Socio Economic Survey of Rural Households in Mastung, Balochistan

RSPN

DFID Department for International Development

Impact Assessment Unit
Rural Support Programmes Network
Islamabad

MAP OF BALOCHISTAN

Qila Abdullah

Pishin

Quetta

Zhob

Qila Saifullah

Musa Khel

Loralai

Barkhan

Ziarat

Sibi

Kohlu

Mastung

Bolan

Dera Bugti

Chagai

Kalat

Jhal Mags

Nasirabad

Jafarabad

Kharan

Khuzdar

Panjgur

Kech

Awaran

Lasbela

Gwadar

AREA   347,190 Km2
(44% of Pakistan)

POPULATION   6.511 Million

(1998)   (5.1% of Pakistan)

Balochistan Rural Support Programme

Baseline Socio Economic Survey
Mastung, Balochistan

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Acknowledgement

Mohammad Asif Khan

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Acronyms

A.I	Artificial Insemination
BHU	Basic Health Unit
BRSP	Balochistan Rural Support Programme
CPRID	Centre for Research on Poverty Reduction & Income Distribution
FY	Fiscal Year
Gwala	Milk seller
GoP	Government of Pakistan
HCI	Head Count Index
HDI	Human Development Index
HH	Household
HIES	Household Integrated Economic Survey
Km	Kilometre
Killi	Settlement with no demarcation of boundaries in revenue record
LHV	Lady Health Visitor
MER	Monitoring, Evaluation and Research
NGO	Non Government Organisation
PGR	Poverty Gap Ratio
Rs.	Pak Rupee
RSPN	Rural Support Programmes Network
RSPs	Rural Support Programmes
SOP	Severity of Poverty
ToRs	Terms of Reference
UCs	Union Councils
Vet	Veterinary

ABSTRACT - Mastung District

A - Secondary Sources

Land Utilization		Crop area as % of Province	Area	Production
Geographical area - million acres	1.7	Wheat	2.5	1.6
Cultivated area - % of Geographical area	10.5	Onion	6.4	6.9
Cropped area - % of Province area	2.4	Potato	1.3	1.2
Area irrigated by Karezes - %	4.0	Chillies	1.5	1.4
Area irrigated by Tubewells - %	94.1	Tomato	0.8	0.6
Livestock		Almond	1.0	0.7
Livestock population, 2006 - million heads	1.039	Apple	7.5	16.1
Livestock density/ Km2 - No	139	Apricot	3.1	2.4
Proportion of goat/sheep	97.70%	Grapes	11.0	6.7
Cattle - % of Province	0.38%	Peaches	10.5	19.3
Goat - % of Province	2.84%	Plums	23.9	18.2
Sheep - % of Province	3.65%	Pomegranate	0.0	0.0

B - Findings of the Survey

	Treatment villages		Control villages			Non Poor		Poor	
	Male	Female	Male	Female		Treatment	Control	Treatment	Control
Demography					**Income per Household**				
Household size - No	3.4	2.9	3.2	2.7	Income/capita/month - Rs	2,367	2,777	671	618
Adults/ HH - No	1.61	1.36	1.59	1.25	Farming - %	43.3%	47.0%	13.6%	5.7%
Male : Female	113:100		115:100		Livestock - %	4.5%	8.1%	3.8%	8.9%
Dependency ratio -%	62%		59%		Service/job - %	30.5%	26.5%	23.0%	19.2%
Schooling of Children - %					Monthly food expenditure/capita - Rs	890	929	710	769
% of Children not in School	29.4	49.1	35.1	53.4	Monthly total expenditure/capita -Rs	1,276	1,224	885	952
% ">5 to 10" years	42.5	23.4	34.3	19.2	**Loan amount and Source**				
% ">10 to 18" years	26.5	36.3	28.4	42.3	% HHs taken Loan	35.0	25.0	46	47
% ">18 to 25" years	31.0	40.4	37.3	38.5	Average amount/HH -Rs	18,435	7,962	15,197	20,000
Literacy					Loan from Non-Institutional sources	67.2%	65.0%	72.1%	75.0%
Adult Literacy - %	64.9	35.8	51.0	21.9	**Asset Value & Share**				
Percent of Literate					Assets per HH - 000 Rs	711	461	332	141
Primary School	47.4	66.4	54.1	86.7	Share of land - %	61.2%	53.3%	45.5%	30.9%
Middle School	18.9	12.3	10.2	0.0	Share of livestock - %	7.8%	21.3%	9.0%	28.6%
High School	17.9	13.9	16.3	0.0	House & Other structures - %	18.1%	12.7%	38.0%	31.5%
Post Matriculation	11.2	4.1	18.4	10.0	**Cropping intensity/ Land Ownership**				
No Schooling	4.6	3.3	1.0	3.3	Cultivated area/ farm - acres	5.80	10.70	3.3	5.3
Work Status					Cropping Intensity - %	118%	104%	92%	77%
% Not working (>10 yr)	28.9	15.5	28.9	10.5	% area under High Value crops	52%		11%	
% doing HH Work	0.4	81.7	0.4	81.7	Revenues/ cropped acre - Rs	15,748		3,804	
% Working other than HH work	70.7	2.8	71.1	0.5	% of farms up to 5 acre	68%		89%	
% Own farm	23.7	0.0	20.1	0.0	% area for up to 5 acre farms	27%		49%	
% Farm labour	18.7	7.1	11.6	0.0	% of farms ">=12.5" acre	7%		4%	
% Service/ Job	28.5	85.7	24.6	100.0	% area for ">= 12.5" acre farms	47%		14%	
% Off farm labour	21.2	0.0	33.2	0.0	**Livestock**				
% Business	3.5	0.0	2.0	0.0	No of Livestock Heads per HH	10.1	25.4	7.2	10.45
% Multiple works	4.3	7.1	8.5	0.0	Cattle	0.26	0.10	0.02	0.10
Very Serious Constraints					Goat	4.77	14.50	3.75	6.76
Education facilities -%	7%	8%	3%	8%	Sheep	4.76	10.58	3.32	3.45
Water supply - %	39%	32%	12%	26%	Lactation period - months				
Healthcare facilities - %	18%	25%	7%	21%	Cow	6.50			
Employment opportunities -%	12%	7%	4%	5%	Goat	4.28			
Electricity - %	11%	5%	17%	15%	Sheep	4.30			
Amenities					Daily Milk yield- Liters				
% HHs getting Water from karez	6.9		23.8		Cow	5.90			
% HHs getting Water from Well	44.8		24.6		Goat	0.73			
% Houses electrified	88.8		66.9		Sheep	0.61			
Livestock Mortality & Expenditure					Mutton/Beef production/HH - kg	67			
Mortality for goat and sheep - %	3.2% & 3.4%				**Poverty**	**Treatment**		**Control**	
Mortality for cattle - %	5.4%				% HHs below Poverty line of Rs 1,036	35.9%		39.2%	
Fodder per annum - Rs	4,050				% HHs below 'Two $' per capita/day	67.2%		68.5%	
Fodder purchased - % of total	78%				Gini - (Income distribution)	42%		47%	
Concentrates per annum - Rs	636				PGR	36%		32%	
Veterinary medicines/annum - Rs	156				SOP	17%		14%	

MAIN FINDINGS

The district of Mastung encompasses 1.98 percent geographical and 10.52 percent cultivated area of the province of Balochistan. The cropped area in the district is 66,092 acres. Irrigation is by tube wells (94%), karezes (4%) and wells (2%). Land ownership is highly skewed with 21 percent farms, falling in less than 2.5 acre category, occupying 2 percent farm area, 80 percent farms, of up to 12.5 acres, occupying 37 percent farm area and the remainder 20 percent farms owning 63 percent farm area. It is a major fruit growing area but with no processing facilities. The population density was 28.3 persons per km^2 in 1998 with a male to female ratio of 119:100. The share of the district in the provincial livestock population is 2.9 percent.

Infrastructure/Services of Selected Villages

Almost three-fourths of the villages (74%) have access to a road transport system within a 3 km distance. Facilities for elementary education are available in more than half the villages. The distance to middle/high schools is higher than primary schools, more so for the girls' schools. A '*madrissah*' exists in 90 percent of the sampled villages within a 5 km range. Facilities for healthcare, as well as for the treatment of animals, exist within a reasonable distance (5 km). A total of 17 karezes were reported in 30 selected villages. Karez and tube wells are an important source for the supply of drinking water, though '*kacha*' ponds are also used for the purpose, mainly by the migrant population. Hand pumps are installed in three villages.

Profile of Selected Households

The male to female ratio for the selected households is 121:100 for the adults and 107:100 for the children. One-third of the population falls in the age group of 'less than 10 years' and the average household size is 6.2 members. Poor households are 35.91 percent in the Treatment villages and 39.23 percent in the Control villages. Dependency ratio is 61 percent. 71 percent males (less than 10 years) work in various professions against only 2 percent females. 22 percent household members are not working. 27 percent of the working male adults earn their living from a service/job, 25 percent from off-farm labour and 22.5 percent by working at their own farms. From a total of 15 working females, 13 are doing some service/job. Multiple kinds of work like knitting, making handicrafts, selling petty goods, etc., is done by 5.7 percent of the working individuals.

Literacy and Schooling

Parity in gender discrimination vis-à-vis education is wider than in other aspects. Out of the total adult population of the non-poor respondent households, 52 percent in the Treatment villages and 39 percent in the Control villages are 'literate'. The proportion of 'Not in School' children is 38.8 percent in the Treatment villages and 43% in the Control villages.

Milk and Meat Production

The lactation period is 6.50 months for cows, 4.28 months for goats and 4.30 months for sheep. The average daily milk yield/animal is 5.90 kg for cows, 0.73 kg for goats and 0.61 kg for sheep. Milk productivity in the poor households is higher than the non-poor. Average milk produced per household is 490 litres for all households and 275 litres for the poor households. Daily time spent for various livestock activities is 11.9 hours per household or roughly one hour per animal. The bulk of this time (57%) is spent in grazing the animals. Meat production is 70 kg per household.

Farm Land and Crops

The average cultivated area is 5.8 and 10.7 acres for the non-poor and poor households in the Treatment villages against 3.3 acres and 5.3 acres for the non-poor and poor households in the Control villages. The distribution of land amongst the land owners is inequitable and skewed. The cropping intensity for the Treatment village farmers is 112 percent against 86 percent for the Control villages. The cropping pattern for the non-poor farmers includes a greater proportion of high value crops (52.3%) like onion, cumin, tomato and orchards against the poor households (11.4%). The yields are high for non-poor farmers. Revenues per acre are Rs. 20,348 for the non-poor farmers against Rs. 7,560 for the poor household farmers.

Livestock

47 percent of the households have some type of livestock. The average number for the non-poor households is 15 against 8.32 for the poor households. The number of animals in the Control areas is 19.71 against 9.12 animals in the Treatment villages. 29 percent of the animals are milking and 46 percent are dry. 4 percent of the animals were slaughtered or sold during the year.

Income and Poverty

The average monthly income is Rs. 29,994 for the non-poor and Rs. 7,827 for the poor households. The gap in income of the poor and non-poor is lesser in the Treatment villages than the Control villages. Share of top 20 percent in income is 45 percent against bottom 20 percent of 8.7 percent. Income sources for the non-poor include: farming (44.7%), livestock (5.8%), service/job (29.1%) and casual labour (12.2%). Income sources for the poor households are farming (10.9%), livestock (5.8%), service/job (27.9%) and casual labour (14.9%). 36 percent of the sample households in the Treatment villages fall in the poor category with per capita average monthly income of Rs. 671 against 39 percent in the Control villages with an average income of Rs. 618. The value of Gini for income distribution is 0.47 for the Treatment villages and 0.42 for the Control villages. Overall Gini coefficient is 0.20, PGR is 35 percent and SOP is 16 percent.

Household Expenditure

The per capita monthly expenditure is Rs. 1,260 for the non-poor and Rs. 907 for the poor households. 75 percent of the household expenditure is on food. The average per capita monthly expenditure is Rs. 1,110 for all households. The average calorie intake is 2,262 for the non-poor and 2,138 for the poor households. The per capita expenditure on food items is Rs. 828 per month.

Assets, Value and Distribution

The average value of assets is Rs. 574,663 for the Treatment villages and Rs. 610,648 for the Control villages. The share of consumer durables and livestock in the asset value is 25.1 percent and 19.2 percent for the Treatment and Control villages and the share of land is 57.9 percent and 56.4 percent for the Treatment and Control villages respectively. The value of assets for the poor households is much lesser than the non-poor households.

Household Loans

The average loan amount in 2006/2007 was Rs. 15,058 and Rs. 16,828 per household for the non-poor and poor households respectively. Friends and relatives are the major source of loans (69.7%), shopkeepers meet 25.5 *percent* of credit requirements while the share of banks is only

1.4 *percent*. Debt payable is Rs. 10,573 for the non-poor and Rs, 14,198 for the poor households. The use of loan amount is 39 percent for productive purposes including farm inputs (17%) and livestock (12%), while 41 percent of the loan amount is used for consumption/social needs.

Gender Parity/Women Empowerment
Women are actively involved in livestock management including chopping fodder, feeding, and milking. They sell milk, poultry or eggs at their own discretion. Men take strategic decisions regarding seeking loan, its repayment, purchase/disposal of assets or education of girls. The involvement of women in such strategic decisions like seeking loan, repayment or sale/purchase of assets, education of girls, etc., is minimal.

1. Introduction

1.1. Background

The RSPs were established in Pakistan with the financial support of the Federal or Provincial Governments and international donors. The first RSP was the Aga Khan RSP, established in 1982 in the Northern Areas. The most recent RSP to be established was the Sindh Rural Support Organisation in 2003. The essence of the RSPs' methodology is to establish partnerships with communities so that people's needs and opportunities of various kinds can be identified. Presently there are 9 RSPs working in various parts of the country, covering 93 Districts.

BRSP was created in 1983, when the Pak-German Self-Help project was launched with the financial and technical support of GTZ (a German donor agency) to focus on rural development in Balochistan. In 1991, the project was transformed into the Balochistan Rural Support Programme which was registered under Section 42 of the 1984 Companies Ordinance as a non-profit organisation dedicated to rural development. By the mid-1990s, BRSP was able to extend its operations to 13 districts. However, the programme then had to be scaled down substantially in subsequent years as GTZ withdrew its support. After a long interval, during which only limited implementation was possible, BRSP was able to resume broader-scale operations in 2001, with financial support from PPAF.

The year 2006 was a year of expansion. With the support of the Government of Pakistan, the organisation expanded its outreach to five new districts (Kalat, Killah Saifullah, Mastung, Pishin and Zhob) with a special focus on improving the living conditions of the poor livestock farmers by enhancing the production and productivity of their livestock assets.

There are a number of reports like the district profile, Population Census, Agriculture Census, statistical reports compiled by various provincial departments, etc. However, the figures given in these censuses/reports can not be used for establishing a baseline or for future planning, primarily because: a) the livestock population at household level can not be derived, and b) there is a huge influx of migratory herds from Afghanistan which can not be segregated from the figures given therein. The Baseline Survey has therefore, been carried out encompassing various physical, social and economic aspects based on primary data with the prime objective of planning future interventions based on resource availability and considering people's aspirations.

1.2. Objectives and Purpose of the Study

The overall objective of the study is to highlight the social and economic status of the district to acquire a basic understanding of the different economic activities of the people and to compile the baseline profile of the area where BRSP aims to enhance the livelihoods of people. The specific objectives of the survey are:

- To establish benchmarks for future assessment of BRSP impact in the newly included districts;
- To establish benchmarks for livestock population and its productivity;

- Capacity building of the staff by providing on-the job training to M&E staff of BRSP to conduct similar surveys in the future.

1.3. Survey Methodology

The methodology adopted for conducting the survey involved a mix of qualitative and quantitative methods which included: i) meeting with the BRSP staff at the headquarters and at the district level, ii) review of available information; iii) collection of secondary data; iv) field visits for the training of field staff as well as for gathering the views of the masses; v) designing of the questionnaire/formats, vi) collection of primary data; vii) data analysis; and viii) presentation of the findings in the form of a report.

