been a major constraint, although AKRSP's technical staff (livestock experts) made frequent visits.
- 4) Transport stress: stress due to transport is a major factor responsible for low production. This can last for about a month.

In addition to the above facts, the majority of animals are in their advance lactation. The peak of lactation is at 3 months after parturition. Afterwards the milk yield declines gradually. Two aspects are integrally correlated with production. These are management and nutrition. The poor management in Jaglote and

Chaprote is reflected in the low output.

III. Feed Improvement

During the review quarter, feed improvement programme was focussed on the Heifer Project villages where feeding during winter and early spring would be a problem. In this connection corn silage has been introduced in four villages. It is estimated that 45,000 kg corn silage would be required to feed 10 animals for a period of six months. But this target could only be achieved in Barkulti Paeen, where the members donated 0.125 acres of land for maize as per the agreement. Whereas in Thingdass, Juglote and Jalalabad, the VO members did not supply the required quantity of corn for silage making.

The quantity of silage made in the Heifer Project villages is given below.

VO	Quantity
1. Balkulti Paeen	45,000 kg
2. Thingdass	17,771 kg
3. Jalalabad	7,600 kg
4. Paiden dass	10,049 kg

Prior to silage making, 7 silage choppers were given to the Heifer Project villages, so that corn could be chopped with the help of motor choppers. Silage in the remaining Heifer Project villages would be made shortly.

IV. Artificial Insemination

In this quarter, A.I Programme has been slow, as the A.I. technician was engaged with the Heifer Project operation. However 423 animals were checked for insemination out of which only 35 were found to be in heat and consequently inseminated. In addition to the insemination, 10 cows were checked for pregnancy diagnosis. Sub-division wise detail of A.I. work is given in table 4.6.

A.I. Training: In the next quarter, breed improvement through insemination would be accelerated, as junior artificial insemination technicians have returned from Faisalabad, after a successful training at the Agriculture University. In all 5 para-veterinary government functionaries were sent for training. The technicians who will be stationed at the government veterinary dispensaries, will begin work at the end of October in their respective sub-divisions. They will be linked with the SOUs in their operations. Rs. 25 will be charged per insemination, of which Rs. 15 will be given to AKRSP for supply of liquid nitrogen gas and semen while Rs. 10 will be the technicians fee.

Details of the programme and performance of these technicians will be reported in the next quarters report.

Table 4.1

**AGRICULTURAL TRAINING COURSES HELD
DURING 3RD QUARTER, 1987**

(July-August-September)

No.of Train- ing	No.of days	No.of Partici- pants	DIRECT COST TO TRAINEES				Prizes (Rs.)	Total (Rs.)
			Honorarium (Rs.)	TA/DA (Rs.)	Transport (Rs.)	Training kits		
1	15	9	1,200	4,990	-	10,800	1,000	17,990
2	5	10	-	-	-	-	-	-

1. 11th PPP regular course w.e.f. 18th July to 1st August, 1987
2. Mushroom cultivation training course held from 16th-20th August for the staff of Agriculture and WID Section of AKRSP.

Table 4.2

**LIST OF PARTICIPANTS
IN THE MUSHROOM TRAINING COURSE**

- | | | |
|-----|---------------------|--------------------------------|
| 1. | Dr. Zahur Alam | Programme Senior Agriculturist |
| 2. | Mr. Ali Gohar | Project Forester |
| 3. | Mr. Karim Baig | Project Agriculturist |
| 4. | Mr. Tawalud Shah | Project Agriculturist |
| 5. | Ms. Naurein | Women Field Coordinator |
| 6. | Ms. Gulistan | Women Field Coordinator |
| 7. | Ms. Mahjabeen Abidi | Agriculturist WID |
| 8. | Mr. Mohammad Younis | Field Agronomist, NFC |
| 9. | Mrs. Roshan Mecklai | |
| 10. | Mrs. Zahur Alam | |

PESTICIDES/FUNGICIDES PURCHASED BY VO
PPP SPECIALISTS DURING 3RD QUARTER, 1987
(July-August-September)

Table 4.3

Sub-Division	Pesticide/ Fungicide	Quantity ltr/kg.	Cost (Rs.)	Expected Coverage		
				Land (Ha)	Seed (kg)	Trees (No)
Hunza	Pesticide Fungicide	2 ltr -	327 -	1.6 -	- -	2,424 -
Nagar	Pesticide Fungicide	1 ltr -	158 -	1.6 -	- -	- -
Gilgit	Pesticide Fungicide	- -	- -	- -	- -	- -
Punyal/ Ishkoman	Pesticide Fungicide	11 ltr -	1,456 -	3.2 -	- -	4,848 -
Gupis/ Yasin	Pesticide Fungicide	2 ltr+1 kg -	467 -	5.6 -	- -	2,424 -
Total	Pesticides Fungicide	16 ltr+1 kg -	2,408 -	12 -	- -	9,696 -

Table 4.4

POULTRY TRAINING COURSES

Gilgit District

S. No.	Days	Partici- pants	Honorarium to instruc- tors (Rs)	TA/DA to Partici- pants (Rs)	Transport (Rs)	Training kit (Rs)	Prizes	Total
1.	10	10	1,200	9,310	-	9,000	1,000	20,510

Table 4.5

VACCINES AND MEDICINES PROCURED BY VO LIVESTOCK SPECIALISTS
During Third Quarter 1987Gilgit District

S.No.	Vaccines/ Medicines	Quantity	Cost (Rs)	Projected No. of Animals Vaccinated/Treated		
				Cattle	Sheep/Goat	Poultry
1.	Newcastle	115 vials	402	-	-	11500
2.	Enteroxaemia	600 ml	25.58	-	200	-
3.	Black Quarter	9900 ml	402.05	1980	-	-
4.	Foot and Mouth	1200 ml	75	240	-	-
5.	Pleuropneumonia	Nil	Nil	-	-	-
6.	Goat Pox	Nil	Nil	-	-	-
7.	Anthrax	2400 ml	512	1200	2400	-
8.	Haemorrhagic Septicemia	Nil	Nil	-	-	-
Total for vaccines			1,416.63	3420	2600	11500
1.	Gamatox	1/2 kg	135	500	1500	-
2.	Oxytetracycline	69 vials	828	218	425	-
3.	Dertil-B Tabs	Nil	Nil	-	-	-
4.	Dertil-O Tabs	Nil	Nil	-	-	-
5.	Sulfadiazine	5500 ml	715	55	137	-
6.	Penicillin	10 vials	110	5	10	-
7.	Combiotic	8 vials	72.25	4	16	-
8.	Ducoxine	1550 gm	620	-	-	15000
9.	ESB-3	400 gm	208	-	-	8000
10.	Neoterra	6500 gm	825	-	-	10400
Total for medicines			3,513.25	782	2088	33400

Table 4.6

QUARTERLY A.I. WORK STATEMENT
FOR THE QUARTER ENDING SEPTEMBER, 1987

Gilgit District

	Hunza	Nagar	Gilgit	Punyal/ Ishkoman	Gupis/ Yasin	Total
No. of Animals checked	126	78	197	-	22	423
No. of Animals injected with Estrumate	-	-	-	-	-	-
Successful effect of Estrumate after 72 hours.	-	-	-	-	-	-
No. of cows inseminated	13	8	14	-	-	35
No. of buffaloes inseminated	-	-	-	-	-	-
No. of A.I. pregnancy checked	4	1	5	-	-	10
No. of cases found pregnant	3	-	3	-	-	6
No. of inseminated cows sold-off	-	1	-	-	-	1
No. of inseminated cows dead	-	1	-	-	-	1
No. of inseminated cows aborted	1	1	-	-	-	2
A.I. birth record confirmed and recorded	11	8	31	-	-	50
- Male	7	5	10	-	-	22
- Female:	4	3	21	-	-	28
No. of Genital diseases cases treated.	-	-	-	-	-	-

CHAPTER FIVE

SAVINGS AND CREDIT

I. Overview

The package of credit and savings being offered to the VO's is now firmly anchored at the village level. The quantum of the package is gaining momentum with the passage of time. The rural communities forged into Village Organisations have understood the concept that capital is power and that it can attract additional finance from other sources. The VO's now approach AKRSP without any hesitation for obtaining both short and medium term credit for production and land development purposes.

Efforts are underway to ensure that the loans are properly and equitably utilised by all the members of the VO's. In view of the increase in the volume of savings and credit package, an additional Field Accountant is being hired. The field accountant will focus attention on the utilisation and management of credit by the VO's. Reviewing of VO's organisational and financial performance at frequent intervals by the Field Accountants has been decided upon.

The revised terms for medium term loans are being adhered to by the loanee VO's. In view of the soft production loan programme in place by the government, there is difficulty experienced on the part of AKRSP to levy service charges on short term credit. However, it has been observed that at VO level the loan administering expenses are being borne by the office bearers mostly Presidents and Managers of the VO's. It is therefore felt the VO's may be insisted to reimburse expenses to the office bearers.

The loan repayment rate has been exceptionally good and the pace of savings has also increased reasonably well.

II. Saving Deposits

Based on partial information available from the banks, the total saving deposits in Gilgit District were about Rs. 17.10 million at the close of current quarter. The Women's Organisations have accumulated savings of about Rs. 2.66 million. A sizeable amount Rs. 7.2 million is now kept in term deposits.

The highest deposits are in the Gilgit Sub-division, coming to approximately Rs. 4.27 million. Hunza has Rs. 4.20 million. Sub division Punyal/Ishkoman and Gupis/Yasin have deposits of Rs. 3.0 million and Rs. 3.80 million respectively. The lowest deposits are in Nagar Sub-division, about Rs. 1.8 million (Table 5.1).

The aggregate loan-to-deposit ratio is 1.18. The highest ratios are in Nagar. However all sub-divisions with the exception of Hunza, exceed one.

III. Production Loans

During the quarter, 96 short-term production loans of about Rs. 2.2 million were extended in Gilgit District, benefitting about 4,603 households. The highest proportion (69%) of these loans were taken for marketing, while 28% was for the purchase of fertilisers. Women's poultry and purchase of seeds and plants made up the rest. The total loans extended for short-term purposes since the inception of the Programme reached Rs. 18.76 million. This amount has been given to 71,015 households (Table 5.3).

IV. Development Loans

During the review quarter, Rs. 2.31 million of development loans were extended to 835 households in 16 Village Organisations. Of the total amount, 82% was given for land reclamation and 15% for agricultural machinery, the remaining 3% was given for sulphur tents. The total medium-term credit distributed so far has been more than Rs. 15.5 million, benefitting 7,754 households of 129 Village Organisations (Table 5.4)

V. Repayment and Disbursal Summary

A total of 1,513 loans have been extended so far. Out of these 1,384 are for short-term purposes and 129 for medium-term purposes, benefitting 71,015 and 7,754 households respectively. The total amount of disbursal has been Rs. 34.2 million. Of this, 55% is for short-term and 45% for medium-term.