1.3.1. Review of Available Information

BRSP had collected some district level information from secondary sources like the household size, the names and population of various settlements, etc. Relevant files and reports were reviewed to have an overall view of the available information and discussions were held with the staff. The operational frame work, institutional arrangements and the activities being carried out by BRSP were discussed. For successful undertaking of the assignment, a consultative process was adopted with the management. The information available with the provincial departments of Livestock & Animal Husbandry and the Department of Agriculture was also reviewed.

1.3.2. Sampling

The socio-physical conditions within the district vary primarily with reference to the existence of irrigation water availability and employment opportunities particularly in the mining sector. In order to capture the effect of all these factors and to minimise the sampling variation, multi-stage random sampling technique has been adopted. In the first instance Tehsil wise list of all UCs was prepared to have representation of the entire district. Ten UCs were selected which was followed by randomly drawing 3 villages from each selected UC or a total of 30 villages from the district. Finally 13 respondents were randomly selected from each selected village. The sample frame is drawn from the Pakistan Census 1998 data for Mastung district. The household sample was drawn based on Gilroy [2001] using the following formula:

$$n = (Z*Cv/X)^2$$

Where,

z	=	Value of the confidence level
Cv	=	Coefficient of Variation
X	=	Precision level or the acceptable amount of error (expressed in %) or the difference between the averages calculated from the sample data and the population data

Coefficient of variation (Cv) or the 'Standard Deviation (SD) as % of Mean' could not be calculated due to the non-availability of data. However, as mentioned by Coleman Gilroy, SD was assumed as 100 percent of the mean, which is the maximum and is expected to capture the variation in the target population from which the sample is drawn. With 95 percent confidence

level, 10 percent precision level and 100 percent coefficient of variation, total sample size was calculated to be 384 $[(1/96*100/10)^2 = 384]$ households. In order to minimise the risk of non-sampling errors in the data collection, the sample size was further increased by 1 percent or roughly a total of 390 respondents from the district.

The selection of respondents involved enlisting the households of selected villages followed by randomly selecting the households. At the time of data cleaning, some questionnaires did not reflect coherent data and were, therefore, substituted by respondents selected in subsequent visit or discarded leaving a total of 389 respondents for further analysis. The women in this part of the province are confined inside the home and are not allowed to be interviewed by men. Since part of the information required to be collected pertained to women, female respondents of the selected households were also interviewed. Thus, while the total selected households were 390, the total respondents were 778 (389 males + 389 females).

1.3.3. Questionnaire

A structured questionnaire containing all possible queries regarding the socio-economic condition of the target population was prepared with special focus on the project/programme objective of PM's Livestock initiative. It consisted of a set of two questionnaires: a) the village level, and b) the household level. The village level questionnaire (Annex-1) was used to collect general information about the village like social and physical infrastructure, services, prices/unit rates, etc. It was filled in by the male interviewers in focus group discussions.

The women in the district are confined inside the home and are not allowed to be interviewed by men. Keeping in view this limitation, the household questionnaire was divided into two parts: a) the male part, and b) the female part, each handled by corresponding interviewers. The female part consisted of gender sensitive questions to which the men do not respond or give biased information.

The questionnaire designed by Khan [2004] in various similar surveys has been tested frequently, and thus formed the basis for designing questions for this survey. It was however, slightly amended keeping in view the specific objective of this survey, particularly relating to livestock. Some parameters were added concerning livestock which is a major activity in the area. The questionnaires were tested in the selected area and modified as required. The household level information was collected using the questionnaire (male part) attached as Annex-2. The questions asked included the following:

- Demographic aspects (age, education, on-farm and off-farm employment, health);
- Resource availability in terms of earnings, land and livestock, literacy rate, etc.;
- Cropping pattern, production and returns;
- Livestock raising (herd composition, lactation period, milk yield, animal weights, animal sale, expenditure on veterinary medicines and fodder purchase, animal sale/purchase);
- Household consumption of food items;
- Divergent mix of income and expenditure influenced by varying preferences and external factors;
- Extent of indebtedness, credit sources, future credit needs and use;
- Amenities at the household level (water supply, electricity, fuel used, house structure, etc.);

- Assets owned (productive, consumer and savings);
- Existing infrastructure and amenities;
- Involvement of women in decision making at household level and for developmental activities; and
- Availability of facilities for Veterinary services, livestock feeding, etc.

In view of the social norms of the area, the male interviewers could not reach the females nor could they get gender sensitive information from the male respondents. To overcome this problem, a separate questionnaire was prepared for the female respondents (Annex-3). The information collected from the female respondents included demographic aspects, literacy level, constraints/problems and involvement of women in day to day activities and decisions related to daily life.

1.3.4. Field Team

BRSP is mandated to undertake small interventions with community participation keeping in view the user aspirations aimed at the socio-economic uplift of the rural areas. The selection/implementation of potential interventions based on the lessons learnt as a result of monitoring and post project evaluation is a regular feature of BRSP staff responsibilities. Thus, there is a dire need for the capacity building of the staff which ensures their physical involvement in such exercises. Keeping in view the need for 'on-the-job training' of the field staff, the field team was selected from amongst the district level staff. The staff members were accordingly interviewed by the Consultant and RSPN MER team to determine their aptitude and ability in conducting such surveys.

A team of 8 male and 3 female enumerators was selected (Annex-4) for undertaking the administration of the questionnaire. An intensive orientation, spread over three days, was conducted at the BRSP Head Office comprising both classroom training and field testing. The first two days involved concept clearance of the survey. This involved, explaining the questionnaires, survey code, ethics and responsibilities of the enumerators during the entire process of field enumeration. The third day was used for field testing of the questionnaires by the enumerators for gaining hands-on experience in carrying out practical data collection from the field. The actual field survey was conducted for two weeks in the month of July, 2007.

1.3.5. Data Collection

Secondary data was collected from various census reports carried out in the past at federal and provincial levels. These included the Agriculture Census, Livestock Census, Population Census, Agriculture Statistics or the data compiled by concerned departments of Livestock & Animal Husbandry, Planning & Development Department, and Irrigation Department, etc. The information collected from various sources pertained to the following:
- Land utilisation
- Cropped area and yields
- Livestock population and trends
- Household size
- Employment patter
- Literacy level

Primary data was collected by interviewing the selected respondents. The survey was carried out during the period starting from 28th July to 13th August 2007. The list of villages is attached as Annex-5. It was not possible to collect required information for the females while at the same time it was necessary to derive the resultant information at household level. It was thus, mandatory to interview the female respondents from the same households as those of which the males were interviewed. This difficulty was overcome by separate interviews of selected male and female respondents.

1.3.6. Data Tabulation and Analysis

Data collected was transferred to the computer using a database program. It was cleaned and organised on a specially written program on Excel. Tabulation Plan was prepared in the light of study objectives and analysis made with the help of team members in the office. The data was processed, analysed to have meaningful derivations and is presented in the report.

2.   The District at a Glance

2.1.   Land Use

Mastung district encompasses 1.98 percent of the geographical area of the province (1,695,353 acres). The cultivated area is 10.52 percent and the cropped area is 66,092 acres or 2.44 percent of the entire province (Table 1). The cropped area as a percentage of the district cultivated area is only 13 percent owing to limited water availability. 94 percent of the area is irrigated by tube wells and the remainder by karezes (4%) and wells (2%). The population of the district, as in the 1998 Population Census, was 164,645 individuals with a male to female ratio of 113:100. The total households, as reported in 1998, numbered 17,742. The population density was 27.9 persons per square kilometre in 1998 against an average of 166.3 persons at national level. Only 14.66 percent of the population lived in urban areas. Land ownership is highly skewed with 21 percent farms falling in less than 2.5 acre category occupying 2 percent farm area, 80 percent farms up to 12.5 acre having 37 percent farm area and remainder 20 percent farms owning 63 percent farm area[1].

Table 1: Index of Area in BRSP Selected Districts - %

District	Geographical Area	Reported Area	Cultivated Area	Cropped Area	Cropped : Cultivated
1	2	3	4	5	6=5/4
Killa Saifullah	1.97	2.43	7.49	11.77	89%
Zhob	5.85	1.33	2.41	1.26	30%
Pishin	2.27	1.72	7.76	2.17	16%
Kalat	1.91	3.69	5.52	2.12	22%
Mastung	1.98	1.89	10.52	2.44	13%
All 5 d]Districts	13.96	11.06	33.71	19.77	33%
Balochistan	100.0	100.0	100.0	100.0	57%
100 - mil acres/No	85.791	42.313	4.772	2.704	-

Source: Agricultural Statistics Balochistan, 2005 -06

The district experiences drought periodically, the recent one from 1998 to 2004 which resulted in the mortality of very large numbers of livestock, drying up of karezes/reduced flow, degradation of rangelands and suffering of the livestock dependent communities. Traditionally the district is a livestock grazing area. With the introduction of the tube well subsidy leading to installation of electric tube wells and efficient use of karez water through small irrigation schemes, it is now a major fruit and vegetable growing district of the province.

2.2.   Crop Area and Production

Agriculture is an important source of earning a livelihood in the rural economy of the district. It plays a vital role, directly and indirectly, in the financial standing of masses. The district is a major fruit growing area. The share of various fruits in the overall production of the province is 16 percent for apples, 19 percent for peaches and 18 percent for plums. Onion is also extensively grown contributing 6.9 percent to the provincial production.

Table 2: Crop Area and Production - Mastung District

Crop	Area – Acres		Production		% of Balochistan	
	Balochistan	Mastung	Balochistan	Mastung	Area	Production
Wheat	765,928	18,891	649,852	10,578	2.5	1.6
Onion	94,088	5,987	700,769	48,460	6.4	6.9
Potato	6,909	86	41,478	511	1.3	1.2
Chillies	6,380	96	3,797	52	1.5	1.4
Tomato	37,992	309	193,633	1,065	0.8	0.6
Other veg.	57,495	857	292,065	4,195	1.5	1.4
Melons	30,339	647	140,923	2,483	2.1	1.8
Pulses	144,173	15	43,539	5	0.0	0.0
Oilseeds	87,926	25	21,758	11	0.0	0.1
Almond	24,725	245	21,883	157	1.0	0.7
Apple	252,717	19,064	220,896	35,636	7.5	16.1
Apricot	65,719	2,044	178,694	4,212	3.1	2.4
Grapes	31,841	3,511	47,449	3,182	11.0	6.7
Peaches	23,509	2,461	18,233	3,526	10.5	19.3
Plums	9,620	2,296	26,454	4,816	23.9	18.2
Pomegranate	26,504	2	31,661	8	0.0	0.0
Other fruits	142,006	1,102	293,976	786	0.8	0.3
Fodders	104,276	3,741	1,296,849	63,990	3.6	4.9

Source: Agri. Statistics Balochistan 2005-06, Agriculture Department, Balochistan, Quetta

There is enough production of tomatoes and onions in the country. However, there is limited value addition. Only fresh tomatoes are used, with a limited market for tomato pulp or mash even in the off season. Similarly, onion bulbs are used but not the hydrated ones. As reported by the Directorate of Agriculture Marketing Punjab, there is general scarcity of vegetables like potatoes, onions or tomatoes. In general, the prices are high at the time of harvest in Balochistan province which lead to its intensive plantation in view of attractive prices. The availability months and short supply period in Punjab markets is given in the Table below:

Table 3: Production Cycle for Selected Produce and High Price Period

	Availability Months		Short Supply Period in Punjab	Remarks
	Punjab	Mastung		
Onion	May-July	August-October	August-October	High prices at times of Balochistan harvest
Potato	Nov - June	August-October	August-October	Supplies from cold storages
Tomato	April-July	Nov- February	January – March	High prices at the time of Balochistan harvest, no processing

Source: Agri. Marketing Information, Directorate of Agriculture (Econ & Marketing), Punjab, Lahore

2.3. Livestock in the District

The history of livestock raising has been embedded in rural life since the inception of our civilisation. It is an integral part of the socio-economic activities of the rural areas and plays a key role in mitigating the effects of poverty by providing meat and milk for daily use. Livestock

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[1]Geographical area is the area which has been surveyed and calculated by the Survey of Pakistan. Reported area is the total physical area of the village/Deh/Tehsil or District. Cultivated area is the farm area sown at least once during the year under reference or during the previous year (cultivated area = net area sown + current fallow). Cropped area is the aggregate area of crops raised during the year under reference including the area under fruit trees.
[2]A farmer owning an electric tube well is required to pay Rs. 4,000 per month irrespective of the utilisation rate, as electricity charges.

provides a steady stream of food and ready cash in needy times and is a source of security for the rural poor to meet emergency cash needs. Animals, especially ruminants, like sheep and goats are a major source of livelihood in the Balochistan province. Animals provide a cushion to agro-pastoralists in case of crop failures. These are reared mostly in small herds as an essential part of small farming systems. For some, it is the only means of asset accumulation and risk diversification that prevents a slide into abject poverty in marginal areas. The animals are reared by landless households to substantiate their livelihoods, using the fodder amply available in orchards and in pastures/grazing sites.

Balochistan has a total geographical area of 34.73 million hectares. 93 percent of the area is classified as rangelands out of which 10 million hectares (31%) is unproductive, 12 million hectares (37%) has little grazing and 1.6 million hectares (5%) is under-grazed due to inaccessibility of the hills and lack of water. Rangelands of the province have traditionally supported around 22.5 million livestock during pre-drought period (Shahid, 2007). As per the 2006 Livestock Census, the livestock population of the province is 28.08 million. It includes 2.25 million cattle, 12.8 million sheep, 11.78 million goats, 0.319 million buffaloes and 0.92 million other animals like camels, horses, mules and asses.

The livestock population of the district is 0.82 million animal heads with a livestock density of 139 animal heads per km^2 of geographical area including 98 percent ruminant population. The migratory herds from Afghanistan pass through this district on their way to the Sindh province. Over the years, the rangelands have degraded due to overgrazing and extraction of fuel wood/shrubs and persistent drought during 1998-2006. Vast areas were denuded and the carrying capacity of these rangelands was reduced considerably. However, with cessation of drought and good rains last year, the productivity is likely to be restored to pre-drought level. The stock build-up capacity is now improved and flock replacements are becoming available to many graziers.

2.4.   Livestock Population

The combined population of animals in the district is 2.9 percent of the province. The number of livestock holders is given in various census reports. The recent Livestock Census was carried out in 2006. The number of livestock heads has been arrived at by:

- 100 percent counting of National Certainty Holdings including Government, Semi   Government, Army livestock and dairy farms;
- Selecting sample livestock households from the settled areas and counting of animal heads:
- Calculating the Raising Factor for various aggregated groupings and species to extrapolate the sample figures for the entire population at the district level; and
- Aggregating the district figures to derive the total population for the entire province.

The number of livestock households varies for different species. Since the denominator (the household) varies for each species, the resultant figure of livestock heads per household can not logically be deduced. Also there is no figure for the migratory herds. Further it is not

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[3]A Certainty Holding is a livestock farm having 50 or more heads of cattle/buffaloes or both, 500 or more heads of sheep/goat or both or 25 or more camels.
[4]Raising Factor is the ratio of selected livestock households to the total population

possible to compute a trend for changes in livestock over the period. However, based on the figures of the animal population and the number of households as given in Agri. Census and Livestock Census reports, an idea can be had of the livestock population in the area. Just a passing observation however, is that the number of animals per livestock household seems to be too high.

Table 4: Animals per Household in Mastung District

Livestock	1996	2000	2006
Cattle	2.60	3.78	5.87
Buffaloes	12.61	2.14	8.00
Sheep	51.63	19.06	83.67
Goats	34.23	13.35	31.84
Camels	2.23	1.66	2.22
Horses	1.09	1.48	1.52
Mules	-	1.91	1.98
Asses	1.97	1.06	2.79

Source: 1- Livestock Census, Balochistan Province (various issues), Tables 1 to 7
2- Agri Census 2000, Agri Census Organisation, Tables 11.3 to 11.6

3. RESULTS OF THE SURVEY PROFILE OF SAMPLE VILLAGES

3.1. Infrastructure/Services of Selected Villages

Physical and economic infrastructure and social services have a direct bearing on the quality of life of rural people. As shown in Table 5, 84 percent of the villages have access to a road transport system within a 5 km distance. Almost half of the villages (54%) have an asphalt road of a reasonable quality within a 3 kilometre distance and can get access to buses or wagons. Primary schools for boys exist in 57 percent villages while primary schools for girls are located in 40 percent of the sampled villages. The primary schools have one teacher: male or female. At some places, people complain that teachers do not come to schools regularly. They also express their dissatisfaction with the quality of education. High schools, within a 3 km distance, exist in 17 percent sampled villages for boys and in 13 percent villages for girls. College level institutions are at a distance of more than 3 km. Religious education is preferred over other subjects. A '*madrissah*' or religious school exists in 63 percent sampled villages within a 5 km range of the villages.

Public call offices are available in 10 villages. Health facilities are available within a reasonable distance of the sampled villages at the dispensary/clinic/BHU. There were a total of 17 karezes in the sampled villages. Due to drought and high pumpage by tube wells, augmented by the subsidised electric tariff, 14 of these karezes have dried up and only 3 of these are running. In addition to irrigation, the karez water is a major source of drinking water. In fact the availability of water from the karez is an important factor for the location of a village or '*killi*'. The karez channel is lined near the village localities.

Table 5: Infrastructure and Social Services for Sample Villages, 2007

Infrastructure/Services	Number of Villages Within a Distance of				Percent of Sample Villages Within			
	0-1 Km	1-3 Km	3-5 Km	>5 Km	0-1 Km	1-3 Km	3-5 Km	>5 Km
Road	17	5	3	5	57	17	10	17
Stop	14	5	4	7	47	17	13	23
Railway Station	0	1	2	27	0	3	7	90
Grain Market	0	0	1	29	0	0	3	97
Utility Store	0	0	1	29	0	0	3	97
Livestock Market	0	0	1	29	0	0	3	97
Post Office	1	2	4	23	3	7	13	77
PCO	3	2	4	21	10	7	13	70
Bank	0	0	1	29	0	0	3	97
NGO	0	0	1	29	0	0	3	97
Agri. Extension Office	0	1	1	28	0	3	3	93
Livestock & A.H Office	1	0	2	27	3	0	7	90
Dispensary	4	4	10	12	13	13	33	40
BHU	1	3	8	18	3	10	27	60
Medical Store	5	4	7	14	17	13	23	47
Clinic	5	4	9	12	17	13	30	40
Lady Health Visitor	8	1	6	15	27	3	20	50
Veterinary Store	1	0	3	26	3	0	10	87
Primary School – Boys	17	2	3	8	57	7	10	27
Primary School – Girls	12	2	3	13	40	7	10	43
Primary School – Mixed	1	0	2	27	3	0	7	90
Middle School – Boys	3	2	8	17	10	7	27	57
Middle School – Girls	0	1	6	23	0	3	20	77
Middle School – Mixed	1	0	1	28	3	0	3	93
High School – Boys	2	3	7	18	7	10	23	60
High School – Girls	1	3	5	21	3	10	17	70
High School – Mixed	-	-	-	-	-	-	-	-
Govt College – Boys	0	0	1	29	0	0	3	97
Govt College – Girls	0	0	2	28	0	0	7	93
Govt College – Mixed	-	-	-	-	-	-	-	-
Private Primary School – Boys	0	0	1	29	0	0	3	97
Private Primary School – Girls	0	0	1	29	0	0	3	97
Private High School – Boys	0	0	1	29	0	0	3	97
Private High School – Girls	0	0	1	29	0	0	3	97
Private College	0	0	0	30	0	0	0	100
Madrissah	9	4	6	11	30	13	20	37
No of Karezes	3	0	0	0	100	0	0	0

[5]Livestock Census 1996 and 2006 were carried out in the months of April - June 1996 and May - June 2006 when there is a high influx of migratory herds.

3.2. Village Infrastructure

Infrastructure facilities have a major impact on the daily lives of people. There is a general lack of sanitation in the villages with no drainage or in-house supply of water (Table 6). A wide network of electricity exists in the area to meet tube well electrification needs (under various developmental programs) which is also used for domestic purposes. 63 percent of the villages are electrified. Telephone facilities are available in 23 percent villages and mobile phone coverage is in 20 percent villages. Water has been made available to 17 percent of the selected villages. There is no *pacca* drain, street pavement or Internet facility in any of the selected villages.

Table 6: Village Infrastructure and Amenities, 2007

Infrastructure/ Amenities	Yes		No	
	Number	% of Total	Number	% of Total
Electricity	19	63%	11	37%
Telephone	7	23%	23	77%
Mobile	6	20%	24	80%
Internet	0	0%	30	100%
Grocery Shop	1	3%	29	97%
Meat Shop	1	3%	29	97%
Water Supply	5	17%	25	83%
Hand Pump	0	0%	30	100%
Well	20	67%	10	33%
Pacca Drain	0	0%	30	100%
Street Pavement	0	0%	30	100%
Tailor Shop	1	3%	29	97%

4. Results of the Survey - Profile of Sample Households

4.1. The Respondents

This section includes aspects like age, education, profession and health status of respondents interviewed. It highlights the differences between the non-poor and the poor segments of respondents.

4.1.1. Age of Respondents

Out of a total of 778 respondents (389 males + 389 females) a vast majority of them (78% male and 83% female) are in the age group of 26 to 55 years and are actively involved in decision making. A small proportion (1.4%) of the respondents falls in the 'above 65 years' age group. The female respondents were interviewed to gather their views regarding gender sensitive questions. The average age of the male and female respondents is 42 and 37 years respectively.

Table 7: Age of Respondents

Respondent	Treatment Villages			Control Villages			All Villages		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Age – Years	41	37	39	42	38.33	40	41.6	37.2	39
No of Respondents	259	259	518	130	130	260	389	389	778
Respondents in Age Group - %									
16-25	7.3	12.4	9.8	9.2	9.2	9.2	8.0	11.3	9.6
26-35	32.4	43.6	38.0	26.9	33.8	30.4	30.6	40.4	35.5
36-45	29.0	23.6	26.3	30.0	32.3	31.2	29.3	26.5	27.9
46-55	17.8	15.1	16.4	20.0	17.7	18.8	18.5	15.9	17.2
56-65	12.0	5.0	8.5	10.0	6.2	8.1	11.3	5.4	8.4
>65	1.5	0.4	1.0	3.8	0.8	2.3	2.3	0.5	1.4
Total	100	100	100	100	100	100	100	100	100

4.1.2. Literacy Level of Respondents

58 percent of the male and 90 percent of the female respondents are 'not literate'. A comparatively higher proportion of respondents is 'not literate' in the Control villages. Thus, the proportion of 'literate' adults with 'schooling' is higher for the Treatment villages. Against 42.5 percent of males who have been to school in the Treatment villages, there are 33.8 percent in the control villages. A higher proportion of males as compared to females is literate and has some form of schooling.

Table 8: Literacy Level of Respondents - %

Respondent	Treatment Villages		Control Villages		All Villages	
	Male	Female	Male	Female	Male	Female
Not Literate	54.8	88.0	64.6	95.4	58.1	90.5
Literate but No Schooling	2.7	0.4	1.5	0.0	2.3	0.3
Schooling	42.5	11.6	33.8	4.6	39.6	9.3
Primary	16.6	5.8	12.3	2.3	15.2	4.6
Middle	7.3	1.2	1.5	0.0	5.4	0.8
Matriculation	10.4	3.5	9.2	0.0	10.0	2.3
Intermediate	3.1	0.4	5.4	1.5	3.9	0.8
Post Intermediate	5.0	0.8	5.4	0.8	5.1	0.8

4.1.3. Profession of Respondents

A majority of the respondents are earning their living by labour (35%) followed by services (25%). 24 percent of the respondents are in the farming business. Almost all female respondents (97%) are doing household work.

Table 9: Profession of Respondents

Respondent	Treatment Villages		Control Villages		All Villages	
	Male	Female	Male	Female	Male	Female
Farming	26	0	21	0	24	0
Labour	31	0	44	0	35	0
Services	29	2	18	1	25	2
Business	4	0	2	0	3	0
Household Work	0	97	0	98	0	97
Other Work	5	0	11	0	7	0
Not Working	4	0	4	2	4	1
Total	100	100	100	100	100	100

4.2.   The Selected Households

There are a total of 387 sample households, with a population of 3,163 individuals. The demographic aspects and facilities/amenities in the households are given in the following sections.

4.2.1. Demography

The male to female ratio for the surveyed households is 121:100 for the adults and 107:100 for the children (up to 18 years of age) with an overall ratio of 113:100 for the entire population, slightly less than the national trend at 109.49[2]. One-third of the population (34.4%) is in the age group of 'less than 10 years'. A little higher than 7 percent of the household population falls in the age group of above 55 years. The average household size is 6.3 for the Treatment villages and 5.9 for the Control villages or a weighted average of 6.2 members for the entire sample. The overall household size is 6.2 members. The household size is given as 7.28 for rural Balochistan in HIES 2005-06. PSML has arrived at a figure of 6.9 individuals for the rural areas of Balochistan for the year 2005-06. The number of poor households is 144 with a population of 1,022 individuals. The dependency ratio of non-earning members (up to 10 years + over 55 years) to earning individuals is 62 percent and 59 percent for the Treatment and Control villages respectively (Table 10). The higher dependency ratio for the Treatment villages can be attributed to the comparatively higher farm size.

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[6]Poor were identified with the national poverty line of Rs. 879 per capita per month [Economic Survey, 2005-06]. The inflation adjusted figure for 2007 works out to Rs. 1,036 per capita.

Table 10: Demographic Composition of Households

Description	Treatment Villages			Control Villages			All Villages		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Number of Households	259	259	518	130	130	260	389	389	778
Total Population	860	763	1,623	402	349	751	1,262	1,112	2,374
Male : Female		113			115			113	
Adult	418	353	771	207	163	370	625	516	1141
% of Total Population	48.6	46.3	47.5	51.5	46.7	49.3	49.5	46.4	48.1
Male : Female		118			127			121	
Over 55 years - %	8.4	5.4	7.0	8.7	6.7	7.8	8.5	5.8	7.3
Children	442	410	852	195	186	381	637	596	1,233
% of Total Population	51.4	53.7	52.5	48.5	53.3	50.7	50.5	53.6	51.9
Male : Female		108			105			107	
Up to 10 Years in Population - %	34.9	34.9	34.9	30.3	37.0	33.4	33.4	35.5	34.4
Average Size of HH	3.4	2.9	6.3	3.2	2.7	5.9	3.3	2.9	6.2
Adults/HH	1.6	1.4	3.0	1.6	1.3	2.8	1.6	1.3	2.9
Number of :									
Poor HHs		93			51			144	
Poor Population	357	333	690	169	163	332	526	496	1022
Average Size of Poor HHs	3.8	3.6	7.4	3.31	3.20	6.51	3.7	3.4	7.1
Dependency Ratio		62%			59%			61%	

4.2.2. Work Status of Households

In rural Pakistan, the population of 10 years and above is predominantly involved in un-skilled labour. It may also be mentioned that children of lower ages (6 to 10 years) are involved in livestock related activities like grazing of animals or cutting fodder, feeding, watering, etc. The survey results indicate that 71 percent males work in various professions to earn their living. 89 percent of the women are doing household work. A negligible proportion of females (2%) are also working outside the home premises. Out of the working members, the majority is in the age group of 18 to 55 years. Household work is entirely in the domain of females.

29 percent of the males and 14 percent of the females are not involved in any productive work. 27 percent of the working male adults are earning their living from a service/job, 25 percent from off-farm labour and 22.5 percent by working at their own farms. From a total of 15 working females, 13 are doing some service/job. Multiple kinds of work like knitting, handicrafts making, selling petty goods, etc., is done by 5.7 percent of the working individuals.

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[7]Ratio of population in the age group of up to 10 years + over 55 years to those in the age group of over 10 to 55 years

Table 11: Work Status of Households

Sex and Age	Treatment Villages			Control Villages			All Villages		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
All over 10 years	560	496	1056	280	219	499	840	715	1555
Not Working	162	77	239	81	23	104	243	100	343
= %	28.9	15.5	22.6	28.9	10.5	20.8	28.9	14.0	22.1
>55 years	4	3	7	2	3	5	6	6	12
>18 to 55 years	43	6	49	21	0	21	64	6	70
>10 to 18 years	115	68	183	58	20	78	173	88	261
Household Work	2	405	407	0	195	195	2	600	602
= %	0.4	81.7	38.5	0.0	89.0	39.1	0.2	83.9	38.7
>55 years	0	16	16	0	8	8	0	24	24
>18 to 55 years	2	315	317	0	150	150	2	465	467
>10 to 18 years	0	74	74	0	37	37	0	111	111
Working	396	14	410	199	1	200	595	15	610
= %	71	3	39	71	0	40	71	2	39
>55 years	31	0	31	16	0	16	47	0	47
>18 to 55 years	338	12	350	168	1	169	506	13	519
>10 to 18 years	27	2	29	15	0	15	42	2	44
% Own Farm	23.7	0.0	22.9	20.1	0.0	20.0	22.5	0.0	22.0
% Farm Labour	18.7	7.1	18.3	11.6	0.0	11.5	16.3	6.7	16.1
% Service/Job	28.5	85.7	30.5	24.6	100	25.0	27.2	86.7	28.7
% Off-Farm Labour	21.2	0.0	20.5	33.2	0.0	33.0	25.2	0.0	24.6
% Business	3.5	0.0	3.4	2.0	0.0	2.0	3.0	0.0	3.0
% Multiple Work	4.3	7.1	4.4	8.5	0.0	8.5	5.7	6.7	5.7

4.2.3. Literacy and Schooling

Out of the total adult population of non-poor respondent households, the proportion of 'not literate' is 59 percent and 70 percent for the Treatment and Control villages respectively. The proportion of 'literate' in non-poor households is 47 percent in the Treatment villages against 38 percent in the Control villages. The difference in 'literate adults' between males and females is wide viz. 59 percent vs. 17 percent in the Treatment and 47 percent against 6 percent in the Control villages. Amongst the poor households, 38 percent males against 9 percent females are 'literate' in the Treatment villages. The same is 35 percent males

Fig-1 **Male/Female Adult Literacy - No**

against 3 percent females in the Control villages. The proportion of 'literates' in Treatment villages is 35 percent vs. 43 percent in the Control villages.
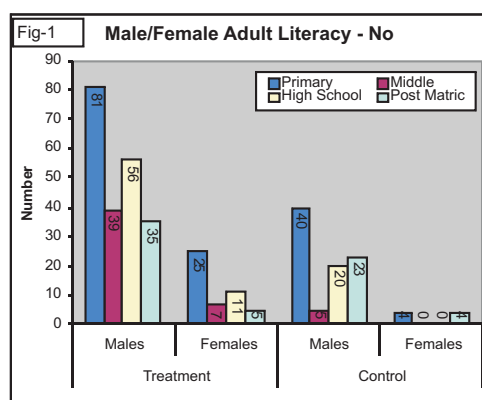
Table 12: Adult Literacy in Households

Literacy Level	Non-Poor Households					Total	Poor Households					
	Treatment Villages			Control Villages			Treatment Villages			Control Villages		
	Male	Female	Total	Male	Female		Male	Female	Total	Male	Female	Total
Not Literate Adults	115	173	288	71	91	162	85	130	215	47	64	111
% of Adult 'Not Literate'	41	83	59	53	94	70	62	91	77	65	97	80
Literate Adults	164	36	200	63	6	69	53	13	66	25	2	27
% of Adults	59	17	41	47	6	30	38	9	23	35	3	20
Percent of Literate												
Primary School	34	39	35	43	50	43	49	85	56	52	50	52
Middle School	20	14	19	5	-	4	13	15	14	8	0	7
High School	26	31	27	24	-	22	26	-	21	20	0	19
Post Matriculation	20	14	19	29	50	30	6	-	5	20	50	22
No Schooling	2	3	2	-	-	-	6	-	5	-	-	-

Out of a total of 1,522 children, 29.8 percent are of less than the school going age of 5 years and the remaining 70.2 percent or 1,067 are in the school age group of 5 years or above. 40 percent of the school age children are 'not in school' so far. The proportion of 'not in school children' is: 29.4 percent in '5 to 10 years', 33.6 percent in '10 to 18 years' and 37.1 percent in '18 to 25 years' age group. The proportion of 'not in school' children is a little higher in the Control villages (43% vs. 38.8%). Also the number of girls 'not in school' is higher than the boys. The comparative figures for poor households are a little better in the Treatment villages than the Control villages viz. 68.9 percent against 86.5 percent. On an overall basis, the 'not in school' children are less for all sampled households (40.1%) than the poor households (74.8%).