The amount in default for short-term loans is Rs. 178,173. The default is 0.95% of total loans disbursed so far for short-term purposes, (Table 5.5.).

VILLAGE ORGANISATIONS' BANK DEPOSITS
Cummulative, up to March 1987
(Rs. '000)

Table 5.1

Gilgit District

Sub-Division	Men		Women	Total
	Saving Account	Term Deposit	Saving Account*	
Hunza	1,518	1,791	900	4,209
Nagar	660	1,153	17	1,830
Gilgit	1,784	1,423	1,065	4,272
Punyal-Ishkoman	1,074	1,521	397	2,992
Gupis-Yasin	2,163	1,345	284	3,792
Total	<u>7,199</u>	<u>7,233</u>	<u>2,663</u>	<u>17,095</u>

* Includes term deposits of Rs. 608,500

LOAN-TO-DEPOSIT RATIOS
July - September 1987

Table 5.2

	Total Loans Outstanding			Deposits	Loan/ Deposit Ratios*
	Short-term	Medium-term	Total		
Hunza	1,321,618	2,823,567	4,145,185	4,208,978	0.98
Nagar	599,439	2,529,490	3,128,929	1,829,727	1.71
Gilgit	1,291,812	3,341,550	4,633,362	4,271,886	1.08
Punyal-Ishkoman	1,047,220	3,074,528	4,121,748	2,992,383	1.38
Gupis-Yasin	1,443,861	2,681,366	4,125,227	3,792,383	1.09
Total	<u>5,703,949</u>	<u>14,450,501</u>	<u>20,154,451</u>	<u>17,095,357</u>	<u>1.18</u>

* For all outstanding loans.

Table 5.3

SHORT-TERM CREDIT, DISBURSEMENT SUMMARY*

Giligt District

	No. of Borrowing**		Amount	Average	(Rs.) Per
	VOs	Household	Disbursed(Rs.)	Loan	Household
A. Cumulative up to September 1987*					
Fertiliser	1,057	53,436	13,272,121	12,556	248
Marketing	236	12,710	4,855,200	20,573	382
Plants	11	644	105,440	9,585	164
Seed	43	2,710	298,519	6,942	110
Poultry	37	1,515	230,315	6,225	152
Total	1,384	71,015	18,761,595	13,556	264
B. For July - September 1987					
Fertiliser	33	1,385	608,716	18,446	440
- in kind	8	292	85,596	10,700	293
- by cheque	25	1,093	522,120	20,925	479
Marketing	55	2,796	1,494,500	27,173	535
Plants	0	0	0	0	0
Seed	4	261	1,440	360	6
Poultry	4	161	63,000	15,750	391
Total	96	4,603	2,167,656	22,580	471

* Subject to revision during on-going verification procedures.

** Borrowing VOs and households include multiple loans to the same VO.

Table 5.4

MEDIUM-TERM CREDIT, DISBURSEMENT SUMMARY

Giliqt District

	No. of Borrowing**		Amount	Average	(Rs.) Per
	VOs	Household	Disbursed(Rs.)	Loan	Household
A. Cumulative up to September 1987*					
Land Development	90	5,338	11,165,833	124,065	2,092
- land reclamation	84	5,023	10,943,833	130,283	2,178
- nursery	5	229	172,000	34,400	751
- mix-farming	1	86	50,000	50,000	581
Agri. Machinery	22	1,664	3,692,000	167,818	2,119
Marketing	1	86	55,000	55,000	988
Saw-mills	1	35	100,000	100,000	2,857
Drill Machines	1	51	50,000	50,000	980
Sulphur Tents	14	580	442,500	31,607	763
Total	129	7,754	15,505,333	120,196	2,000

B. For July - September 1987

Land Development	13	686	1,895,000	145,769	2,762
- land reclamation	13	686	1,895,000	145,769	2,762
- nursery	0	0	0	0	0
- mix-farming	0	0	0	0	0
Agri. Machinery	1	75	350,000	350,000	4,666
Marketing	0	0	0	0	0
Saw-mills	0	0	0	0	0
Drill Machines	0	0	0	0	0
Sulphur Tents	2	74	64,200	21,400	868
Total	16	835	2,309,200	144,325	2,766

* Subject to revision during on-going verification procedures.

** Borrowing VOs and households include multiple loans to the same VO.

Table 5.5

CREDIT SUMMARY FOR ALL LOANS

Gilgit DistrictA. Disbursements, Cumulative up to September 1987

	Short-term Loans	Medium-term Loans	All Loans
No. of Borrowing			
- VOs	1,384	129	1,513
- households	71,015	7,754	78,769
Amount Disbursed (Rs.)	18,761,595	15,505,333	34,266,928

B. Short-term CreditLate Repayments, Cumulative up to September 1987

1. Amount not yet repaid 9-12 months after disbursement of loan:	Rs.	139,500
2. Amount technically in default, i.e., not yet repaid more than 12 months after disbursement:	Rs.	178,173
3. Total of late repayments: (1)+(2)	Rs.	383,535
4. Amount disbursed up to 12 months ago:	Rs.	6,904,839
5. Default as % of (4):		3.5
6. Default as % of amount disbursed to date		0.95%

C. Medium-term CreditRepayment, Cumulative up to March 1987

1. Amount due	Rs.	1,158,943
2. Amount repaid	Rs.	1,054,832

CHAPTER SIX

COMMERCIAL AND INDUSTRIAL DEVELOPMENT (CID)

I. Overview

The quarter under review was extremely rewarding for CID. Not only did we learn a lot but quite a bit was achieved as well. A regular training course and a refresher course was held during the quarter.

II. Sulphuring and Dehydration Technology

The first disappointment as well as an important lesson was the performance of the dehydration chambers. The Nomal dehydration chamber had been constructed towards the end of the apricot drying season in 1986. The encouraging results of this endeavour had motivated the company to have an experimental unit constructed in each valley of the Gilgit District in 1987. The Nomal Chamber was closely monitored as it was the first to become operational this year. The problems encountered by the villagers were both managerial and technical.

It took approximately 10 days for the apricots to dry inside the chamber while it took less than half the time to dry apricots in the open. There was also no appreciable difference in the quality of the apricots dried in the chamber from those dried in the open. The villager incharge of the chamber also complained that the trays used inside the chamber were too big and heavy which made it difficult and tiring to handle them. It was also hard to get to the exhaust fans incase something went wrong with them.

Compensation for time spent by a manager on the dehydration chamber was also an important issue. Unless the quality of apricots dried through the chamber was high, it would be impossible to imagine that the time spent by the manager of the chamber would be compensated. This also makes it difficult to suggest managerial options that are time intensive for overcoming some of the technical hurdles.

Consequently, the VOs that had not completed the chamber were not pushed to do so. The engineer attached with the SOUs are being encouraged to experiment with design changes on the chambers. In particular the baffel arrangements for the circulation of hot air needs to be carefully examined.

The use of sulphur tents on the other hand has been very encouraging. The target for 1987 was to have at least 30 VOs adopt the package for sulphuring and dehydration of apricots in Gilgit district. During this season 26 VOs adopted the package for improved dried apricots. Of these 26 VOs, 14 VOs took out a loan for construction of sulphur tents, 5 VOs constructed the dehydration chambers while another 7 VOs constructed sulphur tents without taking out a loan.

Unseasonal rains raised prices of dried apricots this year. The prices commanded by sulphurated dried apricots, however, were double of the traditionally dried apricots.

III. Training

The fourth refresher course was held in August. Only nine specialists attended this course. The poor attendance was probably due to the fact that this course was held right after Eid holidays. The course content is also being reviewed to make the refresher course attractive and valuable to attend.

The attendance at the sixth regular course was much more encouraging and fourteen VOs nominated their one member each to attend. The feedback from the attendees was also quite positive.

The plan agreed upon with the Social Organisation units for field demonstration for sulphuring and improved dehydration techniques was quite satisfying. A total of 40 demonstrations were held in the quarter under review. A total of 1,052 people attended the demonstrations of which 627 were women and the rest men. With the three demonstrations held in June a total of 43 VOs were shown sulphuring and dehydration techniques this year. Efforts will now be targeted at these 43 VOs to adopt the sulphuring and improved dehydration package next year.

IV. Experimental Central Purchasing and Processing Unit

The vagaries of the weather in Gilgit demonstrated the utility of the Central Purchasing and Processing Unit (CPPU) this quarter. A total of 12,000 kg of fruit were converted into pulp (see table below).

S.No.	VO Name	Fruit	Quantity Converted into Pulp (Kg)
1.	Barkulti Paeen	Apricot	1,000
2.	Thoi Valley	Apricot	1,000
		Apple	2,000
3.	Saddruddin Abad Nomal	Apricot	2,000
		Apple	4,000
4.	Bought from various VOs around Gilgit	Pears	1,000
		Peaches	1,000
Total			12,000

The entrepreneur incharge of the CPPU was invited by the marketing supervisors of Nomal and Barkulti to visit their areas to convert fruit into pulp when rains threatened to destroy the

apricot crop. Later on, both described their experiences in a Managers and President conference at Gilgit which generated tremendous interest among other VOs. They said that this was the first time they realised that their fruits could be converted into other products under adverse weather conditions and not be wasted.

This unit could become extremely popular as an option and it is quite clear that with time the VOs will utilise it more and more. It is upto the entrepreneur, however, to be able to produce items that can be sold quickly so that he can turn over his investment in buying fruit. The progress of this unit will be closely monitored.

V. Cooperative Marketing

Only 21 VOs reported on marketing of fruits and agricultural produce during the quarter under review. A little over 53% of the members shared in the profits of these marketing endeavour while nearly 88% of the membership of 5 VOs shared in the profits of marketing livestock.

All the VOs were encouraged to turn in marketing reports everytime they marketed collectively so that some estimate could be made of the number of times their marketing loans were rolled over. 8 VOs undertake collective marketing without taking out a loan from AKRSP. Efforts will be increased next quarter to determine exactly what percentage of the VOs does so.

VI. Marketing Loans

Two additional VOs took out a loan for the construction of sulphur tents which brings the total of such loans to 14. The short term marketing loans continued to be in great demand this quarter and it is interesting to note that exactly the same number of VOs took out a loan in the third quarter of 1986.

VII. Marketing and Case Studies.

The study undertaken by the intern from the Lahore University of Management Sciences is in its final phase and the final session should be available early next quarter. The vegetable study has yielded interesting results and would form the basis of information that would be passed onto the VOs.