Table 13: Schooling of Children in Households

Children in School	Treatment Villages			Control Villages			All Villages		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
All Children	548	503	1051	253	218	471	801	721	1522
Children 'up to 5 years' of Age*	164	155	319	62	72	134	226	227	453
Percent of All Children in 'up to 5 years' Age	29.9	30.8	30.4	24.5	33.0	28.5	28.2	31.5	29.8
Children of School Age*	384	348	732	191	146	337	575	494	1069
Children 'Not in School' (from School Age)	113	171	284	67	78	145	180	249	429
% of All School Age Children 'Not in School'	29.4	49.1	38.8	35.1	53.4	43.0	31.3	50.4	40.1
>=5 to 10 years	42.5	23.4	31.0	34.3	19.2	26.2	39.4	22.1	29.4
>=10 to 18 years	26.5	36.3	32.4	28.4	42.3	35.9	27.2	38.2	33.6
>=18 to 25 years	31.0	40.4	36.6	37.3	38.5	37.9	33.3	39.8	37.1
Children 'Not in School' in Poor Households	64	158	222	316	298	614	380	392	772
% of Children of Poor Households 'Not in School'	41.0	95.2	68.9	83.8	89.5	86.5	71.3	78.6	74.8

*- 2 students in '<=5 year' are also going to school.

4.2.4. Health status

The health status is determined based on the response regarding the health condition. The household members were placed in three states. The first two, labelled as 'good' and 'fair' were regarded as healthy states and the third one, labelled as 'poor' indicated chronic and acute ailments. According to the perception of the respondents, 91 percent of the household members enjoy good health. 7 percent of the household members fall in the 'fair health' category and 2.1 percent in the 'poor health' category. The number of deaths is 1.3 percent for the adults and 1.3 percent for the children. The deaths are a little higher in the Control villages compared with the Treatment villages. Infant mortality, as reported in PSLM 2005-06, is 0.82 for the rural areas of the province.

Table 14: Health Status of Household Members

Health Status	Treatment Villages			Control Villages			All Villages		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Percent in Good Health									
Adults	90	92	91	90	91	91	90	91	91
Children	94	88	91	96	87	91	94	88	91
All Ages	92	90	91	93	89	91	92	90	91
Percent in Fair Health									
Adults	7.2	4.7	6.0	5.0	5.1	5.0	6.5	4.8	5.7
Children	6.0	11.7	8.7	3.9	12.9	8.3	5.4	12.1	8.6
All Ages	6.6	8.1	7.3	4.5	8.9	6.5	6.0	8.4	7.1
Percent in Poor Health									
Adults	2.9	3.6	3.3	4.5	3.9	4.3	3.5	3.7	3.6
Children	0.5	0.5	0.5	0.6	0.0	0.3	0.5	0.4	0.4
All Ages	1.7	2.1	1.9	2.7	2.0	2.4	2.1	2.1	2.1
Percent Died (2006-07)									
Adults	1.1	1.3	1.2	1.4	1.7	1.5	1.2	1.4	1.3
Children	1.2	1.3	1.3	2.8	2.4	2.6	1.7	1.6	1.7
All Ages	1.2	1.3	1.2	2.0	2.0	2.0	1.4	1.5	1.5

4.2.5. Physical Environment

The physical environment and amenities of life for the households are wholly inadequate both in numbers and quality. The majority of the houses are made of stone with mud though brick constructed houses of some well-to-do families are also seen. The stone and cement houses are classified as *'pacca'* structures while stone with mud or purely mud houses are termed as *'kacha'* structures. There is no visible difference in the house structures for the 'poor' or 'non-poor' households, primarily for the reason that the poor people bring stones by themselves and it does not cost them more. The non-poor household on the other hand has to pay money to labour and the house is, therefore, costlier. Only 3.34 percent of the households are *pacca* while the others are either *kacha* or *kacha/pacca*. Half of the households have 'up to 2' rooms. The average number of rooms per household is 3.1 against 2.8 for the poor households. 38 percent of the households meet their drinking water supply from wells and 12.5 percent drink karez water. 81 percent of the houses have latrines inside the house and 80 percent use wood/dung cake as fuel. 80 percent houses are electrified, which in many cases, is an extension of power lines from the electricity lines for the tube well.

Table 15: Facilities for Household Members

House Facilities	Treatment Villages			Control Villages			All Villages		
	Non-Poor	Poor	All HHs	Non-Poor	Poor	All HHs	Non-Poor	Poor	All HHs
All Households	166	93	259	79	51	130	245	144	389
% Pacca Structures	5.4	3.2	4.6	0.0	2.0	0.8	3.7	2.8	3.3
% Kacha Structures	94.0	95.7	94.6	98.7	98.0	98.5	95.5	96.5	95.9
% Pacca + Kacha Structures	0.6	1.1	0.8	1.3	0.0	0.8	0.8	0.7	0.8
Average No of Rooms	3.3	2.9	3.1	2.9	2.6	2.8	3.1	2.8	3.0
% up to 2 Rooms	42.2	58.1	47.9	49.4	62.7	54.6	44.5	59.7	50.1
% 3-4 Rooms	40.4	29.0	36.3	40.5	33.3	37.7	40.4	30.6	36.8
% 5 or More Rooms	17.5	12.9	15.8	10.1	3.9	7.7	15.1	9.7	13.1
Water Supply									
% Piped	35.5	17.2	29.0	29.1	9.8	21.5	33.5	14.6	26.5
% Karez	6.6	7.5	6.9	21.5	27.5	23.8	11.4	14.6	12.6
% Well	45.2	44.1	44.8	19.0	33.3	24.6	36.7	40.3	38.0
% Others	12.7	31.2	19.3	30.4	29.4	30.0	18.4	30.6	22.9
Latrine									
% Inside	84.9	81.7	83.8	72.2	84.3	76.9	80.8	82.6	81.5
% Outside	15.1	18.3	16.2	27.8	15.7	23.1	19.2	17.4	18.5
Drainage									
% Yes	16.9	12.9	15.4	3.8	11.8	6.9	12.7	12.5	12.6
% No	83.1	87.1	84.6	96.2	88.2	93.1	87.3	87.5	87.4
Electricity									
% Yes	91.6	83.9	88.8	68.4	64.7	66.9	84.1	77.1	81.5
% No	8.4	16.1	11.2	31.6	35.3	33.1	15.9	22.9	18.5
Fuel Used									
% Wood/Dung Cake	66.9	88.2	74.5	93.7	86.3	90.8	75.5	87.5	79.9

4.3.   Farm Income

4.3.1. Farm Size and Land Ownership

Out of 389 respondents, there were 6 households cultivating land on lease basis. The general pattern of leasing land is that the lease holder installs a tube well and deducts one-third of the produce share as tube well share. From the sampled households, 35 percent households do not own any land. The land owned by some is either not cultivable or is not cultivated. On an overall basis, only 43 percent sample households are in the farming business, owing to various constraints like water scarcity, un-cultivable area, financial stringencies, economic unfeasibility of pumping groundwater from deep aquifers, etc. The proportion of faming households in the Treatment villages is a little higher than the Control villages as shown below:-

Table 16: Non-Farming Households

Households	Households Not Owning Land		Households Not Cultivating Land	
	Treatment	Control	Treatment	Control
Non-Poor Households	28%	29%	45%	49%
Poor Households	43%	49%	72%	80%
All Households	34%	37%	55%	62%

The average area owned by the non-poor and poor household farmers is 9.6 and 7.1 acres. The distribution of land, amongst the sampled households, is highly inequitable (Table 17, also shown in Fig. 2). Out of the total land of 2,755 acres owned by sampled households, 25 percent is owned by the poor households. 15 percent of the farm area, falling in farm size category of 'up to 5 acres' is owned by 50 percent of the sampled households. 39 percent farm area, falling in farm size category of 'more than 25 acres' is owned by 7 percent of the households. Area cultivated as percent of farm area owned by the sampled

Fig - 2   Land ownership pattern

Percent / Farm Size - acres

households, is 43 percent for the non-poor and 25 percent for the poor household farmers. The Gini index for land owned is 6 percent. The cultivated area per farm is 5.8 acres for the non-poor against 3.3 acres for the poor household farmers. The lesser proportion of cultivated area by the poor households is attributed to poor financial resources required for area development and tube well installation, a pre-requisite for successful farming in the area.
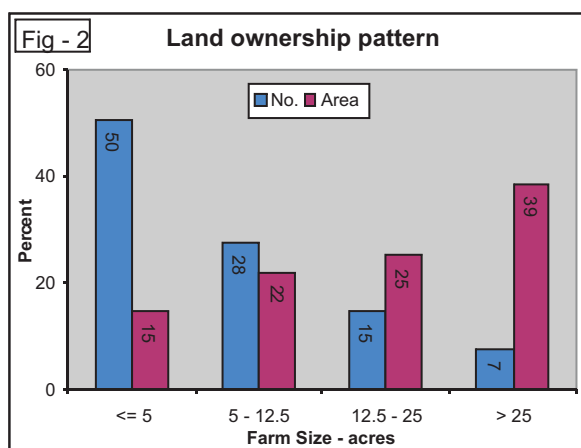
4.3.2 Cropping Intensity and Pattern

Bestowed with better productive resources in the form of irrigated lands (by karez or tube well), the cropping intensity for the non-poor households is conspicuously higher (112%) compared with the poor households (86%). The cropping pattern for the non-poor farmers includes a greater proportion of high value crops (52.3%) like onions, cumin, vegetables, tomatoes and orchards against the poor households (11.4%). The poor farms are conspicuous in the sense that they have a higher share of crops which have low delta requirements or can be grown under rain-fed conditions like jowar/bajra or wheat.

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[8]Cropping intensity is the ratio of area cropped in Kharif + Rabi divided by cultivated area.

Table 17: Land Ownership for Sample Households

Land Holding	Count		Acres/Farmer	
	Treatment	Control	Treatment	Control
A – Non-Poor Household Farmers				
Area Owned per Farmer	119	56	9.6	19.0
Area Cultivated per Farmer	91	40	5.8	10.7
Cultivated Area by Farm Size:				
<= 1.0 acre	16	1	1.0	1.0
1.0 to 2.0 acres	15	3	1.9	2.0
2.0 to 5.0 acres	31	16	4.2	4.4
5.0 to 12.5 acres	23	9	8.1	7.8
12.5 to 25 acres	4	8	17.0	17.6
> 25 acres	2	3	50.0	45.7
B - Poor Household Farmers				
Area Owned per Household	53	26	7.1	6.8
Area Cultivated per Household	26	10	3.3	5.3
Cultivated Area by Farm Size:				
<= 1.0 acre	6	1	0.7	1.0
1.0 to 2.0 acres	9	1	2.0	2.0
2.0 to 5.0 acres	8	3	3.6	4.7
5.0 to 12.5 acres	2	5	8.0	7.2
12.5 to 25 acres	1	0	20.0	-
> 25 acres	0	0	-	-
C - All Households				
Area Owned per Household	172	82	8.80	15.15
Area Cultivated per Household	117	50	5.27	9.58
Cultivated Area by Farm Size:				
<= 1.0 acre	22	2	0.91	1.00
1.0 to 2.0 acres	24	4	1.96	2.00
2.0 to 5.0 acres	39	19	4.08	4.47
5.0 to 12.5 acres	25	14	8.12	7.57
12.5 to 25 acres	5	8	17.60	17.63
> 25 acres	2	3	50.00	45.67

4.3.3. Crop Yields and Returns

The yield from cereals like wheat, and sorghum is less owing to a significant portion of un-irrigated area in the total cropped area. Fodders are not attractive due to un-assured and scanty precipitation under rain-fed conditions, low prices, high transportation cost or non-competitive local market, etc. The yield of wheat is 881 kg for the non-poor and 803 kg for the poor household farmers. There is not much difference in the yield of the non-poor or poor households. Weighted average revenues per cropped acre are substantially higher for the non-poor (Rs. 20,348) compared with Rs. 7,560 for the poor households owing to higher proportion of high value crops.

Table 18: Average Area, Cropping Intensity and Yield

Crop	Non-Poor Farmers			Poor Farmers		
	Area Planted - acres	Cropping Intensity - %	Average Yield – kg/acre	Area Planted - acres	Cropping Intensity - %	Average Yield - kg/acre
Jowar/Bajra grain	0.02	1%	355	0.03	4%	280
Fodders	0.07	2%	3,467	-	-	-
Onion	0.99	25%	5,926	0.08	9%	5,672
Cumin	0.15	4%	164	-	-	-
Wheat	1.62	41%	881	0.69	71%	803
Other Vegetables	0.16	4%	2,791	0.01	1%	1,600
Tomatoes	0.14	4%	4,366	0.02	2%	4,550
Grapes	0.26	7%	4,754	-	-	-
Other Fruits	0.35	9%	10,871	-	-	-
Total	4.85	112%	-	4.85	86%	-

Note: Fruits are counted twice to calculate cropping intensity

- Cultivated area for the non-poor farmers in the Treatment villages is 5.8 acres against 10.7 acres in the Control villages. The same is 5.3 acres and 3.3 acres for the poor household farmers.
- Cropping intensity for the non-poor household farmers is 112% against 86% for the poor household farmers.
- Area under high value crops is 52.3% at the farms owned by non-poor farmers against 11.4% of the poor household farms.
  Revenues per cropped acre are Rs. 20,348 for the non-poor farms against Rs 7,560 only for the poor farms.

4.4. Livestock of Sample Households

4.4.1. Livestock Inventory

The total number of households in the district was 20,447 as given in the 1998 Population Census out of which the number of rural households was 17,742. 47 percent of the sampled households do not own any livestock. Goats and sheep are owned by 39 percent and 22 percent of the households respectively. Mean livestock population for the non-poor and poor households is 15.02 and 8.32 in order or an average of 12.65 animals per household. The number of animals in

Fig-3 Livestock per respondent Household- No

the Control areas is conspicuously higher viz. 19.71 against an average of 9.12 animals of the Treatment villages but with a negligible proportion of large animals. The number of poultry birds domesticated per household is 4.15, to meet the family's needs of eggs and chicken. On an average, 29 percent of the total animal population is milking and 46 percent is dry. 4 percent of the animals (mainly cows and goats) were slaughtered or sold during the preceding year. Sheep/goats are sold frequently to meet cash needs, in addition to slaughtering the animals for domestic consumption. Sacrificial animals are slaughtered on 'Eid-ul-Azha', a common practice for both the poor and the non-poor.
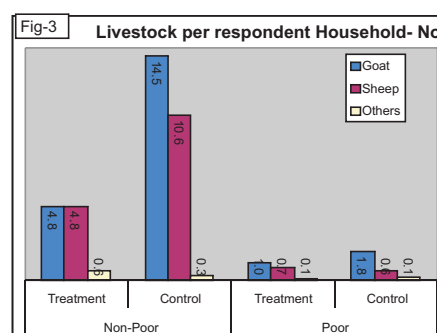
Table 19: Livestock per Household in Sample Villages

Description	Cow	Goat	Sheep	Buffalo	Others	Total
Treatment Villages						
Percent of Households not owning Livestock						
All Households	93%	66%	82%	99%	95%	58%
Poor Households	98%	68%	74%	100%	97%	57%
Average number of Livestock per HH						
All Households	0.18	4.41	4.28	0.08	0.16	9.12
Milking	0.07	1.35	1.51	0.02	0.16	3.11
Dry	0.07	1.75	1.86	0.03		3.70
Young	0.03	1.17	0.85	0.01		2.06
Slaughtered/Gifted/Sold	0.02	0.15	0.07	0.01		0.25
Poor Households	0.02	3.75	3.32	0.00	0.05	7.15
Milking	0.01	1.04	0.73	0.00	0.05	1.84
Dry	0.01	1.48	1.60	0.00		3.10
Young	0.00	1.09	0.99	0.00		2.08
Slaughtered/Gifted/Sold	0.00	0.14	0.00	0.00		0.14
Non-Poor Households	0.26	4.77	4.76	0.11	0.22	10.12
Milking	0.10	1.52	1.94	0.04	0.22	3.82
Dry	0.10	1.89	2.01	0.05		4.04
Young	0.05	1.21	0.77	0.02		2.05
Slaughtered/Gifted/Sold	0.01	0.15	0.04	0.01		0.21
Control Villages						
Percent of Households not owning Livestock						
All Households	96%	51%	70%	100%	92%	42%
Poor Households	96%	55%	76%	100%	94%	45%
Average number of Livestock per HH						
All Households	0.10	11.30	8.11	0.00	0.20	19.71
Milking	0.02	3.45	1.55	0.00	0.20	5.22
Dry	0.03	4.86	4.98	0.00		9.88
Young	0.04	2.58	1.12	0.00		3.74
Slaughtered/Gifted/Sold	0.01	0.41	0.46	0.00		0.87
Poor Households	0.10	6.76	3.45	0.00	0.14	10.45
Milking	0.00	1.78	0.57	0.00	0.14	2.49
Dry	0.08	2.82	1.96	0.00		4.86
Young	0.02	1.90	0.92	0.00		2.84
Slaughtered/Gifted/Sold	0.00	0.25	0.00	0.00		0.25
Non-Poor Households	0.10	14.08	10.58	0.00	0.24	25.00
Milking	0.04	4.53	2.18	0.00	0.24	6.99
Dry	0.00	6.18	6.94	0.00		13.11
Young	0.05	3.01	1.25	0.00		4.32
Slaughtered/Gifted/Sold	0.01	0.36	0.22	0.00		0.58
All Villages						
Percent of Households not owning Livestock						
All Households	94%	61%	78%	99%	94%	53%
Poor Households	97%	63%	75%	100%	96%	53%
Average number of Livestock per HH						
All Households	0.16	6.71	5.56	0.05	0.17	12.65
Milking	0.05	2.05	1.52	0.02	0.17	3.81
Dry	0.05	2.79	2.90	0.02		5.77
Young	0.04	1.64	0.94	0.01		2.62
Slaughtered/Gifted/Sold	0.02	0.23	0.19	0.01		0.45
Poor Households	0.05	4.82	3.37	0.00	0.08	8.32
Milking	0.01	1.31	0.67	0.00	0.08	2.07
Dry	0.03	1.96	1.73	0.00		3.72
Young	0.01	1.38	0.97	0.00		2.35
Slaughtered/Gifted/Sold	0.00	0.18	0.00	0.00		0.18
Non-Poor Households	0.21	7.87	6.64	0.07	0.23	15.02
Milking	0.08	2.49	2.02	0.02	0.23	4.84
Dry	0.07	3.27	3.60	0.03		6.97
Young	0.05	1.79	0.93	0.01		2.78
Slaughtered/Gifted/Sold	0.01	0.31	0.10	0.01		0.43

4.4.2. Livestock Breeds and Mortality

The common sheep breeds are Baluchi, Harnai or Damni estimated as 84 percent. The other sheep breeds found in the area are Buddy and Rakhshani. The goats found in the area are Damni, Kamori and Khurasani (82%). The other goats, especially Burbery, are 18 percent of the total goat population of sampled farmers. The cows reared are of the Kankraj and Bhagnari strains. Cross-bred cows are also found in the area (18%).

Table 20: Livestock Breeds

Description	Goat	Sheep	Cow
Common Breeds	Damni/Kamori/ Khurasani	Baluchi/Harnai/ Damni	Kankraj/ Bhagnari
Improved Breeds	Burbery	Buddy	Cross
Proportion of - %			
Common Breeds	82	84	64
Improved Breeds	18	16	36

Various animal diseases in the area include: Anthrax, Sheep Pox, Liver Fluke, Lung worms, Mange, Ticks, Enterotoxaemia, Foot & Mouth and Contagious Caprine Pleuropneumonia (CCP). The mortality caused by various diseases, as given in Table 21, is 3.3 percent for the sampled households' livestock. The mortality is higher for the young stock (5.2%) than the mature animals (2.8%). Various contagious diseases that spread speedily and have high morbidity characteristics include Enterotoxaemia and Contagious Caprine Pleuropneumonia and have a high mortality rate, especially for sheep. These occur in certain years and the provincial department of Livestock and Animal Husbandry takes preventive measures by establishing mobile units at entry posts from across the border or the passes.

Table 21: Livestock Mortality for Sample Households

Description	Cattle	Goats	Sheep	Buffaloes	Camels	Donkeys	Horses	Overall
Total No of Mature Animals	42	1885	1721	14	28	22	6	3718
Total No. of Young Animals	14	637	366	3	6	5	1	1032
Mortality During the Year								
Mature Animals as % of Mature	4.8	2.9	2.6	7.1	3.6	4.5		2.8
Young Animals as % of Young	7.1	4.1	7.1		16.7			5.2
All Animals as % of All Animals	5.4	3.2	3.4	5.9	5.9	3.7		3.3

Foot & Mouth is the major cause of death for cattle as diagnosed by 50 percent of the cattle farmers and Enterotoxaemia by 26 percent goat owners and 21 percent sheep owners. Other causes of mortality for the ruminants include CCP, Liver Fluke, Lung worms, etc.

Table 22: Livestock Mortality Causes - %

Disease	Cattle	Goat	Sheep
Anthrax		2	
Sheep Pox			3
Liver Fluke		23	14
Lung worms	50	6	10
Mange		4	10
Ticks		2	3
Enterotoxaemia		26	21
Foot & Mouth	50	19	17
Contagious Caprine Pleuropneumonia		17	21

4.4.3. Feed and Fodder

Livestock raising is generally a family enterprise, though some of the households give their animals to shepherds on a rental basis. The prevailing practice for rental grazing is Rs. 40 to Rs. 50 per month for large animals and Rs. 10 to Rs. 12 for sheep/goats. The animals are also given for grazing on a share basis (50% of value on maturity). Grazing is the major source of fodder for all animals. Concentrates like cottonseed cake and 'choker' (wheat bran, dried breads, husk, etc.) are fed to mulching animals. Concentrates, generally cottonseed cake or choker is fed to milking animals. Only in rare cases, both these concentrates are fed to the same animal.

Dropped leaves and damaged/stale fruits and weeds extracted out of orchard fields constitute an important source of supplementing the feed available from grazing. Wheat sown for grain purposes is cut and fed to animals in winter months and is then retained for grain purposes. The livestock feed resources are supplemented by intercropping fodder in orchards. The average annual expenditure per household on livestock is Rs. 636 on concentrates, Rs. 156 on veterinary medicines and Rs. 4,050 on fodder (including own farm produce) or a total of Rs. 4,842 per household per year. 78 percent of the cost of fodder is spent on purchase of fodder which includes, primarily, the wheat straw.

4.4.4. Milk and Beef/Mutton Production

The average lactation period is 6.50 months for cows, 4.28 months for goats, 4.30 months for sheep and 6 months for buffaloes. The total milk produced per livestock farmer is 59 litres from cows, 193 litres from goats, 119 litres from sheep and 21 litres from buffaloes/camels or a total of 392 litres per annum per household as shown in Table 23. It however, excludes the milk fed to calves or young stock which is about 15 percent for cows and 35 percent for goats/sheep. The production of milk for the Treatment villages is less for goats (142 litres) compared with the Control villages (298 litres) owing to higher number of goats.

Beef/mutton production is calculated based on estimated weights per head taken as 130 kg for large animals, 14 kg for goats and 16 kg for sheep. The off-take rate is assumed as the potential for the animals that can be sold in a normal year and not the one reported in the preceding year of the survey when it was too little in view of persistent drought, poor animal health and price level. It is taken as 15 percent for livestock and 35 percent for goats and sheep. The annual beef/mutton production per household is 3 kg for cattle, 33 kg for goats and 31 kg for sheep

and a small quantity from buffaloes/camels or a total of 68 kg per household. The production is less (43 kg) for the poor households.

Table 23: Milk and Beef/Mutton Production per Household

Description	All Households				Poor Households			
	Cows	Goats	Sheep	Others	Cows	Goats	Sheep	Others
A - Milk Production								
Treatment Villages								
No of In-milk Animals	0.07	1.35	1.51	0.02	0.01	1.04	0.73	-
Lactation Period - Months	7.00	4.27	4.37	6.00	9.00	4.13	4.25	-
Daily Milk Yield/Animal for Human Beings	5.73	0.82	0.59	7.50	8.00	0.92	0.66	-
Annual Milk Produced/Annum - Litres	79	142	116	31	23	119	62	-
Control Villages								
No of In-milk Animals	0.02	3.45	1.55	-	-	1.78	0.57	-
Lactation Period - Months	5.00	4.29	4.21	-	-	3.88	4.29	-
Daily Milk Yield/Animal for Human Beings	7.3	0.7	0.7	-	-	0.8	0.7	-
Milk Produced/Household/Annum	25	298	127	-	-	158	52	-
All Villages								
No of In-milk Animals	0.05	2.05	1.52	0.02	0.01	1.31	0.67	-
Lactation Period - Months	6.50	4.28	4.30	6.00	9.00	4.02	4.26	-
Daily Milk Yield/Animal for Human Beings	5.90	0.73	0.61	7.50	8.00	0.84	0.68	-
Milk Produced/Household/Annum	59	193	119	21	15	133	58	-
B - Beef/Mutton Production								
Treatment Villages								
No of Animals	0.18	4.41	4.28	0.08	0.02	3.75	3.32	-
Animals Sold/Slaughtered Annually – No	0.03	1.54	1.50	0.01	0.00	1.31	1.16	-
Annual Beef/Mutton Produced per HH – kg	3.59	21.62	23.98	1.51	0.42	18.39	18.61	-
Control Villages								
No of Animals	0.10	11.30	8.11	-	0.10	6.76	3.45	-
Animals Sold/Slaughtered Annually – No	0.02	3.95	2.84	-	0.01	2.37	1.21	-
Annual Beef/Mutton Produced per HH – kg	2.05	55.36	45.41	-	1.91	33.15	19.33	-
All Villages								
No of Animals	0.16	6.71	5.56	0.05	0.05	4.82	3.37	-
Animals Sold/Slaughtered Annually – No	0.02	2.35	1.94	0.01	0.01	1.69	1.18	-
Annual Beef/Mutton Produced per HH – kg	3.08	32.88	31.12	1.01	0.95	23.62	18.86	-

4.4.5. Labour for Livestock

The carrying out of various livestock activities is a routine practice for the rural households. There is practically a broad agreement amongst the family members for various activities. Every member of the household, including children above the age of about 10 years, contributes to one or the other activity. The activities outside the house (fodder cutting and grazing) are generally performed by men or children while women look after the animals inside the house. Children usually take the animals out for grazing but sometimes the women are also involved in this activity. In view of very little fodder area, pastures are the main source of feeding. The acute fodder scarcity period is the winter months.

The average time devoted for livestock activities is 11.9 working hours per household per day. The bulk of this time (57%) is allocated for grazing the animals. With an average of 12.6 animal heads per household (Table 19), the time per animal per day is about an hour. The time per animal however, decreases with the increase in herd size.

Table 24: Time spent on various Livestock Activities - Hours/Day

Activity	Men	Women	Children	Total	
				Hours	% of Total
Cutting Fodder	1.1	0.0	0.8	2.0	17%
Chopping Fodder	0.8	-	0.1	1.0	8%
Feeding Animals	0.3	0.7	0.6	2.0	17%
Watering	0.5	-	0.0	0.5	4%
Grazing	2.3	-	4.5	6.7	57%
All Activities	5.0	0.7	6.1	11.9	100%

4.4.6. Livestock/Animal Husbandry Services

The provincial Livestock and Animal Husbandry Department has a well spread network of Livestock Extension offices throughout the district. The Stock Assistants are posted in the field area for extension advice. However, the farmers do not feel satisfied and do not avail the existing facilities. 2 percent livestock holders availed the facility of artificial insemination with a success rate of 78 percent for the animals inseminated. The charges for A.I are Rs. 113 per cow at the civil hospital against Rs. 189 at the private clinics.

The department has established Veterinary hospitals/dispensaries in the district. In all there are 4 hospitals, 17 dispensaries and 2 Artificial Insemination Centres in the district. Periodical mobile camps are established seasonally at strategic locations like passes or the livestock entry/exit points. Free vaccination services are provided along with parasitic control measures. BRSP has also undertaken a huge project, the 'PM's Livestock Project' for this purpose in the selected districts through 42 Veterinary Field Units. In addition to these, UNDP, under its Area Development Programme, has trained some persons in vaccination and curative treatments. These trained persons are serving the local farmers at their door steps in a few localities in addition to supplying veterinary medicines. 9 percent livestock farmers take their animals to the veterinary centres. 30 percent of the farmers prefer to sell their animals in the village to individual traders due to better prices, lack of negotiation power or exploitation at the hands of

[9] The private hospital, if any, is run by the persons employed in the civil hospital.
[10] Silage is the product resulting from storage and fermentation of fresh forage, including grasses, under anaerobic conditions producing more forage and nutrients per unit area than the same crop converted into grain and crop residue increasing the carrying capacity of farm land.

middlemen. Rotational grazing is not practised in the area.

Small quantities of fodder and grasses are stored for off-season/rainy days by 48 percent of the livestock farmers. Though the grasses/fodder is not stored properly as Silage, it is heaped and covered with mud to save it from rain. Distress sale of stock frequently forces the poor flock owners to sell their stock at low prices. Various aspects relating to livestock management are given in Table 25 below:

Table 25: Views of Livestock Holders

Aspect of livestock management	Responses
Green fodder is scarce in winter months	Oct-March
Store fodder as Silage for winter months	48%
Veterinary medicines purchased from open market	33%
Get cows fertilised by Artificial Insemination	2.2%
Success rate of A.I-%	78
Average charges per cow for A.I — Rs.	113
Average A.I charges per cow at Private Vet Centre – Rs.	-
Charges for sire for cow fertilisation – Rs.	189
Take animals to Private Vet Centre	9%
Prefer Civil Veterinary Hospital	23%
Women take animals to Veterinary Hospital, if needed - % 'Yes'	None
Practice de-worming of animals - % 'Yes'	None
Livestock Extension staff visits the farm	15%
Private Livestock Centres exist in the area	3%
Private Livestock Extension advice providers are preferred - % 'Yes'	2%
Prefer to sell animals to individual traders	30%
Do not use balanced feed	89%
Grazing land is managed by a committee	2%
Rotational grazing is practised	1.6%
Animals are given on share basis	17%
The floor in sheds is 'kacha'	64%
Charges paid to graziers per sheep or goat per month – Rs.	8-10
Charges paid to graziers per cow per month – Rs.	40-50

- The average number of animal heads/household is 12.5. It is 8.96 for the Treatment villages against 19.5 for the Control villages.
- The average lactation period is 6.5 months for cows, 4.28 months for goats and 4.30 months for sheep.
- The annual milk production is 371 litres per household. The same is 206 litres for the poor households.
- Beef/mutton production per annum is 67 kg for the sampled households but less (43 kg) for the poor households.

Various aspects discussed in this section are related to the assessment of the poverty status, income sources and distribution and poverty analysis. Household expenditure and food consumption, value and distribution of assets, indebtedness and loan utilisation and relationship of land to poverty are also discussed herein.