COOPERATIVE MARKETING

Table 6.1

A: CUMULATIVE UPTO SEPTEMBER 1987

Gilgit District

Participating VOs (includes multiple counting)	(Nos)	206
Gross sales	(Rs.)	4,660,467
Marketing Expenses	(Rs.)	406,105
Farmgate Income	(Rs.)	4,254,362
Membership of Participating VOs (includes multiple counts)	(Nos)	7,060
Income per VO	(Rs.)	20,652
Income per household	(Rs.)	602
Marketing Loans		
Production Loans		
Borrowing VOs (includes multiple counts)	(Nos)	236
Borrowing Households (includes multiple counts)	(Nos)	12,710
Amount disbursed	(Rs.)	4,855,200
Medium-term Loan		
Borrowing VOs	(Rs.)	14
Amount disbursed at 7.5% per annum	(Rs.)	442,500
Training		
No. of regular Courses		6
No. of Specialists Trained		116*
No. of Refresher Courses		4

(* includes 5 participants from Chitral and 6 from Baltistan District)

B: VOs Reporting Marketing

From July to September 1987

Marketing of Fruits and Agricultural Produce

VOs	(Nos)	21
Membership	(Nos)	1,107
Loan taken	(Rs.)	388,800
Volume marketed	(kg.)	67,768
Total Revenue	(Rs.)	332,779
Total Expenses	(Rs.)	279,780**
Net Profit	(Rs.)	53,019
Members among whom profit dist.	(Nos)	584
Farm gate income	(Rs.)	314,902

(** includes purchase price from individual members by the VO in addition to marketing expenses of Rs. 17,877).

Marketing of Livestock

VOs.	(Nos)	5
Membership	(Nos)	278
Loan taken	(Rs.)	85,000
Animals Marketed	(Nos)	85
Total Revenue	(Rs.)	103,798
Total Expenses	(Rs.)	92,010***
Net Profit	(Rs.)	11,788
Members among whom profit dist.	(Nos)	244
Farm gate income	(Rs.)	98,788

(*** includes purchase price from individual members by the VO in addition to marketing expense of Rs. 5,010).

Marketing Loans

Borrowing VOs	(Nos)	55
Borrowing Households	(Nos)	2,796
Amount disbursed	(Rs.)	1,494,500

Medium-term Loan

Borrowing VOs	(Nos)	2
Amount disbursed	(Rs.)	64,200

Training

No. of Regular Courses	1
No. of Specialists Trained	14
No. of Refresher Courses	1
No. of Attendees	9

CHAPTER SEVEN

MONITORING, EVALUATION AND RESEARCH

I. Organisational and Personnel Changes

A number of personnel changes during July-September required adjustments that temporarily reduced the momentum of work at MER. Zafar Ahmad left Baltistan for overseas education, and his place was taken by Izhar Ali Hunzai from the Central Office in Gilgit. Ahsan Tayyab left the Central Office to join the newly-created District Programme Office in Gilgit.

At the Central Office, Karim Tejani joined as Associate Monitoring Officer, and Khaleel Tetlay as Associate Programme Economist. MER now has its full complement of staff in all the DPOs and the Central Office.

II. Monitoring and Computerisation

Work continued, albeit more slowly than expected, on the computerisation of routine project data. The immediate objective of this exercise is to enable computerised preparation of reports needed regularly for management purposes, including the Quarterly Progress Report. It is expected that a working system will be in place by the end of 1987, and that training of staff in the use of the new system would have started by then. Once each Section has a working system, the next objective would be to create a centralised data bank and link up various Sections and AKRSP offices as needed, either through local area networks or through modems. The entire exercise is being undertaken in collaboration with Saigol Computers (Pvt.) Limited, who prepared a consultancy report on the subject in June of this year.

III. Research

Four papers were prepared by the WID and MER Sections for the November Workshop on Women and Resource Management. All these papers have an applied focus and are being condensed into shorter versions for wider dissemination. These papers have taken AKRSP management farther in some of their plans, and have helped put village development in a more realistic conceptual perspective.

PART II
CHITRAL DISTRICT

CONTENTS OF PART II

Statistical Abstract for Chitral District	47
I. Overview	49
II. Social Organisation	49
III. Productive Infrastructure and Engineering Services (PIES)	50
IV. Agricultural and Resource Management (ARM)	50
V. Savings and Credit (S&C)	51
VI. Commercial and Industrial Development (CID)	52
VII. Women in Development (WID)	52
List of Tables	
CP.1 Village Organisation, Membership and Bank Deposits	54
CP.2 Categorisation of VOs.	54
CP.3 Identification and Distribution of Schemes	55
CP.4 Estimated Cost of Identified Schemes	55
CP.5 Commitment, Disbursement and Completed PPI Projects	56
CP.6 Sector and Sub-division Wise Distribution of Schemes and Costs	57
CP.7 Vaccines and Medicines Procured by Village Livestock Specialists	58
CP.8 Short-term Production Loans	59
CP.9 Credit Summary for all Short-Term Loans	60
CP.10 Medium-Term Credit Disbursement, Summary	61
CP.11 Loan-To-Deposit Ratios.	61

STATISTICAL ABSTRACT

Chitral District

June 1983-September 1987

	<u>Cumulative</u>	<u>Quarter's Addition</u>
I. Project Area		
1. Area (Sq.km)	14,850	
2. Population	253,000	
3. No. of rural households (approx)	32,600	
4. No. of potential Village Organisations (approx)	500	
II. Social Organisation		
1. No. of Village Organisations	208	8
2. Membership (estimated)	11,857	304
3. Bank deposits (million Rs.)	7.04	0.90
4. % of rural households covered by VOs.	36	
III. Productive Infrastructure & Engineering Services (PIES)		
1. No. of projects identified	474	-
2. Estimated cost of projects identified (million Rs.)	74	-
3. No. of projects initiated	157	10
4. No. of beneficiary households	9,996	1,292
5. Cost of initiated projects (million Rs.)	24.49	1.12
6. Physical Progress (%)	79	-
7. No. of projects completed	83	10
IV. Short-term Credit (includes marketing loans which are also reported separately)		
1. Amount disbursed (million Rs.)	5.25	0.27
2.* No. of group loans for VOs.	431	15
3.* No. of beneficiary households	20,643	934
4. Amount in default (Rs.)	3,706	-1,721
5. Default as % of amount disbursed	0.07	-

(* includes multiple loans to
the same VO)

V. Medium-term Credit

1. Amount disbursed (million Rs.)	2.50	1.14
2. No. of group loans for VOs	25	10
3. No. of beneficiary households	1,465	669
4. Default as % of amount disbursed	0	0

VI. Human Resources Development (HRD)

1. No. of Regular Courses	11	1
- Agriculture	6	-
- Livestock	4	-
- Poultry	-	-
- Marketing	1	1
2. No. of First-time Trainees	166	7
- Agriculture	77	-
- Livestock	75	-
- Poultry	-	-
- Marketing*	14	7
3. No. of Refresher Courses	6	-
- Agriculture	3	-
- Livestock	3	-
- Poultry	0	0

(* includes 7 trained in Gilgit District)

VII. Commercial & Industrial Development (CID)

1. No. of participating VOs	34	6
2. Gross sales (million Rs.)	0.498	0.124
3. Marketing expenses (million Rs.)	0.046	0.110
4. Farmgate Income (million Rs.)	0.452	0.113
5. Beneficiary households	1,882	884
6. Marketing loans (million Rs.)	0.615	0.140
7. No. of group loans for VOs	35	6
8. No. of beneficiary households for loans	2,040	638

VIII. Women In Development (WID)

1. No. of WOs	20	20
- Membership	587	587
- Savings	89,687	89,687

CHITRAL PROGRAMME

I. Overview

The third quarter of the year saw the formation of two more valley based institutions- "Cluster Organisations" in Lotkuh and Karimabad. This brings the total of such organisations to three.

The first medium term loan matured and the first instalment was repaid by Chinar VO in Mastuj Sub-division.

The Women In Development (WID) section become functional after three more staff members joined it. Two Intern SOs and two field Engineers also joined AKRSP in this quarter.

The progress of the programme continued with speed and vigour.

II. Social Organisation

Progress of Valley Based Institution: Chitral district comprises dozens of valleys each with its own problems and distinct characteristics. The Cluster Organisation enables the VO in each distinct geographical entity to pool their energies and reap the benefits of economies of scale in common activities like fertiliser distribution and marketing.

The Cluster Organisation in Yarkhoon which started functioning in February has held six conferences since its formation. It has played a distinct role in resolving disputes between villages. It is also carrying out valley level planning for development of forests and pastures by advocating rotational grazing on pastures and preventing free grazing. The cluster VO also acts as a collective social pressure group exerting pressure on the weak VOs to streamline their activities. Its active involvement in the vaccination programme/spraying will ensure their mass acceptance. Partial involvement of the VO members in such programmes prevents the success of these programmes and undermines the faith of VO members in them.

Progress of VOs: By the end of September 1987, a total of 208 VOs were formed with an estimated membership of 11,857. The combined bank deposits of these 208 VOs amounted to Rs. 7.042 million. See table CP.1.

The expansion of the programme continued according to the targets set for it. In Arandu, the law and order problem continued, but this has not seriously hampered the progress of the programme in the area.

III. Productive Infrastructure and Engineering Services

The portfolio of Engineering schemes identified by the end of September 1987 remained at 474 projects. The estimated cost for their implementation is Rs. 74 million. For details see tables CP.3-4.

By the end of the present review quarter, a total of 157 projects had been initiated at a total cost of Rs. 24.49 million of which Rs. 19.42 million or 79% has been disbursed to the implementing VOs. Irrigation channels account for 61% of the total initiated schemes, followed by link roads 19%, protective works 15%, bridges 2%, while Hydel power, syphon irrigation and storage reservoir account for 1% each.

A total of 83 projects have been reported completed and the cumulative progress of the PPI programme stands at 79%. Table CP.5A illustrates commitment, disbursement and the number of completed projects by type of project and Table CP.5B by sub-division. Table CP.6 summarises the distribution of these schemes and costs by sector and sub-division.

IV. Agriculture and Resource Management

Crop Development: During this quarter Pirsabak 85 was harvested and threshed by farmers on trial basis. After weighing they found the ratio of wheat grain and straw as 1:1. The high yields encouraged farmers to plant improved wheat seeds for more grain and straw.

The maize variety planted is showing good promise over the local varieties. Harvesting is in progress.

Village Organisation Kiyar has initiated common forestation and pastures during the quarter under report.

Land development work on a piece of 720 kanal was carried out in Rabat Kosht. The details are as follows:

Forest trees planted	2000
Fruit trees planted	500
Lentil cultivation	10 kanals
Fodder	40 kanals
Common pasture	200 kanals

A fruit and vegetable nursery has also been developed by Rabat Kosht. Presently, turnips, carrots, spinach and other vegetables have been planted while apple suckers will be planted after the sale of vegetables next month.