4.5. Income, Poverty and Expenditure

4.5.1. Income and its Distribution

The average annual income for the non-poor households is Rs. 125,215 for the Treatment and Rs. 136,990 for the Control villages. On an overall basis, the income for the non-poor and poor households is Rs. 170,927 and Rs. 58,071 respectively. This translates to Rs. 29,994 per household per month for the non-poor compared with Rs. 7,827 for the poor households. The gap between the income of the non-poor and the poor households in the Treatment villages is slightly less (Rs. 28,409 vs. Rs. 8,053) than the Control villages (Rs. 33,324 vs. Rs. 7,416). The Household Integrated Economic Survey (HIES) 2005-06 of the Government of Pakistan in its Table 11 has reported average monthly income ranging from Rs. 5,760 to Rs. 15,019 for various quintiles. Using the household size figures as given in HIES Table 1 (8.66 and 5.28), per capita income works out to Rs. 665 for the 1st quintile and Rs. 2,845 for the 5th quintile. Per capita income based on the Baseline Survey is Rs. 3,806 for the non-poor and Rs. 730 for the poor members.

Farm income is the major contributor to household poverty level. Its share in the income of the non-poor is 44.7 percent against 10.9 percent for the poor households. The share of livestock is negligible: 5.8 percent and 5.6 percent in order. The share of services/jobs is 29.1 percent and 21.7 percent for the non-poor and poor households. Casual labour contributes 29.1 percent to the income of the poor households against 12.1 percent of the non-poor. Income from business is 12.2 percent and 3.8 percent in order. Income from other sources like embroidery, knitting, crate making, sale on 'rehris' is 20.5 percent to the income of poor households in the Treatment villages against 11.9 percent of poor households in the Control villages. The high share of this income for the Treatment villages is attributed to the activities carried out under the BRSP programme implemented in the recent past that aimed at human resource development, social mobilisation, provision of micro credit (Rs. 10,000) to needy persons, trainings, etc.

Table 26: Household Income, 2006/2007

Household Income	Treatment Villages			Control Villages			All Villages		
	Non-Poor	Poor	All	Non-Poor	Poor	All	Non-Poor	Poor	All
Average/ HH per Annum	161,898	59,745	125,218	189,907	55,020	136,990	170,929	58,071	129,152
Average/HH per Month –Rs.	13,492	4,979	10,435	15,826	4,585	11,416	14,244	4,839	10,763
Average/ Capita/ Annum – Rs.	28,409	8,053	19,824	33,324	7,416	21,687	29,994	7,827	20,446
Per Capita/ Month – Rs.	2,367	671	1,652	2,777	618	1,807	2,499	652	1,704
Percent Households with Income of:									
Up to Rs. 518	0	28	10	0	18	7	0	24	9
Rs. 518 – 777	0	41	15	0	43	17	0	42	15
Rs. 777 - 1036	0	31	11	0	39	15	0	34	13
Rs. 1036 - 1295	22	0	14	27	0	16	23	0	15
Rs. 1295 - 2072	39	0	25	24	0	15	34	0	21
Higher than 2072	40	0	25	49	0	30	43	0	27
Percent share in income:									
Farming	43.3	13.6	38.3	47.0	5.7	40.5	44.7	10.9	39.0
Livestock	4.5	3.8	4.4	8.1	8.9	8.2	5.8	5.5	5.8
Service/Job	30.5	23.0	29.2	26.5	19.2	25.4	29.1	21.7	27.9
Pension	0.4	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.2
Casual Labour	11.9	24.3	14.0	12.5	38.7	16.6	12.1	29.1	14.9
Remittances	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Business	4.3	12.6	5.7	2.9	11.4	4.3	3.8	12.2	5.2
Rents	0.3	0.1	0.3	0.4	0.5	0.5	0.3	0.3	0.3
Gift/Cash	0.1	2.0	0.4	0.4	3.6	0.9	0.2	2.5	0.6
Other Sources	4.7	20.5	7.4	2.2	11.9	3.7	3.8	17.6	6.1

The average annual salary per employee in government and private jobs is Rs. 95,011 and Rs. 63,221 respectively. The annual earnings from wages as skilled worker are Rs. 45,000 for the non-poor and Rs. 50,000 for the poor households. The sample data classified by deciles shows that distribution of income among all surveyed households is relatively equal with a Gini Index of 20 percent. Typically it lies between 20 to 35 for countries with relatively equitable income distribution and from 50 to 70 for highly unequal distribution (Todaro and Smith 2003). The income share of the top 20 percent of sampled households is 45 percent while the share of

bottom 20 percent of households is only 8.7 percent (Fig. 4). The Gini coefficient for the Treatment and Control villages is however high at 47 percent and 42 percent respectively indicating highly unequal income distribution. The low Gini coefficient for the total sample households is attributed to mutually nullifying the disparity between these two groups.

Bottom 10%	3.79%
Bottom 20%	10.02%
Bottom 30%	22.97%
M 30% to 70%	32.79%
Top 30%	44.24%
Top 20%	35.98%
Top 10%	22%

Fig-4 Lorenz Curve - Income distribution
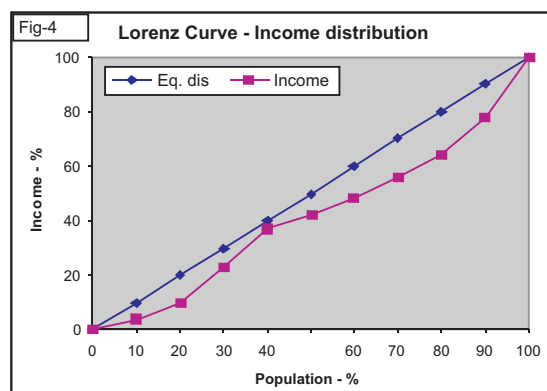
- The monthly income of the non-poor households is Rs. 29,994 against Rs. 7,827 of the poor households. The gap in income of the non-poor vs. poor households is a little less in the Treatment villages than the Control villages.
- The wide gap in the income level of the non-poor and poor is primarily due to higher farm area and greater proportion of high value crops.
- The top 20 percent of the non-poor households own 40 percent of the total income of the sampled households against 8.67 percent of the bottom 20

Vulnerability is a phenomenon associated with groups that are either just below or above the poverty line. Those closer to the poverty line are vulnerable to external shocks. The distribution of sample households in various income bands indicates that 11 percent of the sample households in the Treatment villages are in 'Transitory poor' (income range of Rs. 777 to Rs. 1,036) against 15 percent in the Control villages. The proportion in 'Transitory Non-poor' category is 25 percent in the Treatment and 15 percent in the Control villages.

4.5.2. Poverty of Households

Poverty has been measured in monetary terms, which implies a certain minimum income level below which the people are considered poor. The poverty line was revised by the validation committee of the Government of Pakistan in the year 2000-01 by adjusting the inflation rates, as Rs. 723. The figure was calculated as Rs. 878.6 for the year 2004-05. The inflation for the rural areas was 10.2 percent and 7 percent for FY 2005-06 and 2006-07 respectively [Economic Survey 2006-07]. The threshold level thus, is Rs. 1,036 per capita per month or Rs. 12,432 per annum.

The extent and severity of poverty for the sample households has been calculated using the

[11]The CPRID study defined 'Extremely poor' as households with an income less than 50% of the poverty line, 'Chronically poor' as the ones within 50% to 75% and 'Transitory poor; within 75% to 100%.
[12]State Bank of Pakistan Annual Report for 2006-07, page 182

methodology of Foster, Greer & Thorebecke (FGT). All the measures of FGT methodology: Head Count Index (HCI), Poverty Gap Ratio (PGR) and Severity of Poverty (SOP) have been calculated. HCI has been measured on the basis of per capita income. Various measures derived with reference to the poverty line are:

(i)   Incidence of poverty - Head Count Ratio (age of population/households with per capita income below the national poverty line);
(ii)   Depth of Poverty/Poverty Gap Ratio - Ratio of the average income of the poor to the Poverty line;
(iii)   Severity of Poverty - Income distribution among the poor; and
(iv)   Gini Coefficient - measure of income inequality

In the overall sample of 389 households, 144 or 37 percent can be termed as poor. The proportion of poor households is a little higher for the Control villages viz. 39.235 vs. 35.91 percent. Correcting for the size of the household, the proportion of the poor in the population rises to 42.58 percent in the overall sample   1,022 in a population of 2,400. Based on the generally referred to criteria of a 'Dollar a day', the poor households are 67.6 percent. However, in view of the decreased purchasing value of the dollar and the general price hike, the poverty yardstick will not be less than 'Two Dollars a day' and the poverty figure thus, increases to 87.9 percent. The average monthly per capita income of the poor households is Rs. 652 significantly lower than the average income of the non-poor households (Rs. 2,499). The average per capita monthly income of the poor households in the Treatment villages is Rs. 671 against Rs. 658 in the Control villages. The value of PGR is 35 percent of the sample and Severity of Poverty is 16 percent among the households.

Table 27: Incidence, Depth and Severity of Poverty of Households

Poverty Status	Treatment	Control	All
All Households	259	130	389
Poor Households	93	51	144
Total Population	1,636	764	2,400
Poor Population	690	332	1,022
% of Households in Poverty	35.9%	39.2%	37.0%
Poverty Gap Ratio	36%	32%	35%
Severity of Poverty	17%	14%	16%
% of Population in Poverty	42.18	43.46	42.58
Average Income per Capita/Month – Rs.	671	618	652
% Households below one $ a day	67.2%	68.5%	67.6%
% Households below 2 $ a day	88.8%	86.2%	87.9%

- 42 percent of the population of sampled households is below the poverty line of Rs. 1,036 per capita per month. This increases to 67.6 percent on the basis of a 'Dollar a day' and rises to 87.9 percent with '2 $ a day' criteria.
- Poverty Gap Ratio is 35 percent and SOP is 16 percent for the sample households.
- Gini coefficient is 0.2 indicating equal income distribution but based on the separate sample categories of Treatment and Control Villages, it is 0.47 and

[13]The poverty line throughout the analysis made in this report is taken as Rs. 1,036 based on SBP figures.

4.5.3. Household Expenditure

The annual expenditure of the sampled households is Rs. 82,153 per household: a little less for poor households at Rs. 77,248 than the non-poor households. The per capita monthly expenditure is Rs. 1,260 for the non-poor and Rs. 907 for the poor households. The per capita monthly expenditure in the Treatment villages is Rs. 1,276 for the non-poor and Rs. 885 for the poor households. The same is Rs. 1,224 for the non-poor and Rs. 952 for the poor households in the Control villages. On the basis of expenditure, the figures given in HIES 2005-06, Table 15 and household size given in Table 1, the monthly per capita expenditure works out to Rs. 653 for the 1st quintile and Rs. 2,406 for the 5th quintile. The per capita expenditure on food items for the non-poor is Rs. 10,826 against Rs. 8,749 for the poor households indicating different food priorities.

75 percent of the household expenditure is on food. The share of clothing, transport and utilities is 5.2 percent, 3.8 percent and 4.1 percent respectively. There is not much difference in the pattern of expenditure for the poor vs. the non-poor households except that the proportionate food expenditure is more for the poor households. For the sake of reference it may be mentioned that the Household Integrated Economic Survey (HIES) reported a figure of 54 percent expenditure on food in the rural areas of Pakistan. Higher proportion of expenditure on food in the successive year is due to the reason that prices of essentials, especially of sugar, have jacked up exorbitantly compared to last year. The per capita income level of 45 percent of the poor households is less than the average income of all poor households (Rs. 671). The gap in income and expenditure is met by loans, or sale of assets.

Table 28: Household Expenditure, 2006/2007

Household Expenditure	Treatment Villages			Control Villages			All Villages		
	Non-Poor	Poor	All HHs	Non-Poor	Poor	All HHs	Non-Poor	Poor	All HHs
Average Expenditure per	87,276	78,815	84,344	80,326	74,392	77,998	85,035	77,248	82,153
Average Expenditure/ Capita – Rs.	15,315	10,623	13,353	14,689	11,428	13,272	15,119	10,884	13,316
Average per Capita per month	1,276	885	1,113	1,224	952	1,106	1,260	907	1,110
Percent Share of Household Expenditure									
Food	70	80	73	76	81	78	72	80	75
Clothing	5.8	4.6	5.4	5.0	4.4	4.8	5.5	4.5	5.2
Housing	4.1	2.9	3.7	3.2	2.1	2.8	3.8	2.6	3.4
Healthcare	4.1	2.6	3.6	3.3	3.1	3.2	3.8	2.8	3.5
Education	2.5	1.1	2.0	1.0	1.3	1.1	2.0	1.1	1.7
Social Functions	2.3	0.5	1.7	2.3	1.0	1.8	2.3	0.7	1.7
Transport	4.0	3.8	3.9	4.1	2.6	3.6	4.0	3.4	3.8
Remittance	0.3	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2
Utilities	5.2	3.1	4.5	3.9	2.5	3.4	4.8	2.9	4.1
Other Purposes	2.1	1.1	1.8	1.2	2.2	1.5	1.8	1.4	1.7

4.5.4. Food Consumption

The data on monthly food consumption was collected for each sample household. Given the size of the household, the daily per capita food intake is estimated separately for each category of food. Using the price data for food items collected in each sample village, the average daily expense for food consumed on per capita basis is estimated. Finally, the daily per capita calories intake, using the estimated value of food item in terms of its contribution, is estimated. The pattern of expenditure for the non-poor or poor households is not much different as can be seen from Table 29.

Table 29: Daily Food Consumption and Monthly Expenditure

Item	Weight-gms	Calories	Non Poor Grams/capita/day	Non Poor Eq Calories	Non Poor % Share	Poor Grams/capita/day	Poor Eq Calories	Poor % Share	All HHs Grams/capita/day	All HHs Eq Calories	All HHs % Share	Rate/kg (Rs)	Exp Non Poor	Exp Poor	Exp All
A - Treatment Villages															
Flour	120	407	353	1198	54	370	1254	58	360	1220	55	16	164	172	167
Rice	185	675	28	103	5	22	81	4	26	94	4	28	23	18	21
Pulses	100	250	17	43	2	14	36	2	16	40	2	47	25	21	23
Veg	100	38	89	34	2	67	25	1	80	30	1	14	38	28	34
Fruit	138	81	42	25	1	24	14	1	35	20	1	23	29	17	24
Sugar	5	17	67	227	10	73	249	12	69	236	11	37	75	82	78
Beef	100	310	21	64	3	11	33	2	16	51	2	120	74	38	59
Mutton	100	250	18	45	2	8	21	1	14	36	2	220	119	56	94
Poultry	100	119	14	17	1	9	11	1	12	15	1	90	38	25	33
Fats	14	124	38	338	15	36	320	15	37	330	15	88	101	95	98
Milk	244	157	221	142	6	173	111	5	200	129	6	20	132	104	120
Egg	50	75	0.28	0	0	0.22	0	0	0.26	0	0	42	30	23	27
Tea			5.85			4.34			5.23			240	42	31	38
Total calories/capita/day				2236	100		2157	100		2201	100		890	710	815
% from grains					58			62			60		21%	27%	23%
% from grains + oil					73			77			75		32%	40%	35%
Daily expenditure per capita per day – Rs													29.6	23.6	27.1
B - Control Villages															
Flour	120	407	360	1221	53	349	1185	56	355	1205	54	16	167	162	165
Rice	185	675	29	107	5	27	98	5	28	103	5	28	24	22	23
Pulses	100	250	18	45	2	16	41	2	17	43	2	47	26	23	25
Veg	100	38	92	35	2	77	29	1	86	33	1	14	39	33	36
Fruit	138	81	75	44	2	47	28	1	63	37	2	23	50	32	42
Sugar	5	17	73	247	11	61	207	10	67	229	10	37	81	68	75
Beef	100	310	15	47	2	12	39	2	14	43	2	120	54	45	50
Mutton	100	250	19	47	2	13	32	2	16	41	2	220	125	85	107
Poultry	100	119	12	15	1	14	16	1	13	15	1	90	33	37	35
Fats	14	124	40	352	15	35	312	15	38	335	15	88	105	93	100
Milk	244	157	247	159	7	172	111	5	214	138	6	20	148	103	129
Egg	50	75	0.30	0	0	0.28	0	0	0.29	0	0	42	31	30	30
Tea			6.29			5.07			5.76			240	45	37	41
Total calories/capita/day				2318	104		2098	97		2223	101		929	769	860
% from grains					57			61			59		21%	24%	22%
% from grains + oil					72			76			74		32%	36%	34%
Daily expenditure per capita per day – Rs													30.9	25.6	28.6
C - All Villages															
Flour	120	407	355	1205	53	363	1232	58	359	1217	55	16	165	169	167
Rice	185	675	28	104	5	24	87	4	26	97	4	28	23	20	22
Pulses	100	250	18	44	2	15	38	2	17	41	2	47	25	21	23
Veg	100	38	90	34	2	70	27	1	82	31	1	14	38	30	35
Fruit	138	81	53	31	1	32	19	1	44	26	1	23	35	21	29
Sugar	5	17	69	233	10	69	235	11	69	234	11	37	77	77	77
Beef	100	310	19	58	3	11	35	2	16	48	2	120	68	40	56
Mutton	100	250	18	46	2	10	25	1	15	37	2	220	121	65	97
Poultry	100	119	14	16	1	11	13	1	12	15	1	90	37	29	33
Fats	14	124	39	342	15	36	317	15	37	332	15	88	102	95	99
Milk	244	157	229	147	7	173	111	5	205	132	6	20	137	104	123
Egg	50	75	0.29	0	0	0.24	0	0	0.27	0	0	42	30	25	28
Tea			5.99			4.57			5.39			240	43	33	39
Total calories/capita/day				2262	101		2138	99		2209	100		902	729	828
% from grains					58			62			59		21%	26%	23%
% from grains + oil					73			77			74		32%	39%	35%
Daily expenditure per capita per day Rs													30.0	24.3	27.6

The normal diet of rural households comprises of wheat bread, milk, and yogurt, etc. Seasonal fruits and vegetables are a part of the normal diet of people while meat and milk are from their own livestock. Meat is also consumed as 'laandi' which is a form of dried meat. Tea is frequently without milk. The food consumption pattern for the sampled households behaves in a slightly different pattern for a few of the food items as compared with the HIES figures released for the year 2005-06. The consumption of cereals (wheat & rice) is 385 grams per capita compared with 332 grams (9.37 kg/month) reported in the HIES Table 23.

The high consumption of cereals is attributed to the inherent tradition of hospitality for the visitors who are served with meals and tea. The bread 'chapatis', frequently made in excess of the family's needs, are later fed to animals and chickens, if not consumed. The per capita per day consumption is 0.5 kg of pulses (17 gms/day), 1.12 kg of fat/oil (37 gms/day) and 2.07 kg of sugar (69 gms). It compares with the HIES figures of 0.34 kg pulses, 0.94 kg fat/oil and 1.34 kg sugar.

Assigning equal weights to every person, irrespective of age and gender, the average calorie intake is calculated as 2,262 for the non-poor and 2,138 for the poor households. On an overall basis, 59 percent of the calorie intake is from grains and it increases to 74 percent with the addition of oil. Share of rice, fruits and beef/mutton is slightly more in the food basket of the non-poor households. The per capita monthly expenditure on food items is Rs. 902 for the non-poor against Rs. 729 for the poor households. It may be mentioned that chicken and eggs are generally not purchased but are consumed from the domestic poultry. Milk is also from own animals for a majority of the households (cows, goats or sheep) but in some cases, it is also purchased. The expenditure on these three items is 22.3 percent of the total food expenditure. The average food expenditure per capita per day is Rs. 30.1 for the non-poor and Rs. 24.3 for the poor households with an average expenditure of Rs. 27.6 across the board.

- Total calorie intake is 2,262 for the non-poor and 2,138 for the poor households.
- Cereals constitute 59 percent of the average calorie intake.
- Average expenditure per capita per day is Rs. 30.1 for the non-poor and Rs. 24.3 For the poor households.

4.6. Assets, Value and Distribution

The sample households own a variety of assets with every family owning a house. 68 percent of the assets of all sampled households in the Treatment villages are owned by the non-poor households. For the Control villages, this ratio is 79.4 percent. The value of assets per household is Rs. 574,663 for the Treatment and Rs. 610,468 for the Control villages. Land is the most valuable asset for all households. There is a wide gap in productive assets comprising of land, farm machinery/tools, etc., owned by the non-poor and poor households. The average value of productive assets in the Treatment villages for the non-poor household is Rs. 0.55 million against Rs. 0.19 million for the poor household. In the Control villages, the productive assets are Rs. 0.72 million and Rs. 0.135 million for the non-poor and poor households respectively. The proportion of consumer durables in total asset value is more for the poor households. The savings (cash, jewellery, loans, etc.) are 0.5 percent of the asset value in the Treatment villages and 0.2 percent in the Control villages. The share of livestock in the total asset value is higher for the poor households than the non-poor households.

Table 30: Assets of Households

Assets	Treatment Villages			Control Villages		
	Non-Poor	Poor	All HHs	Non-Poor	Poor	All HHs
		Value of Assets	– Rs.			
Per Household	710,860	331,559	574,663	860,183	223,655	610,468
Per Capita	124,739	44,688	90,977	157,302	34,357	103,875
Value of Assets						
% Productive	77.6	58.6	73.7	83.6	60.3	80.2
Land	61.2	45.5	57.9	60.0	35.5	56.4
Livestock	7.8	9.0	8.0	11.4	18.0	12.4
Cows	0.8	0.2	0.7	0.2	0.8	0.3
Goats	2.8	4.5	3.1	-	-	-
Sheep	2.7	3.6	2.9	4.4	5.3	4.5
Others	1.5	0.8	1.4	0.8	2.3	1.0
Machinery	9	4	8	12	7	11
Business	0.1	0.2	0.1	0.1	-	0.1
% Consumer Durables	20.9	40.9	25.1	15.8	39.3	19.2
House and Other Structures	18.1	38.0	22.2	14.3	36.1	17.5
Other	2.8	2.9	2.8	1.5	3.2	1.7
% Savings	1.5	0.5	1.3	0.6	0.4	0.6
Savings in Banks	0.6	0.3	0.5	0.2	0.3	0.2
Jewellery	0.7	0.2	0.6	0.2	0.1	0.2
Loans Given to Others	0.2	-	0.1	0.3	0.03	0.2
Total	100	100	100	100	100	100
Percent of Households:						
Purchased Assets	15.1	9.7	13.1	0.1	0.02	0.08
Sold Assets	3.6	2.2	3.1	0.01	-	0.008
Value of Assets per Household – Rs.						
Purchased	57,720	14,911	46,388	70,600	15,000	65,545
Sold	34,583	70,000	43,438	2,500	1200	2,500

13 percent of the sampled households purchased assets in the Treatment villages in the preceding one year period against a nominal 0.08 percent in the Control villages. The proportion of households selling assets is also higher for the Treatment villages (3.1%) than the Control villages. Average value of assets purchased was however, higher in the Control villages viz. Rs. 65,545 against Rs. 46,388 in the Treatment villages. The value of assets sold was higher in the Treatment villages (Rs. 43,438) than the Control villages (Rs. 2,500). The sale and purchase of assets is attributed to the reshuffling of asset portfolio. A comparatively higher proportion of consumer durables and assets having elastic demand like televisions, computers, mobile phones, motorcycles, refrigerators, washing machines, etc.; are owned by the non-poor households.

Table 31: Consumer Durables and other Selected Household Assets

Durables	No. per Household		Average Value – Rs.	
	Non-Poor	Poor	Non-Poor	Poor
Radio/Tape Recorder	0.25	0.12	1,091	1,224
Television Sets	0.21	0.06	9,129	9,688
VCR/CD Player	0.02	0.01	3,600	4,000
Computer	0.03	-	15,714	-
Mobile Phones	0.22	0.11	3,780	2,950
Refrigerator	0.10	0.01	12,917	17,500
Washing Machine	0.45	0.20	4,013	3,855
Generator	0.01	0.02	1,100	967
Electric Fans	1.41	0.85	1,078	1,637

- The value of per capita assets in the Treatment and Control villages is Rs. 90,977 and Rs. 103,875 respectively.
- Productive assets constitute 73.7 percent of the total household assets in the Treatment and 80.2 percent in the Control villages.
- The non-poor households have a comparatively higher number of consumer

4.6.1. Unit Prices

The prices of various productive assets in the study area are derived on the basis of information gathered from the respondents. The following average unit prices are derived for the non-poor and poor households for various productive assets:

Table 32: Unit Prices for Various Assets Rs.

Asset	Treatment	Control
Land per Acre	56,967	39,926
Tube Well /Pump	251,190	352,500
Tractor	288,333	375,000
Thresher	120,000	120000
Car/ Jeep	330,000	450,000
Motorcycle	27,639	18,977
Bicycle	1,908	2,103
Cart/Trolley	4,167	-
Radio/Tap e Recorder , etc.	1,121	1,118
Television	8,827	10,333
VCR/CD Player	4,333	3,250
Compute r	18,400	9,000
Mobile Phone	3,660	3,250
Electric Fan	1,088	1,034

4.7. Household Loans, Utilisation and Sources

4.7.1. Household Loans

The average amount of loan taken per household in 2006/2007 is Rs. 17,272 in the Treatment villages and Rs. 12,685 in the Control villages. A comparatively higher proportion of the poor households has taken a loan: 46 percent poor against 35 percent non-poor in the Treatment and 47 percent poor against 25 percent non-poor in the Control villages. The loan amount is 20 percent of the expenditure in the Treatment and 16 percent in the Control villages. The loan is 25.4 percent of the income of the poor households against 11.4 percent for the non-poor households in the Treatment villages. This proportion is 36.4 percent for the poor and only 4.2 percent for the non-poor households in the Control villages.

Friends/relatives are the major source of loans (69.7%). Shopkeepers meet 25.5 percent of the credit needs. The banks' share in loans is 1.4 percent for the sampled households. Majority of the borrowers prefer credit from non-institutional sources for want of tangible security/collateral, and lengthy and time consuming formalities. The banks also feel shy in extending credit in view of high defaults in the past.

The loan is generally a seasonal loan taken for farm inputs or concentrates/veterinary medicines for the livestock. The major reasons that bring these borrowers into the unbreakable net of the money-lenders are: a) unexpected financial losses from natural or man-made disasters, b) sudden health problems in the family, c) credit purchases from shopkeepers to meet daily consumption needs, etc. The farmers getting inputs on credit usually remain under debt till the next crop. In addition to the identified sources of credit, money is borrowed from other sources, especially the money lenders (in cash or in kind) who charge exorbitant interest rates.

Table 33: Loans Taken by the Households in 2006/2007

Loans	Treatment Villages			Control Villages			All Villages		
	Non-Poor	Poor	All HHs	Non-Poor	Poor	All HHs	Non-Poor	Poor	All HHs
Average amount/ HH – Rs.	18,435	15,197	17,272	7,962	20,000	12,685	15,058	16,898	15,739
% of HH who have taken a Loan	35	46	39	25	47	34	32	47	37
Loan as % of Expenditure	21	19	20	10	27	16	18	22	19
Loan as % of Income	11.4	25.4	13.8	4.2	36.4	9.3	8.8	29.1	12.2
% of Loan Amount from:									
Friends and Relatives	67.2	72.1	69.3	65.0	75.0	70.5	66.7	73.1	69.7
Shopkeepers	27.6	25.6	26.7	20.0	25.0	22.7	25.6	25.4	25.5
Banks	3.4	0.0	2.0	0.0	0.0	0.0	2.6	0.0	1.4
NGO	1.7	0.0	1.0	0.0	0.0	0.0	1.3	0.0	0.7
Other Sources	0.0	2.3	1.0	15.0	0.0	6.8	3.8	1.5	2.8

4.7.2. Loan Use

The use of loan amount is for productive as well as consumptive/social needs. 39 percent of the households used the loan amount for productive purposes and 41 percent to meet consumption/social needs. The loan for consumption purposes is less (38%) in the Treatment villages compared with the Control villages (48%). The use of loan for productive purposes is higher (47%) for the non-poor households than the poor borrowers (29%). The proportion of loans used for the purchase of farm inputs is 17 percent followed by 12 percent for livestock. An important feature of the loan portfolio is that: a) none of the poor borrowers used the loan amount for farm input or machinery, and b) 49 percent poor household borrowers used the loan for consumption purposes against 34 percent non-poor borrowers. High proportion for farm inputs is attributed to high demand for recurring cost of fruit orchards, generally owned by the non-poor households.

Table 34: Use of Loan Amount by Households

Purpose	Treatment Villages (%)			Control Villages (%)			All Villages (%)		
	Non-Poor	Poor	All HHs	Non-Poor	Poor	All HHs	Non-Poor	Poor	All HHs
Productive Purposes	49	29	42	40	27	33	47	29	39
Land	6	7	7	5	5	5	6	6	6
Livestock	6	17	10	10	23	17	7	19	12
Machinery	3	0	2	0	0	0	2	0	1
Farm Inputs	31	0	19	25	0	12	29	0	17
Business	3	5	4	0	0	0	2	3	3
Consumption & Social Needs	32	46	38	40	55	48	34	49	41
Housing	5	2	4	0	0	0	4	2	3
Education & Health	11	12	11	15	9	12	12	11	11
Repay Loan	0	10	4	5	5	5	1	8	4
Other Purposes	3	0	2	0	5	2	2	2	2

- The average amount of loan per household is Rs. 15,058 for the non-poor borrowers and Rs. 16,898 for the poor household borrowers.
- The share of friends and relatives in the loan portfolio is 69.7 percent and the share of shopkeepers is 25.5 percent.
- 39 percent of the borrowers used loans for productive purposes and 41 percent to meet consumption/social needs.

4.7.3. Household Debt

The average amount of payable debt for the sampled households is Rs. 12,797 in the Treatment villages and Rs. 10,850 in the Control villages. Debt to Income ratio is 6.2 for the non-poor and 25.5 for the poor households. The average debt pattern and the amount owed to various debtors follow the same pattern as for loans shown in Table 33 above.

Table 35: Current Debt of Households

Debt	Treatment Villages			Control Villages			All Villages		
	Non-Poor	Poor	All HHs	Non-Poor	Poor	All HHs	Non-Poor	Poor	All HHs
Average	12,511	13,522	12,797	6,513	17,569	10,850	10,577	14,816	12,146
Debt to Income Ratio	7.7	22.6	10.2	3.4	31.9	7.9	6.2	25.5	9.4
% of HH in Debt	34	46	39	25	47	34	31	47	37
Percent of Debt Payable to:									
Friends and Relatives	66.7	72.1	69.0	65.0	75.0	70.5	66.2	73.1	69.4
Shopkeepers	28.1	25.6	27.0	20.0	25.0	22.7	26.0	25.4	25.7
Banks	3.5	0.0	2.0	0.0	0.0	0.0	2.6	0.0	1.4
NGOs	1.8	0.0	1.0	0.0	0.0	0.0	1.3	0.0	0.7
Other Sources	0.0	2.3	1.0	15.0	0.0	6.8	3.9	1.5	2.8

4.8. Perception of Problems

Men and women were interviewed separately about their perceptions of listed problems that may seem important to them at the household and village levels. The constraint response was recorded on a scale of 1 to 3, where 3 means 'slight problem', 2 means 'serious problem' and 1 means 'very serious problem'. The analysis shows contrasting responses on various issues between women and men as given in Table 36.

Table 36: Ranking of Problems by Women and Men Respondents

Constraint	Women			Men		
	1	2	3	1	2	3
A - Count for 'Yes' Response						
Education	31	32	58	28	31	36
Street Pavement	4	40	14	19	42	53
Income (Poverty)	29	19	59	10	13	21
Social Cohesion	0	0	6	0	0	0
Healthcare	91	62	29	66	121	54
Transport	40	111	72	3	9	15
Jobs/Employment	26	30	68	41	38	59
Organisation	0	4	1	0	2	6
Fuel Supply	2	1	3	11	41	60
Savings	4	6	10	0	5	8
Access to Credit	14	2	2	1	9	31
Water Supply	116	57	32	132	53	18
Drainage	1	8	14	6	5	13
Electricity	31	17	21	72	20	15
B - % for 'Yes' Response						
Education	8%	8%	15%	7%	8%	9%
Street Pavement	1%	10%	4%	5%	11%	14%
Income (Poverty)	7%	5%	15%	3%	3%	5%
Social Cohesion	0%	0%	2%	0%	0%	0%
Healthcare	23%	16%	7%	17%	31%	14%
Transport	10%	29%	19%	1%	2%	4%
Jobs/Employment	7%	8%	17%	11%	10%	15%
Organisation	0%	1%	0%	0%	1%	2%
Fuel Supply	1%	0%	1%	3%	11%	15%
Savings	1%	2%	3%	0%	1%	2%
Access to Credit	4%	1%	1%	0%	2%	8%
Water Supply	30%	15%	8%	34%	14%	5%
Drainage	0%	2%	4%	2%	1%	3%
Electricity	8%	4%	5%	19%	5%	4%

For women respondents, 'Very serious problems' in order of priority are water supply (30%), healthcare (23%) and transport (7%). Fuel supply, drainage, credit availability, etc; are not constraints according to women respondents. For men, the 'Very serious problems' are water supply (30%), healthcare (23%) and education (8%). The least important problems identified by both women and men include social cohesion, fuel availability, drainage, etc.