A number of VOs have planted vetch on experimental basis during the quarter. Pesticides required for the winter and coming spring seasons have been arranged.

Four villages have been taken by the agriculture section under their direct supervision to make them as model villages in respect of agriculture activities.

LIVESTOCK DEVELOPMENT

Medicines Procured: Medicines worth Rs. 7,046 have been procured by the livestock specialists for the treatment of large and small animals. The expected coverage is 4,881 animals. Details are given in table CP.7.

Vaccination Programme

Livestock: The second round of vaccination was completed during the review quarter with a supply of 192 bottles of B.Q.V to 60 VOs. The expected coverage is 11,520 animals as shown in table CP.7.

Poultry: During the third round of vaccination of poultry, 80 vials of N.D.V. had been supplied with an expected coverage of 80,000 birds. The details are given in table CP.7.

Improvement of Poultry Breed

In this regard 264 Fayumi chicks had been distributed on loan among the women's group of Booni Lotdoor and Rabat Kosht. The VOs obtained 164 and 100 birds respectively. The terms of partnership held with the concerned VOs are as under:

1. These chicks should be used for breeding purposes only.
2. The management of birds should be according to modern techniques.
3. All the other birds present in the village should be vaccinated regularly and completely.
4. The VOs are to return the loan within 6 months.
5. AKRSP will provide technical help.

Improvement of Sheep Breed

For this purpose 3 Rambouillet rams were supplied to Kargin sheep breeding farm and one to VO Shanoon. VOs have been advised to cross these rams with the local sheep from mid October. The rams will be with the herds for 3 months only.

V. Savings and Credit

By the end of the third quarter, the total deposits of all the VOs reached Rs. 7,042 million.

Production Loans: During the review quarter, short term production loans were extended to 15 VOs benefiting 934 households. These loans amounting to Rs. 275,600 were given for fertiliser and marketing purposes. Total short-term loans

extended upto the end of this quarter was slightly more than Rs. 5 million. The details are given in table CP.8.

During the review quarter fertiliser loan amounting to Rs. 373,377 was recovered from VOs. In addition to this, Rs. 14,261 worth of seed credit was recovered in Mastuj Sub-division. Summary of short-term credit is provided in table CP.9.

Medium Term Loans: During the review quarter land development loans totalling Rs.232,126 and machinery loans for Rs.906,000 were extended to 10 VOs. 369 members of 5 VOs benefitted from the land development loans while 300 members of 5 VOs benefitted from the machinery loans. Total medium-term loans extended by end of September amounted to Rs.2.5 million (Table CP.10).

Loan to Equity Ratios: By the end of the third quarter of 1987 the overall loan to equity ratio stood at 0.54. Table CP.11 gives loan equity ratios by sub-divisions.

VI. Commercial and Industrial Development

During the third quarter 6 VOs with household membership of 638 people have taken loans amounting to Rs. 140,000.

As per the plan a sound marketing exercise was expected, but unfortunately rains and a persistent cold weather destroyed a large amount of fruit. Despite this setback a number of VOs engaged in the marketing exercise.

The first marketing regular course was held at Chitral in July 1987. The trainees were taken to Rawalpindi, Nowshera, Peshawar and Mingora. During their trip to down country, they were taken to the fresh and dry fruit markets, agricultural research station, where they had an opportunity to meet and discuss the fruit buying and selling procedures. They also made jams and juices etc. and learnt ways about preserving their fruits. In all 7 members, 4 from Mastuj Sub-division and 3 from Chitral Sub-division, participated in the training.

Two experts from ARI Tarnab were also called over from Peshawar for fruit preservation demonstrations. Demonstration were held in 12 VOs of both the Sub-divisions. The villagers with the help of marketing specialists and Tarnab specialists, produced apple and apricots jam, apricots juice and tomato paste. The demonstrations were highly appreciated in the VOs. Different chemicals which are used in the process were bought from Peshawar, and distributed as per the VO demands.

VII. Women in Development

The WID section became active again with the addition of two more staff members. Dr. Safia who is to head the section has reported at Gilgit for orientation.

The women staff members visited the Karimabad, Lotkuh and Upper Chitral areas to motivate the women to form VOs. The WID section also attended three third dialogues and cluster meetings. The total number of women's group rose from 8 to 20 in this quarter. The total membership of the women VO is 587 with savings of Rs. 89,687.

Low Consumption Stoves: 75 GTZ stoves were distributed in Lotdoor and they demanded more.

New Variety of Chicks: 100 "Fayumi" chicks were distributed in Rabat Kosht and 164 in lotdoor at a price of Rs. 25 per chick.

Nut Crackers: 10 Nut cracking machines were distributed to Dronee, Shanoon Hinjil, Mogh, Totdoor, Deizg, Torkhow, Rabat Kosht, Jamlasht and Mulkhow VOs.

Table CP.1

VILLAGE ORGANISATION, MEMBERSHIP AND BANK DEPOSITS

CUMULATIVE AS ON SEPTEMBER 30TH 1987Chitral District

Sub-Division	No. of VOs	Member ship	Deposits Rs. 000	Average Rs.	
				Per VO	Per Member
Chitral	107	5,211	3,132,950	29,280	601
Mastuj	101	6,646	3,909,660	38,709	588
<u>Total</u>	<u>208</u>	<u>11,857</u>	<u>7,042,610</u>	<u>607</u>	<u>594</u>

Table CP.2

CATEGORISATION OF VOs

Sub-Division	Advanced	Potential Advanced	Average	Inactive	Total
	A	B	C	D	
Chitral	13	41	40	13	107
Mastuj	23	33	39	6	101
<u>Total</u>	<u>36</u>	<u>74</u>	<u>79</u>	<u>19</u>	<u>208</u>
<u>Distribution</u>	<u>17%</u>	<u>36%</u>	<u>38%</u>	<u>9%</u>	<u>100%</u>

Table CP.3

**SECTOR WISE/SUB-DIVISION WISE IDENTIFICATION
AND DISTRIBUTION OF SCHEMES ENDING SEPTEMBER 1987**

Chitral District

S. No.	Sector	Sub-Division Chitral No. of Sch.	Sub-Division Mastuj No. of Sch.	Total
1.	Irrigation channel	161	118	279
2.	Protective Bunds	59	38	97
3.	Storage Reservoirs	3	11	14
4.	Sedimentation Tanks	-	-	-
5.	Link Roads	29	21	50
6.	Bridges	22	9	31
7.	Syphon Irrigation	-	3	3
Total		274	200	474

Table CP.4

**SECTOR/SUB-DIVISION WISE COST OF
IDENTIFIED SCHEMES ENDING SEPTEMBER 1987
(Rs. '000)**

S. No.	Sector	Sub-Division Chitral	Sub-Division Mastuj	Total	% of Total
1.	Irrigation Channels	24,401	19,417	43,818	59
2.	Protective Works	8,425	5,675	14,100	19
3.	Storage Reservoirs	606	2,222	2,828	4
4.	Sedimentation Tanks	-	-	-	-
5.	Link Roads	5,087	3,188	8,275	11
6.	Bridges	1,365	558	1,923	3
7.	Syphon Irrigation	-	3,072	3,072	4
Total:		39,884	34,132	74,016	100%
% of Total		54	46	100	

**COMMITMENT, DISBURSEMENT AND COMPLETED
PPI PROJECTS ENDING SEPTEMBER 1987**

Chitral District

A: BY TYPE OF PROJECT

Sector	No. of Projects	Cost Rs.'000	Disbursement		Completed PPIs
			Rs.'000	As % of Cost	
Irrigation channels	96	14,902	11,094	74	38
Protective Works	24	3,544	3,373	95	23
Link Roads	31	4,539	3,569	79	17
Bridges	3	187	187	100	3
Hydel Power	1	89	89	100	1
Syphon Irrigation	1	1,024	975	95	1
Storage Reservoirs	1	202	136	67	-
Total:	157	24,487	19,423	79	83

B: BY SUB-DIVISION

Sub-division	No. of Projects	Cost Rs.'000	Disbursement		Completed PPIs
			Rs.'000	As % of Cost	
Mastuj	70	11,643	9,115	78	33
Chitral	87	12,844	10,308	83	50
Total:	157	24,487	19,423	79	83

Table CP.6

**SECTOR AND SUB-DIVISION WISE DISTRIBUTION OF
SCHEMES AND COST ENDING SEPTEMBER 1987**

Chitral DistrictChitral District

SECTOR	SUB-DIVISION MASTUJ	SUB-DIVISION CHITRAL	TOTAL
IRR. CHNL	7,339 (45)	7,563 (51)	14,902 (96)
P.WORKS	2,039 (13)	1,505 (11)	3,544 (24)
LINK ROADS	1,241 (11)	3,298 (20)	4,539 (31)
BRIDGES	-	187 (3)	187 (3)
SYPHON IRR.	1,024 (1)	-	1,024 (1)
HY. POWER	-	89 (1)	89 (1)
S.AGE RESVOIR	-	202 (1)	202 (1)
TOTAL	11,643 (70)	12,844 (87)	24,487 (157)

Note: The upper figure is cost in Rs. '000.
The lower figure in parenthesis denotes the
number of schemes.

Table CP.7

MEDICINES PROCURED BY VO LIVESTOCK SPECIALISTS
During Third Quarter 1987

S. No.	Medicines	Quantity Doses	Amount (Rs.)	Expected Coverage of Cattle/Sheep/Goats Poultry	
1.	Oxytetra cycline	137 Bott.	1,781	456	
2.	Combiotic	45 Bott. (2.5 gm)	405	25	
3.	Mag. sulphate	10 kg	80	200	
4.	Nilzon	1000 ml	220	200	
5.	Neguvan	1000 gm	170	1,000	
6.	Dertil O	2100 Tab	1,365	2,100	
7.	Dertil B	1100 Tab	1,925	1,100	
8.	Gamatox	5 kg	1,000	800	
<u>Total for Medicines</u>			<u>7,046</u>	<u>4,881</u>	
1.	B.Q.V	192 Bottles	2,304	11,520	
2.	N.D.V	80 Vials	240		80,000 Birds
<u>Total for Vaccines</u>			<u>2,544</u>	<u>11,520</u>	<u>80,000 Birds</u>

Table CP.8

SHORT TERM PRODUCTION LOANS

A: CUMMULATIVE AS ON 30TH SEPTEMBER 1987Chitral District

	NO. OF VOs	BORROWING HOUSE- HOLDS	AMOUNT DISBURSED (RS.)	AVERAGE LOAN (Rs.)	
				PER VO	PER H.HOLD
FERTILISER	382	17,998	4,597,106	12,034	255
MARKETING	35	2,040	614,956	17,570	301
SEED	10	418	30,295	3,029	72
TREES PLANT	4	187	7,960	1,990	43
TOTAL	431	20,643	5,250,317	12,182	254

B: ADDITION DURING JULY - SEPTEMBER QUARTER

FERTILISER	9	296	135,600	15,067	458
MARKETING	6	638	140,000	23,333	219
SEED	-	-	-	-	-
TREES PLANT	-	-	-	-	-
TOTAL	15	934	275,600	18,373	295

Table CP.9

CREDIT SUMMARY FOR ALL SHORT-TERM LOANSA: CUMMULATIVE AS ON 30TH SEPTEMBER 1987Chitral DistrictFERTILISER CREDIT

SUB-DIVISION	NO.OF LOAN ISSUED	NO.OF LOANEE MEMBERS	AMOUNT ADVAN- CED	AMOUNT RECO- VERED	AMOUNT OVERDUE (THREE MONTHS GRACE PERIOD)	DEFAULT (NOT-REPAID WITHIN 12 MONTHS)
CHITRAL	211	8,226	1,715,164	1,384,462	11,993	1,438
MASTUJ	171	9,772	2,881,942	2,110,784		2,268
<u>TOTAL</u>	<u>382</u>	<u>17,998</u>	<u>4,597,106</u>	<u>3,495,246</u>	<u>11,993</u>	<u>3,706</u>

B: ADDITION DURING JULY - SEPTEMBER QUARTER1. FERTILISER CREDIT

CHITRAL	8	227	76,544	122,908		
MASTUJ	1	69	59,056	250,469		
<u>TOTAL</u>	<u>9</u>	<u>296</u>	<u>135,600</u>	<u>373,377</u>		

2. SEED CREDIT

CHITRAL	-	-	-	-	-	-
MASTUJ	-	-	-	14,261	-	-

3. CREDIT FOR PLANTS/TREES

CHITRAL	-	-	-	1,205	-	-
MASTUJ	-	-	-	-	-	-

Table CP.10

MEDIUM-TERM CREDIT DISBURSEMENT, SUMMARYA: CUMULATIVE AS ON 30TH SEPTEMBER 1987Chitral District

	NO.OF VOs	BORROWING H.HOLD	AMOUNT DISBUR.	AVERAGE LOAN	
				PER VO	PER H.HOLD
LAND DEVELOPMENT	13	743	567,126	43,625	763
NURSERY	1	100	46,000	46,000	460
SHEEP BREEDING	1	45	60,000	60,000	1,333
AGR.MACHINERY	10	577	1,831,000	183,100	3,173
TOTAL	25	1,465	2,504,126	100,165	1,709

B: ADDITION DURING JULY - SEPTEMBER QUARTER

LAND DEVELOPMENT	5	369	232,126	46,425	629
AGR.MACHINERY	5	300	906,000	181,200	3,020
TOTAL	10	669	1,138,126	113,813	1,701

Table CP.11

LOAN-TO-DEPOSIT RATIOS
AS ON 30TH SEPTEMBER 1987

	TOTAL LOANS OUTSTANDING			Deposits	Loan Deposit Ratios
	Short Term	Medium Term	Total		
CHI TRAL	544	881	1,425	3,132	0.45
MASTUJ	683	1,687	2,370	3,909	0.60
TOTAL	1,227	2,568	3,795	7,041	0.54

PART III
BALTISTAN DISTRICT

CONTENTS OF PART III

Statistical Abstract for Baltistan District	64
I. Overview	66
II. Social Organisation	66
III. Productive Infrastructure and Engineering Services (PIES)	66
IV. Agricultural and Resource Management (ARM)	67
V. Women in Development (WID)	70
VI. Commercial and Industrial Development (CID)	71
VII. Savings and Credit (S&C)	71
VIII. Monitoring, Evaluation and Research (MER)	72
 List of Tables	
BP.1 Village Organisation, Membership and Bank Deposits	73
BP.2 PPI Commitment, Disbursement and Completed Projects	74
BP.3 Sector and Sub-Division Wise Distribution of Schemes and Costs	75
BP.4 Trial Plots	76
BP.5 Pesticides Procured by PPP Specialists	78
BP.6 Medicines and Vaccines Procured by Livestock Specialists	79
BP.7 Village Organisation Bank Deposits	80
BP.8 Short-Term Credit Disbursement, Summary	80
BP.9 Medium-Term Credit Disbursement, Summary	81
BP.10 Loan-To-Deposit Ratios	81
BP.11 Credit Summary for all Loans	82

STATISTICAL ABSTRACT

Baltistan District

July 1985 - September 1987

	<u>Cumulative</u>	<u>Quarter's Addition</u>
I. Project Area		
1. Area (Sq.km)	25,850	
2. Population	272,000	
3. No. of rural households (approx)	36,200	
4. No. of potential Village Organisations (approx)	370	
II. Social Organisation		
1. No. of Village Organisations	127	9
2. Membership (estimated)	5,256	256
3. Bank deposits (million Rs.)	2.20	0.38
4. % of rural households covered by VOs.	14.5	0.5
III. Productive Infrastructure & Engineering Services (PIES)		
1. No. of projects identified	200	0
2. Estimated cost of projects identified (million Rs.)	31.53	0
3. No. of projects initiated	88	7
4. No. of beneficiary households	4,535	360
5. Cost of initiated projects (million Rs.)	14.15	0.81
6. Physical Progress (%)	72	-
7. No. of projects completed	34	14
IV. Short-term Credit (includes marketing loans which are also reported separately.)		
1. Amount disbursed (million Rs.)	2.01	0.39
2.* No. of group loans for VOs.	97	18
3.* No. of beneficiary households	4,391	698
4. Amount in default (Rs.)	0	0
5. Default as % of amount disbursed	0	-
(* includes multiple loans to the same VO)		
V. Medium-term Credit		
1. Amount disbursed (million Rs.)	0.65	0.49
2. No. of group loans for VOs	5	3
3. No. of beneficiary households	260	180
4. Default as % of amount disbursed	0	-

VI. Human Resources Development (HRD)

1. No. of Regular Courses	6	1
- Agriculture	3	0
- Livestock	2	0
- Poultry	0	0
- Marketing	1	1
2. No. of First-time Trainees	119	0
- Agriculture	54	0
- Livestock	51	0
- Poultry	0	0
- *Marketing	14	0
3. No. of Refresher Courses	2	0
- Agriculture	1	0
- Livestock	1	0
- Poultry	0	0
- Marketing	0	0

(* Includes 5 trained in Gilgit District)

VII. Commercial & Industrial Development (CID)

1. No. of participating VOs	20	12
2. Gross sales (million Rs.)	0.05*	-
3. Marketing expenses (million Rs.)	0.03*	-
4. Farmgate Income (million Rs.)	0.02*	-
5. Beneficiary households	360*	-
6. Marketing loans (million Rs.)	0.46	0.20
7. No. of group loans for VOs	19	10
8. No. of beneficiary households for loans	896	370

* Figures as reported in last quarter i.e. April-June 1987. Figures for quarter under review awaited.

BALTISTAN PROGRAMME

I. Overview

Capitalising on AKRSP's experience in Gilgit, the district management team in Baltistan has made an early start in promoting the advanced productive packages in the new district and in establishing the necessary linkages between the various components of the programme. In Baltistan, the geographical expansion of the AKRSP operations has been immediately followed by the introduction of fairly advanced activities aimed at strengthening and consolidation of the VOs. This was possible as most of these activities had already been developed and tested for replication in Gilgit district, over the last four and a half years. On the social organisation front, too, the programme staff in Baltistan has benefitted and is making use of the past experience. The field officers now have a clearer perception of the difficulties involved in organising people at the village level which has enabled them to address these issues effectively and with conceptual clarity. The mutual obligations between AKRSP and the VOs are also well defined from the start. Although retaining its original flexibility, the programme's relationship with the VOs has been consciously made a little more demanding for the VOs in terms of greater discipline and commitment on the part of the villagers. Through a carefully pursued policy of incentives and leverages, subsequent inputs are withheld from or delivered to the VOs, based on their performance in the previous activities. In this way, AKRSP has been able to initiate a healthy process of competition in Baltistan by engaging the VOs in what may be called an enlightened sense of self-interest.

II. Social Organisation

During the quarter ending September 1987, 9 new VOs were formed in the district with a membership of 256. With this, the cumulative number of VOs has reached 127 with a total membership of 5,256. These VOs added another sum of Rs.384,818 to their saving deposits during the quarter under review, raising the combined cumulative figure to Rs. 2.196 million (Table BP.1).

III. Productive Infrastructure and Engineering Services (PIES)

PPI Projects: To date, 88 projects have been initiated at a total cost of Rs. 14.15 million. Thus far, Rs. 9.10 million, or 64% of the cost, has been disbursed to the implementing VOs. At the conclusion of the review quarter, 34 projects had been completed and the cumulative physical progress on the PPI programme was 72% in the district. Table BP.2A gives commitment, disbursement and the number of completed projects by type of project and Table BP.2B by Sub-division, while Table BP.3 lists these projects and their costs by sector and sub-division. The average cost per project stands at Rs.160,852 in the district. As elsewhere in the

project area, the majority of the PPI projects identified by the VOs in Baltistan are irrigation channels, accounting for 51% of the total projects initiated so far.

Project Maintenance: Based on reports available from the Field Engineers, the maintenance performance of the VOs was deemed satisfactory on their completed projects. Of the 34 completed PPIs, 12 can be classified as good in terms of maintenance, 18 as satisfactory and 4 as poor.

Appropriate Technology: Recently, PIES has stepped-up its activities in Baltistan to assist the VOs in removing the technological constraints on development at the village-level. The recent introduction of nut-cracking machines in the district is picking-up. 21 VOs have obtained these machines from AKRSP for collective use among their members, and the demand is increasing.

The appropriate technology wing of PIES has recently installed 5 experimental micro-hydel units, each attached to a nearby fruit dehydration chamber. The performance of these machines will be assessed during the next fruit drying session, before wider replication in the district.

The most exciting development for a VO near Skardu Town has been the installation of a windmill in their village. The machine is part of an experiment initiated by the PIES to explore the possibility of wind mill technology in Baltistan. The machine which is designed for water lifting from the river is expected to irrigate a vast tract of barren land. The experimental unit will be functional during the coming quarter.

IV. Agriculture and Resource Management (ARM)

Crop Development: With a view to propagate new, high-yielding varieties of field crops, seeds of Pak-81 wheat variety, potatoes and other vegetables were issued to selected VOs during the first quarter of 1987. The following progress has been recorded in the seed villages at the time of harvest:

Wheat Pak-81: Farmers in three VOs were given 562 kg. of seed which was subsequently planted on 4.6 ha. of villagers land. The Pak-81 wheat cultivation was roughly 11% of the total land under wheat in these villages during the current agricultural year. At the time of harvest the total seed quantity produced in these villages had weighed 24 metric tons. These seeds will be supplied to other farmers/VOs at a premium price during the forthcoming sowing season.

Seed Potatoes: Five VOs were selected for potato cultivation in Baltistan. Farmers were given 68 kg. of seed potatoes to be cultivated on 0.4 ha. which is about 50% of the land allocated to potato cultivation in these villages. The total yield available from these plots has weighed 8.4 metric tons which will be made

available to other farmers in the same VOs and the remaining quantities will be supplied to the surrounding VOs at cost. Potato cultivation is non-existent in most villages of Baltistan District despite favourable soil and climatical conditions. The proliferation of quality seed potato in the district will supplement the villager's food requirements and provide better nutrition.

Yield results on the following improved seeds provided during the second quarter of 1987, are still awaited:

No. of VOs	Improved Seed	Quantity (kg)	Areas under cultivation (ha)
3	Vetch	26	0.66
8	Maize	88	1.11
5	Turnip	5.8	1.17
<hr/>			
16		119.8	2.94

Trial/demonstration plots: The results on different varieties of wheat, chickpeas and vegetables trial at various locations in Baltistan District are now available and shown in Tables BP.4A-D.

The activities of 20 plant production and protection specialists were followed-up during the review quarter. These specialists procured pesticides worth Rs. 3,855 (Table BP.5) and received Rs. 950 as remuneration for their services. During the quarter, no new courses were planned for the PPP specialists.

LIVESTOCK DEVELOPMENT

Disease Control/Prevention of losses: During the review quarter, no new training courses were planned for the livestock specialists. Instead, a field survey was conducted to assess the performance of some 50 livestock specialists trained so far in the district. The feed-back received from this exercise has provided the Livestock Section with the following conclusions: (i) The VO nominee for training should be between the age of 40 and 50, preferably with some ability to read and write; (ii) the VO nominating a trainee should have at least 1000 livestock including cattle, goats and sheep; (iii) the VO nominee should be a non-controversial figure in his village and; (iv) he should be an activist himself with persuasive abilities to 'sell' his services to his fellow-villagers. From AKRSP's perspective, these are important observations which we plan to take into account for making the role of village cadres more effective in rural Baltistan.

In addition to diseases control measures, the Livestock Section is paying an increasing attention to prevent losses in other rural resources. A leaflet on the preservation of animal skins and hides was prepared and distributed in the villages during the review quarter. Simple and inexpensive methods of animal skin preservation have been taught to the village livestock specialists. Animal skins, if properly preserved, can fetch a reasonable price in down country leather industries and could bring a substantial additional income to the VOs.

During the review quarter, Livestock Specialists in Baltistan purchased vaccines and medicines worth Rs. 2,524. Details pertaining to the type of vaccine/medicine and expected coverage are summarised in Table BP.6.

Feed Improvement: The Northern Areas in general and Baltistan District in particular suffers from an acute shortage of animal feed. The Livestock Section is concentrating - in addition to other measures taken by AKRSP aimed at increasing the land area under fodder-on improving the quality of available forage. For this purpose, proven methods of hay-making and silage are being introduced in Baltistan. During the review quarter, the first demonstration of corn silage was arranged in the VO Hoto. Similar demonstrations are planned for the urea treatment of wheat straw in which villagers have shown a considerable interest. In all, 10 VOs have been selected for this experiment before the end of the current year where winter feed will be prepared for animals belonging to selected households for demonstration purposes.

A major stumbling block in the way of silage making on a substantial scale is the non-cultivation of maize and other suitable crops in Baltistan. The Livestock Section is working with the Agriculture Section to promote maize as a second (fodder) crop after the harvest of wheat or barley, to address this serious issue.

Breed Improvement: In our view, any livestock development programme is incomplete without a breed improvement component. The Livestock Section in Baltistan plans to address this issue at three levels - natural selection, artificial insemination and the introduction of exotic breeds.

Natural Selection: This is the safest and an ideal method for breed improvement as indigenous animals are perfectly adapted to local environment. The only drawback in this method is that it is very slow and requires upto 30 - 40 years to produce tangible results. Moreover, the milk potential in the local breeds is also limited. Nevertheless, natural selection has been initiated through castration of undesirable bulls, rams and male goats. The livestock specialist's kit contains castration equipment and they have been provided training in castration techniques. So far, the livestock specialists have carried out castrations on 169 bulls, and 242 sheep and goats.

Cross-breeding : Grading-up of indigenous breeds with improved local exotic breeds is another method for improving the genetic stock in local animals. This method involves selective cross-breeding in local animals as well as repeated crossing of exotic blood with large numbers of native females. For instance, crossing native cattle with Red Sindhi or Jersey of America, can produce off-springs with the qualities of both the parents - the adoptability of local mother and the productivity of exotic father. Also, there is a tremendous scope for such breeds as Welsh Black and Swiss Brown; these are dual purpose breeds raised for both milk and meat production in similar climatic environments. These breeds have already been crossed with local animals in Kashmir and are producing good results.

Artificial Insemination (A.I) : The improvement in the genetic potential of the local animals through selective breeding is a long term process. For quicker results, therefore, cross breeding seems to be the most rapid method. Keeping in view, both the long and short-term requirements of the area, A.I. method has also been proposed in Baltistan District. By next year, many VOs are expected to complete several rounds of vaccination where A.I. programme could be initially undertaken.

Poultry Development: The Fayoumi birds introduced in Baltistan during the second quarter of 1987, have been well-received by the villagers. During the review quarter, another batch of 610 units (3,660 birds) of the same variety were distributed in 11 VOs at cost.

The survival rate of the Fayoumi birds, in Baltistan is 92% which is a high mark. The village-based training programme which was planned during the review quarter in collaboration with Allama Iqbal Open University did not materialise as trainers from the University could not come to Baltistan. The next training programme is planned for the first quarter of 1988, which will be carried out by the Livestock Section.

V. Women in Development (WID)

As a result of the promotion efforts and motivation from the district management team, 8 more VOs have sent resolutions expressing their willingness to involve women in the development process. With this, the number of VOs willing to nominate women for village-based training and other development activities has increased to 22.

During the review quarter, 8 more nut-cracking machines were supplied to the VOs for collective use. So far, 21 such machines have been given to the VOs as an incentive for including the rural women in village development activities. When fully operational, these simple machines are expected to drastically cut down the long hours spent by women on manual cracking of apricot and other fruit kernels. In addition to

this, 5 experimental dehydration plants have been built at various locations in Baltistan District. Each unit consists of drying/sulphuring chambers attached to a micro-hydel electricity generator to power the plant as well as to provide electricity to the nearby households. Moreover, 8 prototype solar dehydration tents (Hakim type) were supplied to the VOs during the quarter. These have been fabricated further by the VO members in significant numbers.

As many as 610 units (3,660 in all) of 8-9 week old poultry birds were provided to 11 VOs at cost, during the quarter. The purpose of this activity is to promote home-based poultry farms in the villages both for domestic consumption and to capture a growing market in Skardu Town.

In close coordinations with other programming sections, the WID Section in Baltistan arranged a number of apricot sulphuring and dehydration demonstrations in the villages. In addition, vegetable demonstration plots laid during the last quarter were harvested, results assessed and seeds were provided to the interested women (see section on Agriculture).

VI. Commercial and Industrial Development (CID)

During the quarter ending September 1987, 10 VOs had taken marketing loans worth Rs. 203,500. As many as 20 VOs are participating in marketing activities during the current marketing season. These VOs have dried significant quantities of apricots using new sulphuring and other techniques introduced by AKRSP. The figures on the cooperative marketing of dried apricot and other produce have just started coming in and will be reported in the next quarter.

VII. Savings and Credit

Savings: At the conclusion of the third quarter (July-September) 1987, the combined deposits of all the VOs in Baltistan District had amounted to Rs. 2.196 million, an increase of Rs. 384,818 since the last quarter. The average saving deposits per VO is Rs. 17,293 and per member Rs. 418. Skardu sub-division has both the highest savings per VO and the highest savings per member. For details see Table BP.1 and BP.7.

Credit: During the quarter under review, 8 group loans were given for fertilizer amounting to Rs. 186,041 to as many as 328 rural households. Marketing loans amounting to Rs. 203,500 were given to 10 VOs, benefiting some 370 households. So far, 78 fertilizer loans amounting to Rs. 1.537 million have been given to 3,495 beneficiary households in Baltistan. A total of 19 marketing loans have also been issued amounting to Rs. 0.468 million and benefiting about 896 households. See Table BP.8.

Under the medium-term credit programme, 3 loans were provided to 180 households for the purchase of agricultural machinery. The

loan amount given out was Rs. 0.495 million. In all, 5 medium-term loans amounting to Rs. 0.657 million have been given so far to 260 VO members in Baltistan District, (Table BP.9). The total loan to deposit ratio is 0.67. See Table BP.10 for Sub-division wise details.

VIII. Monitoring, Evaluation and Research (MER)

In Baltistan District Programme Office, the MER is still a one-man section with growing monitoring and reporting responsibilities. Fortunately, the timely inclusion of a District Programme Monitor (DPM) in the district management team from the onset has provided a good groundwork, particularly on the reporting side, for further improvement. The formulation of a comprehensive plan of operations with clearly defined responsibilities and targets has been a useful exercise which provides an important base for establishing an efficient monitoring system for AKRSP activities in the district.

The MER agenda during the next quarter includes setting-up of a workable monitoring system for all the programming sections in the District Programme Office, a case study on the apricot drying experience (response from the villagers) in Baltistan District, and computerization of project records and documentation. Starting from this quarter, the Baltistan Programme Office will also prepare a separate management report for the Programme's General Manager in Gilgit, on quarterly activities and target achievements. The report will provide both physical and financial indicators as a measure of target achievements in a given quarter. In addition to this, the MER will coordinate marketing support activities in the district until the recruitment of a District Marketing Manager.

On the planning front, the MER will engineer a "target review workshop" at the end of every quarter to review progress on each activity and to set targets for the next quarter, based on AKRSP's annual workplan for the district.

Table BP.1

MEMBERSHIP AND DEPOSITS OF VILLAGE ORGANISATIONS
AS ON SEPTEMBER 30, 1987

Baltistan District

Sub-Division	No. of VOs	Membership	Cumulative Deposits (Rs)	Deposits During the Quarter (Rs)	Average Deposits (Rs.) Per VO Per Member
Skardu	41	1,953	905,488	126,426	22,085 464
Shigar	28	1,066	470,478	72,477	16,803 441
Kharmang	36	1,432	542,851	102,457	15,079 379
Khaplu	22	805	277,385	83,458	12,608 345
Total	127	5,256	2,196,202	384,818	17,293 418

Table BP.2

**PRODUCTIVE PHYSICAL INFRASTRUCTURE
COMMITMENT, DISBURSEMENT AND COMPLETED PROJECTS
AS ON SEPTEMBER 30, 1987**

Baltistan District**A: By Type of Project**

Type of project	No. of Projects	Cost (Rs.'000)	Disbursement		Completed Projects
			Rs.'000	As % of Cost	
Irrigation channel	45	7,032	3,743	53	10
Pipe Line	7	1,522	953	63	2
Protective Works	13	2,338	1,755	75	7
Link Road	11	1,584	1,311	83	6
Pony Track	4	506	428	85	4
Storage Reservoir	7	919	754	82	5
Foot Bridge	1	254	161	63	-
Total:	88	14,155	9,105	64	34

B: By Sub-division

Skardu	32	5,121	3,736	73	19
Khaplu	8	1,278	859	67	1
Shigar	25	3,677	2,310	63	6
Kharmang	23	4,079	2,200	54	8
Total:	88	14,155	9,105	64	34

Table BP.3

SECTOR AND SUB-DIVISION WISE DISTRIBUTION
OF SCHEMES AND COSTS
AS ON 30 SEPTEMBER 1987

Baltistan District

Type of Project	(Rs. '000)				Total	Completed
	Skardu	Khaplu	Shigar	Kharmang		
Irrigation Channel	2,186 (13)	583 (5)	1,588 (13)	2,675 (14)	7,032 (45)	10
Pipeline	670 (3)	-	725 (3)	127 (1)	1,522 (7)	2
Protective Works	533 (3)	-	1,025 (6)	780 (4)	2,338 (13)	7
Link Road	490 (4)	441 (2)	199 (2)	454 (3)	1,584 (11)	6
Pony Track	506 (4)	-	-	-	506 (4)	4
Storage Reservoir	736 (5)	-	140 (1)	43 (1)	919 (7)	5
Foot Bridge	-	254 (1)	-	-	254 (1)	-
Total	5,121 (32)	1,278 (8)	3,677 (25)	4,079 (23)	14,155 (88)	34

Note: 1. The upper figure denotes the cost in Rs. '000.
2. The lower figure in parenthesis denotes the number of schemes.

AGRICULTURE AND RESOURCE MANAGEMENT

Baltistan DistrictA: Trial Plots for Chick Pea

S.No.	Name of Variety	At VO Hoto	At Training Centre
		Yield/Ha (Kgs)	Yield/Ha (Kgs)
1.	CM-68	3,774	3,794
2.	CM-113	3,478	3,557
3.	CM-88	3,122	3,083
4.	RC-32	3,043	3,162
5.	CM-2	2,569	2,766
6.	C-M-1	2,470	2,687
7.	HG-75-35	2,174	2,450
8.	C-727	1,936	1,976
9.	HG-218-6-14	1,818	2,055

B: Wheat Trial Plot at VO Hoto

S.No.	Name of Variety	Grain Yield/Ha	Straw Yield/Ha
		(kg)	(kg)
1.	Janalo-90	5,632	14,267
2.	G-Chashma-1	5,335	14,227
3.	G-Chashma-2	5,256	14,128
4.	WH-81-2	5,059	7,015
5.	WM-89-1	4,940	5,355
6.	WM-120-3	4,367	10,374
7.	Triticale-05	4,268	14,049
8.	Pak-81	4,229	6,343
9.	WH-76-5-1	3,952	6,205
10.	WM-56-1-5	3,873	9,287
11.	WH-56-1-2	3,656	8,793
12.	WM-23-1-1	3,478	6,817
13.	WM-26	3,300	7,212
14.	Local	1,482	11,066

C: Wheat Trial Plot at VO Biadong

S.No.	Name of Variety	Grain Yield/Ha (kg)	Straw Yield/Ha (kg)
1.	Janalo-90	6,165	15,274
2.	Triticale-05	5,612	15,709
3.	G-Chashma-2	5,612	14,800
4.	G-Chashma-1	5,454	14,603
5.	WM-89-1	5,296	5,473
6.	WH-81-2	4,900	7,370
7.	WM-26	4,268	7,489
8.	Pak-81	4,268	6,955
9.	WH-76-5-1	3,873	7,331
10.	WM-56-1-5	3,715	9,485
11.	WM-23-1-1	3,715	7,232
12.	WH-56-1-2	3,557	9,011
13.	WM-120-3	3,003	10,631
14.	Local	366	9,307

D: Vegetable Trial/Demonstration Plots

Location/VO	Crop	Variety	Area Acres	Yield/Ha (Kgs)
Training Centre	Squash	White Bush	0.0025	40,441
Thorgo Bala	Potato	Cardinal	0.1115	20,588
Hoto	Potato	Cardinal	0.05	25,735
Training Centre	Carrot	Nantes	0.00125	49,779

Table BP.5

**PESTICIDES PURCHASED BY VO SPECIALISTS
DURING THIRD QUARTER 1987 (JULY - SEPTEMBER, 1987)**

Baltistan District

Pesticides	Quantity (ltrs)	Cost (Rs)	Expected coverage		
			Land (Ha)	Seed (kg)	Trees (No)
Dielderine	22	1,056	2.2	-	-
Enderine	25	950	2.5	-	-
Folidol	3	360	-	-	-
Gazothrin	3	462	-	-	450
Nogas	6.5	1,027	2.6	-	-
Total:	59.5	3,855	7.3	-	450

Table BP.6

VACCINES AND MEDICINES PROCURED BY VO LIVESTOCK SPECIALISTS
DURING THIRD QUARTER, 1987

S. No.	Name of medicine/ Vaccines	Quantity	Cost (Rs)	Projected No. of Animals Vaccinated/treated		
				Cattle	Sheep/goats	Poultry
1.	New Castle	30 vials	150	-	-	1,448
2.	Black Quarter	16 bott.	240	1,306	-	-
3.	Pleuro Pneumonia	19 vials	95	-	1,465	-
<u>Total for vaccines:</u>				<u>1,306</u>	<u>1,465</u>	<u>1,448</u>
1.	Oxytetracycline	23 vials	230	-	143	28
2.	Dertil-O Tabs	200 tabs.	140	-	200	-
3.	Dertil-B Tabs	200 tabs.	340	175	-	-
4.	Bilvon-M Tabs	100 tabs.	110	-	96	-
5.	Asuntol powder	1 kg.	220	40	400	-
6.	Systemax	2 bott.	86	-	-	-
7.	Penicillin 40 lac units	48 vials	528	3	4	-
8.	Potassium permanganate	2 kg.	128	105	260	-
9.	Koaline powder	2 kg.	34	15	20	-
10.	Magnesium Sulphate	9 kg.	117	6	6	-
11.	Zinc Oxide	2 kg.	54	-	-	-
12.	Vaseline White	2 kg.	52	3	10	-
<u>Total for medicines</u>				<u>347</u>	<u>1,139</u>	<u>28</u>

Table BP.7

VILLAGE ORGANISATION's BANK DEPOSITS
Cumulative, upto September 1987

Sub-division	Saving account	Men	
		Term deposit	Total
Skardu	804,988	100,500	905,488
Shigar	425,478	45,000	470,478
Kharmang	542,851	-	542,851
Khaplu	248,385	29,000	277,385
Total:	2,021,702	174,500	2,196,202

Table BP.8

SHORT-TERM CREDIT DISBURSEMENT SUMMARY

A: Cumulative upto September 1987

	No of borrowing VOs. H.hold		Amount Disbursed (Rs.)	Average VO	(Rs) per H.holds
Fertilizer	78	3,495	1,537,708	19,714	440
Marketing	19	896	468,900	24,679	523
Total:	97	4,391	2,006,608	20,687	457

B: For July - September 1987

Fertilizer	8	328	186,041	23,255	567
Marketing	10	370	203,500	20,350	550
Total:	18	698	389,541	21,641	558

Table BP.9

MEDIUM-TERM CREDIT DISBURSEMENT SUMMARY

A: Cumulative upto September 1987

	<u>No of borrowing</u>		<u>Amount</u>	<u>Average</u>	<u>(Rs) per</u>
	<u>VOs.</u>	<u>H.hold</u>	<u>Disbursed</u>	<u>VO</u>	<u>H.holds</u>
			<u>(Rs.)</u>		
Land Development	1	40	12,000	12,000	300
Agri. Machinery	4	220	645,000	161,250	2,932
<u>Total:</u>	<u>5</u>	<u>260</u>	<u>657,000</u>	<u>131,400</u>	<u>2,527</u>

B: For July - September 1987

Land Development	-	-	-	-	-
Agri. Machinery	3	180	495,000	165,000	2,750
<u>Total:</u>	<u>3</u>	<u>180</u>	<u>495,000</u>	<u>165,000</u>	<u>2,750</u>

Table BP.10

LOAN TO DEPOSITS RATIOS
July - September 1987

<u>Sub-division</u>	<u>Total Loans outstanding</u>			<u>Deposits</u>	<u>Loan/ Deposit Ratios</u>
	<u>Short-term</u>	<u>Med-term</u>	<u>Total</u>		
Skardu	359,592	345,000	704,592	905,488	0.78
Shigar	324,871	162,000	486,871	470,478	1.03
Kharmang	119,068	-	119,068	542,851	0.22
Khaplu	4,833	150,000	154,833	277,385	0.56
<u>Total:</u>	<u>808,364</u>	<u>657,000</u>	<u>1,465,364</u>	<u>2,196,202</u>	<u>0.67</u>

CREDIT SUMMARY FOR ALL LOANS

A: Disbursements, Cumulative upto September 1987

	Short-term Loans	Medium-term Loans	All Loans
No. of Borrowing			
- VOs	97	5	102
- Households	4,391	260	4,651
Amount disbursed (Rs)	2,006,608	657,000	2,663,608

B: For July - September, 1987

No. of Borrowing			
- VOs	18	3	21
- Households	698	180	878
Amount disbursed (Rs)	389,541	495,000	884,541

BUDGET AND ACCOUNTS

BUDGET AND ACCOUNTS

I. Overview

In all the three districts of the programme area 20 PPIs were initiated at a cost of Rs. 2.855 million during the quarter under review, bringing the total number of PPIs to 528 costing Rs. 81.868 million. The PPI breakdown by district is as follows:

a) <u>Jul.-Sep. 1987</u>	<u>No. of PPIs</u>	<u>Cost (Rs.) million</u>
Gilgit	3	0.923
Chitral	10	1.121
Baltistan	7	0.811
<hr/>		
Total	20	2.855
<hr/>		
b) <u>Cumulative</u>	<u>No. of PPIs</u>	<u>Cost (Rs.) million</u>
Gilgit	283	43.226
Chitral	157	24.487
Baltistan	88	14.155
<hr/>		
Total	528	81.868
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The total disbursement against the cumulative commitment was Rs. 67.211 million.

II. AKRSP Donors

Although there were no new commitments from any international donor agencies registered on the funding front, we however gratefully acknowledge receipt of the committed funds at Gilgit. The generous contribution by ODA for our Chitral Programme is still awaited, though the grant has since been approved by the Overseas Development Administration (ODA). The Women Division, Government of Pakistan's funds amounting to Rs. 3.041 million were received in the current quarter.

We are deeply indebted to the international donor agencies, the AKF Head Office and its affiliates for their continuous support and interest in our programme.

III. Management of Accounts and AKRSP Budget 1988

The accounts sections performance with the computer has been satisfactory in terms of updating postings and supply of data.

During the quarter under review, the Accounts Section remained busy with collation of budget figures supplied by the section heads and District Programme Offices of Chitral and Baltistan for 1988. Once consolidated the budget will be presented in the AKRSP BOD meeting to be held in November for approval.

Table B&A.1

SOURCES AND APPLICATION OF FUNDS
(Project Area)

a) <u>Sources</u>		76,948.5
Balance brought from 1986	24,215.8	
<u>Donor Receipt in 1987</u>	52,732.7	
CIDA	5,778.7	
AIAID	5,106.0	
ODA	363.2	
OXFAM	1,700.9	
USAID	4,537.9	
Dutch	20,584.0	
CEC	2,390.6	
Govt. Sources	3,048.0	
NA Council	125.0	
AKF Network*	9,098.4	
b) <u>Applications</u>		47,806.0
- General Administration	5,965.9	
- Agriculture Extension	5,352.5	
- Social Organisation	3,092.7	
- Engineering Survey	3,174.4	
- Marketing Research	932.1	
- MER	1,711.1	
- Audio Visual Unit	463.9	
- Women in Development	2,460.9	
- PPI grants	12,035.6	
- Credit Programme	12,616.9	
Carry forward to next quarter**		29,142.5

* AKF funds includes generous contribution from AKF Geneva, AKF Canada, AKF (UK) and AKF (USA).

** This carry forward would be utilised to finance outstanding commitments on PPI projects in the subsequent quarter of 1987.

APPENDIX

Visitors to AKRSP and Project Area Based Friends

VISITORS TO AKRSP AND PROJECT AREA BASED FRIENDS

1. Government Officials

The following high-ranking government officials visited AKRSP during the quarter:

Dr. Mahbub ul Haq
Federal Minister Commerce,
Planning and Development.

Mr. Cyril Gamage
Secretary, Ministry of Interior
Sri Lanka

2. Aga Khan Network

The following representatives of AK Institutions visited AKRSP:

Mr. Ramzan Merchant
Chairman,
Board of Directors (AKRSP)
Aga Khan Foundation (Pakistan)

Mr. Asif Fancy
Director, AKRSP

Ms. Carole Houlihan
Programme Officer,
Aga Khan Foundation Canada

Mr. Nicholas Van Praag
The Secretariat of
His Highness the Aga Khan
Aiglemont, France.

Mr. George Purvis
The Secretariat of
His Highness the Aga Khan
Aiglemont, France

Mr. Robert Edwards
The Secretariat of
His Highness the Aga Khan
Aiglemont, France

Ms. Shirin B. Notta
Health Superintendent
Aga Khan Health Services
Pakistan

3. Representatives of International Development Agencies

Mr. Richard Hawkins
Winrock International
Nepal

Ms. Nicole Chartrand Tresch
Canadian International Development Agency
Canada

Ms. Swinton
Canadian International Development Agency
Canada

Mr. Trevor Sykes
Canadian International Development Agency
Canada

Ms. Nancy Garret
Canadian International Development Agency
Canada

Dr. Hafeez
IFAD Mission

Mr. Stephen J. Spielman
Regional Legal Advisor
USAID, Islamabad

Ms. Khadija Haq
Executive Director
North South Roundtable
Islamabad

Mr. M. Salim Sufi
Regional Administrative Manager (West Africa)
The Ford Foundation
Dakkar Senegal

Dr. Hans Helmrich
Pattoki Livestock Production Project

Dr. Riaz Hussain
Pattoki Livestock Production Project

Mr. Noorul Hassan
Pattoki Livestock Production Project

Board of Directors
Sarhad Rural Supply and
Marketing Co-operative Corporation Ltd,
Peshawar

Operation Raleigh Venturers

4. Scholars and Academicians

Dr. Akhter Hameed Khan
Director, Orangi Pilot Project
Karachi

Dr. Mahmood Hasan Khan
Simon Fraser University,
British Columbia, Canada

Dr. Klaus Seeland
Swiss Federal Institute of Technology
Zurich

Ms. Olga Roman
School of Nursing, McMaster University
Hamilton, Canada

Ms. Susan E. French,
Associate Dean of Health Sciences
McMaster University
Hamilton, Canada

Drs. J. de Vries
Adviser, Faculty of Geography,
University of Groningen
The Netherlands

Drs. J.B.R. Dekker
Senior Lecturer,
Geographical Institute
University of Groningen
The Netherlands

5. Journalists/Film Crew

Mr. Jean Francois Leven
L'Express, France

Mr. Alessio Altichieri
Corriers della Sera, Italy

Mr. Rudolf Kahlen
Die Zeit, Germany

Mr. David Lawday
The Economist, UK

Ms. Hilary Brown
CBC, Canada

Ms. Cal Stockbridge
BBC, London

Mr. Jack Silberman
Northern Lights
British Columbia, Canada

Ms. Gillian Darling
Northern Lights
British Columbia, Canada

Mr. Nick Kendall
Northern Lights
British Columbia, Canada

Mr. Michael McGee
Northern Lights
British Columbia, Canada

Mr. Rolf Kutz
Northern Lights
British Columbia, Canada

Ms. Nicki Shaw
Northern Lights
British Columbia, Canada

6. Representatives of Foreign Missions in Pakistan

Mr. Hans. J.J. Teunissen
First Secretary
Royal Netherlands Embassy
Islamabad

Mr. C.D.M. Balk
Royal Netherlands Embassy
Islamabad

Ms. Fatima Malik
Royal Netherlands Embassy
Islamabad

Mr. Hank B.J. Friso
First Secretary (Development)
Embassy of Canada
Islamabad

Ms. Carole Kerfoot
Embassy of Canada
Islamabad

Ms. Shahwar Pataudi
Embassy of Canada
Islamabad

7. Gilgit-based Friends

The Management of AKRSP takes this opportunity to reiterate its most sincere thanks and appreciation to its project area-based friends for their continued support and cooperation with the Programme.

We are particularly indebted to:

Mr. Abdul Qayyum Khan
Administrator, Northern Areas,
and
Major General Hamayun Khan Bangash,
Forces Commander of Northern Areas,

We are also grateful for their support to:

Mr. Ghulam Jilani Khan
Additional Commissioner
Planning & Development
Gilgit

Mr. M.A. Afridi
Additional Commissioner
General, Gilgit

Mr. Tariq Feroz
Deputy Commissioner, Gilgit

Wazir Muhammad Ali
Deputy Inspector General Police,
Northern Areas

Mr. Mohammad Alam
Conservator of Forests,
Northern Areas, Gilgit

Raja Ali Ahmed Jan
Assistant Inspector General Police
Northern Areas

Mr. Latif Hassan
Member, Northern Areas Council

Mir Ghazanfar Ali Khan
Member, Northern Areas Council

Pir Karam Ali Shah
Member, Northern Areas Council

Mr. Mirbaz Khan
Chairman, District Council, Gilgit

Mr. Tariq Hafiz Raja
Airport Manager
Civil Aviation Authority, Gilgit

Khawja M. Anis
Station Manager, PIA, Gilgit

Mr. Faqir Mohammad
District Sales Manager, PIA, Gilgit

Mr. Mohammad Akram
Station Director
Radio Pakistan, Gilgit

Mr. Ghulam Qadir
Editor, Radio Pakistan, Gilgit

8. Chitral-based Friends

Mr. Latif Khan
Commissioner, Malakand Division

Mr. Sharif Ahmad
Deputy Commissioner,
Chitral District

Shahzada Mohiuddin
Member National Assembly

Mr. Afzal Ali
Director, AKRSP Board of Directors

Lt. Col. Murad Khan Nayyer
Commandant, Chitral Scouts

Mr. Sikandar Yar Khan
Superintendent of Police
Chitral

Major Kiyani
Wing Commander,
Chitral Scouts

Mr. Saifullah Khan
Executive Engineer,
C&W Department

Mr. Abdul Khanan
Executive Engineer,
Irrigation Department

Mr. Penin Shah
Extra Assistant Director,
Agriculture Department
Chitral

Mr. Mohammadullah Khan,
Assistant Director
Animal Husbandry Department
Chitral

Mr. Mustafa Kamal
Deputy Superintendent of Police
Chitral

9. **Baltistan-based Friends**

Mr. Ghazi Johar
Deputy Commissioner, Baltistan

Mr. Sajjad Ali
Superintendent Police
Baltistan

Mr. Mohsin Raza
Assistant Commissioner, Skardu

Haji Fida Mohammad Nashad
Chairman, District Council, Baltistan

Haji Mohammad Hussain
Northern Areas Councillor, Shigar

Agha Mohammad Ali Shah
Northern Areas Councillor, Kharmang

Aga Ahmed Ali Shah
Northern Areas Councillor, Skardu

Mr. Mohammad Jaffar
Northern Areas Councillor, Khaplu

Mr. Amanullah Khan
Assistant Director
Agriculture Department, Skardu

Dr. Ehsan Ali
Assistant Director
Animal Husbandry, Skardu

Mr. Mohammad Afzal
Divisional Forest Officer, Skardu

Mr. Daud Khan
Assistant Commissioner, Shigar

Mr. Sami Quraishi
Station Director, PBC, Skardu

Mr. Mustafa Kemal
General Secretary of the
General

Belgian-based friends

Mr. Ghislain
General Secretary, Belgium

Mr. Ghislain
General Secretary, Belgium

Mr. Ghislain
General Secretary, Belgium

Mr. Ghislain
General Secretary, Belgium

Mr. Ghislain
General Secretary, Belgium

Mr. Ghislain
General Secretary, Belgium

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General Secretary, Belgium

Mr. Ghislain
General Secretary, Belgium