4.9   Gender Parity/Women Empowerment

Empowerment of women refers to the ability of poor people to shape decisions that affect their lives and remove discrimination based on gender, race, ethnicity and social status. It has to be one coherent effort that leads the way to success. Women and girls comprise half of the population. Tribal norms and traditions are deep rooted in the area with little involvement of women in decision making. The male child is preferred over the girl in education, health, etc.

The females play a limited role in income generating activities and their work is undervalued. Though a wide gender gap exists, they are still contributing to the household economy.

4.9.1 Activities Undertaken by Women

Women are actively involved in livestock management. Most of the in-house activities like chopping fodder, feeding, milking, etc are done by women (Table 37). Some other activities like the collection of farm yard manure, cleaning of animal sheds, processing animal products, etc., are also undertaken by the women. They sell milk, poultry or eggs at their own discretion. The involvement of women in grazing the animals is, however, low.

Table 37: Activities Undertaken by Women.

Activity	Number of 'Yes' Responses			Percent of 'Yes' Responses		
	Men	Women	Children	Men	Women	Children
Cutting Fodder	146	5	19	85.9%	2.9%	11.2%
Chopping Fodder	132	23	12	79.0%	13.8%	7.2%
Feeding the Animals	17	146	6	10.1%	86.4%	3.6%
Grazing Animals	135	9	30	77.6%	5.2%	17.2%
Milking Animals	11	152	1	6.7%	92.7%	0.6%
Selling Milk	3	2	0	60.0%	40.0%	0.0%
Selling Eggs	1	23	1	4.0%	92.0%	4.0%
Selling Poultry	1	22	0	4.3%	95.7%	0.0%

4.9.2. Parity in Decision Making

Men have a prominent role in taking strategic decisions regarding seeking loan, its repayment, purchase/disposal of assets or education of girls. Women's socio-economic profile leaves much to be desired. While women have a major share of the work, they have no assets, little income and poor access to social services. There is a wide variation in the extent of decisions made by males and females.

In order to know the involvement of men or women in decision making, the response of women was sought. The options given were: man, woman or mutually by man and woman. The answers are analysed in Table 38. As can be seen from the said Table, only men are responsible for taking strategic decisions while women are involved only marginally in decisions regarding purchase of household consumable items or animal treatment.

Table 38: Strategic Decisions Taken by Women

Decision Regarding	Number of 'Yes' Responses			Percent of 'Yes' Responses		
	Men	Women	Mutually	Men	Women	Mutually
Work Outside the House	369	1	10	97%	0%	3%
Take Loans	95	14	19	74%	11%	15%
Utilise Loans	85	15	27	67%	12%	21%
Plan Loan Repayment	86	5	32	70%	4%	26%
Purchase Immovable Assets	34	1	8	79%	2%	19%
Purchase Movable Assets	363	2	12	96%	1%	3%
Purchase HH Consumable Items	378	1	5	98%	0%	1%
Purchase Livestock	243	0	2	99%	0%	1%
Get Vaccination Treatment of Animals	182	0	0	100%	0%	0%
Sell Immovable Assets	43	0	3	93%	0%	7%
Sell Movable Assets	49	1	2	94%	2%	4%
Sell Livestock	203	1	0	100%	0%	0%
Visit Hospital on their Own	71	8	307	18%	2%	80%
Decide about Girls' Education	23	5	145	13%	3%	84%

4.9.3. Decision Making at Household Level

The men have a major say in in-house decision making. The women can not take decisions solely but only in consultation with the men. 70 percent of the women respondents were however, of the view that child rearing is done by mutual decision (Table 39). Decisions are made by mutual consultations for aspects like child education (49%) or family planning (26%), etc.

Table 39: Decision Making at Household Level

Decision Regarding	Number of 'Yes' Responses			Percent of 'Yes' Responses		
	Men	Women	Mutually	Men	Women	Mutually
HH Expenditure Planning	337	6	46	87%	2%	12%
Child Education	192	5	192	49%	1%	49%
Family Planning	286	2	101	74%	1%	26%
Child Rearing	14	254	95	4%	70%	26%
Seek CO Membership	104	1	17	85%	1%	14%

Annex A: Questionnaires

Household Questionnaire (For Men)

District …………UC Name …………………… Village Name ………………… Date …………..
CO Name …………………………………...Name of Enumerator : ……………………………………..
Respondent Name: ………………………………… S/O …………………………………………………

A - Household Demographic Information: (write relationship of family members to the respondent)

S. No	1 Relation	2 Age (Years)	3 Primary Profession[a]	4 Secondary Profession[a]	5 Education/ Literacy[b]	6 Heath Status[c]
1	Self					
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

a - Primary/ Secondary Profession Codes					
1- Own farming		4- Govt job		7- Business		10- Unemployed
2- Farm labor		5- Skilled off farm labor		8- Student		11- Household work
3- Private job		6- Unskiled off farm labor		9- Other works		12- Child/ Infant (<5)

b- Education/ Literacy Codes					**c- Health Codes**
1- Not Literate		4- Primary	7- Student Class 9-10 10 - Intermediate		1- Good
2- Literate		5- Student 6-8	8- Matric 11- Post Intermediate		2- Fair
3- Studt upto Class 4		6- Middle	9- Studt Class 11-12		3- Poor

Deaths in household during last 12 months (Write number)					

Deaths	**Under 1 yrs**	**1 - 5 Yr**	**6-18 Yr**	**19-24 Yr**	**25-55 Yr**	**>55 Yr**
Males						
Females						

B - Annual Crop Production (for responddents who are farmers as owner, sharecropper or on lease basis)

S. No	Crop	Area cropped (acres)	Production - maunds	S. No	Crop	Area cropped (acres)	Production- Crates
Total Farm Area (acres) …………….. out of which Cultivated area is ……………….. Acres
The cultivated farm area consists of …………….. acres of owned land + …………... acres of sharecropped land and …....……… acres of Lease land, adding up to …………… acres in total.
1	Rice			19	Tomatoes		
2	Maize (grain)			20	Peaches		
3	Jowar/ Bajra grain			21	Plums		
4	Masoor Pulse			22	Pears		
5	Maize fodder			23	Pomegranates		
6	Jowar/ Bajra fodder			20	Grapes		
7	Mong/ Mash pulse			21	Walnuts		
8	Onion			22	Apples		
9	Chillies			23	Apricot		
10	Tobacco			24	Almond		
11	Cumin			25	Olive		
12	Wheat			26	Other fruit trees ………..		
13	Gram			27	Forest trees for timber		
14	Barseem/ Lucern				Trees for fuelwood		
15	Melons						
16	Other Vegetables						
17	Other fodders ………..				Income from Fish ponds (last 2 years) …………….Rs
18	Multi Cut fodders						

C - Livestock reared and Productivity (for respondents who are livestock holders)

Livestock	Matured animals - No		Young animals – No	Milking period - months	Daily Milk Yield/ animal - kg	Concentrates per day - kg			Sold during the year		
	Milking	Dry				Cotton seed cake (Khaal)	Shakrana (Balanced feed)	Others (Choker/ barley, oats, maize, wheat etc)	Milk- Kg	Ghee/ Butter- Kg	Hides/ Skins- No
Cow											
Goat											
Sheep											
Buffalo											
Bull											
Ox											
Donkey/ Mule											
Horse											
Camel - male											
Camel- female											
Note: Non milking mature animals and											
male goat/ sheep etc should be entered in Dry column.											
Poultry birds (#)-domestic											
Birds in the Poultry Farm if any											

Item	Sold		Purchased	
	Area - acres	Value - Rs	Area - acres	Value - Rs
Barseem				
Jowar/ Bajra				
Lucern				
Other Green fodder (…….)				
Maize/ Millet stalk				
Wheat straw				
Other Dry Fodder (…………)				

G - Labour contribution for various operations (for Livestock holders)

Operation		Time spent – hours		
	Men	Women		Children
Fodder cutting/ day				
Fodder chopping/ day				
Feeding (in stall)/ day				
Watering the animals/ day*				
Grazing animals/ day				
Marketing per event				
* –watering during grazing time when the animals are out, is not to be mentioned.				

H- Household Food Consumption per month (all respondents)

Item	Quantity	Item	Quantity
Flour – kg		Beef - kg	
Rice – kg		Mutton (sheep/ goat) - kg	
Bajra – kg		Poultry - kg	
Maize – kg		Fish - kg	
Pulses – kg		Fats/Oil - kg	
Vegetables – kg		Milk - kg	
Fruit- kg		Eggs - No	
Sugar – kg		Tea- 250 gm packet Nos.	

I - Assets Acquired and Disposed off or Sold in last 12 months (all respondents)

Assets Purchased -Rs. ……………… (tick source)			Assets Sold -Rs. ………………(tick purpose)		
Loan	Cash/Saving	Gift	Meet Expenditure	Repay Loan	Purchase other asset
……………	……………	……………	……………	……………	……………

J - Loans Taken in last 12 months and Outstanding Debt-Rs. (all respondents)

Friends/Relatives -Rs.		Shopkeepers - Rs.		Banks - Rs.	
Amount taken	Amount owed	Amount taken	Amount owed	Amount taken	Amount owed
……………	……………	……………	……………	……………	……………
NGOs – Rs.		Community Org.-Rs.		Others -Rs.	
Amount taken	Amount owed	Amount taken	Amount owed	Amount taken	Amount owed
……………	……………	……………	……………	……………	……………

K – Use of Loan - tick the purpose (all respondents)

Land	Livestock	Machinery	Farm Inputs	Business	Housing
……………	……………	……………	……………	……………	……………
Consumption	Social Functions	Health Care	Education	Repay Loans	Other Uses
……………	……………	……………	……………	……………	……………

L - Housing Facilities -Code except for No of rooms (all respondetns)

House Structure	Water Supply	Latrine	Drainage	Electricity	Fuel/Energy
-	-	-	-	-	-
Codes 1- Pacca 2- Kacha 3- Pacca/ Kacha	- 1- Piped 2- Karez 3- Well 4- Other	- 1-Inside 2-Outside 3-Open field	- 1- Yes 2- No	- 1- Yes 2- No	- 1- Gas 2- Wood 3- Kerosene 4-Other

M- Credit Requirement next year -enter amount, if loan is required (all respondents)

Purpose (put X)	Amount Required - Rs.	Preferred provider - Code
Farm inputs		
Business		
Assets purchase		
Consumption		
Education		
Social Function		
Livestock purchase		
Other (specify) …………………		

Codes for Preferred provider	
1- Friends/relatives	4- NGOs
2-Shopkeeper	5- Community Org
3-Bank	6- Other

N- Annual HH Off-farm Incomes in last 12 months (all respondents)

Off-farm Income Sources	Males		Females		Total Income (Rs.)
	(#)	Annual income (Rs.)	(#)	Annual Income (Rs.)	
Govt. Service					
Private job Pension (Rs.)					
Skilled labour					
Unskilled labour					
Small enterprise at HH/ village level					
Retail shop (in the local market)					
Remittances from abroad					
Remittances from within the country –Rs					
Shop/house rent –Rs					
Tubewell water sold – Rs					
Tractor/ Vehicle rental – Rs					
Land/machinery leased/rented out – Rs					
Govt. Social Protection –Rs					
Local Philanthropy –Rs					
Relief/Reconstruction compensation provided -Rs					
Any other source – Rs					

O- **Household Expenditure in last 12 months in Rs.** (all respondents)

Utilities	Clothing/ shoes	Housing (rent/maintenance)	Healthcare	Education	Social Functions
Transport	Remittances	Cash/Gifts	Tubewell water purchase	Tractor rented in	Others

P- Major Constraints/Problems - tick 3 in order of priority as 1, 2 & 3 (all respondents)

Electricity		Health care	Savings		Access to credit
Water Supply		Drainage	Jobs/Employment		Social Cohesion
Telephone		Street pavement	Income (Poverty)		
Education		Transport	Fuelwood availability		

Q - Household Assets (for all respondents)

Assets	Unit	Value (Rs.)	Assets	Unit	Quantity	Value (Rs.)
House	Rs		Land	acres		
Furniture	Rs		Tubewell/pump	#		
Farming tools	Rs		Tractor	#		
Animal Sheds	Rs		Thresher	#		
Shop/business	Rs		Car/jeep	#		
Other structure	Rs		Motorcycle	#		
Refrigerator	Rs		Bicycle	#		
Sewing machine	Rs		Cart/Trolley	#		
Washing machine	Rs		Radio/Tap Recorder etc.	#		
Iron, toaster etc	Rs		TV	#		
Generator	Rs		VCR/CD Player	#		
Jewellery	Rs		Computer	#		
Savings in banks	Rs		Mobile phone	#		
Loans given to others	Rs		Fans	#		
Cash in hand	Rs					
Other assets	Rs					

R- Views of Respondents concerning Fodder availability & Extension advice

	(This Section is to be filled only if the Respondent is a Livestock holder. Pls also note that in case the answer to a particular Question is 'No', the box should be left blank).	
1.0	**Feed and Fodder Availability**	
1.1	Green fodder scarcity months ……………………………..	
1.2	Dry fodder scarcity months …………………………………	
1.3	Concentrates prices rise in the months of ……………………	
1.4	Quality of Concentrates (Poor-1, Satisfactory-2, Good-3)	
1.5	Do you store fodder as Silage (tick if 'Yes')	
2.0	**Animal Vaccination and Treatment**	
2.1	Do you know the type of Vaccines required for: (tick if 'Yes')	
	a - Homeorraghic Septicimia (Ghal Ghotu)	
	b - Foot & Mouth disease (Moonh Khur)	
2.2	Do you purchase Vaccine from open market: (tick if 'Yes')	
2.3	Do you get your cows fertilized by Artificial Insemination (A.I): (tick if 'Yes')	
	If Yes, what is the rate of success (mention %): ………………	
	If No, reasons there of (specify ……………………………..	
2.4	Do you get your buffaloes fertilized by A.I: (tick if 'Yes')	
	If Yes, what is the rate of success (mention %): ………………	
	If No, reasons there of (specify ……………………………..	
2.5	Do you take your animals to Veterinary Hospital for treatment: (tick if 'Yes')	
	If No, reason thereof: (specify ………………………………	
2.6	Do you take your animals to a Private service provider: (tick if 'Yes')	
	If No, reason thereof: specify ………………………………	
2.7	A.I cost per animal at Veterinary Hospital/ Centers -Rs	
2.8	A.I cost per animal at Private Veterinary Cetres, if any -Rs	
2.9	Vaccination cost per animal at Veterinary Hospitals/ Centers - Rs	
2.10	Vaccination cost per animal at Private Veterinary Centers, if any - Rs	
2.11	Which is the preferred Hospital/ Centre (Govt -1, Private - 2)	
	If Private, reason thereof ……………………………………..	
2.12	What are the normal charges of having animal fertilized by local siren/ bull? Rs	
2.13	Common diseases observed in animals …………………………………………	

2.14	Do Women take animals to Vet H ospitals/ Centres if needed: (tick if 'Yes')	
	If No, reason thereof: (specify ………………………………	
2.15	Do you practice De-worming of animals if needed: (tick if 'Yes')	
	If Yes, state the method ……………………	
3.0	**Livestock Extension Services and Awareness**	
3.1	Do you visit your area Livestock Officer/ Stock Assistant: (tick if 'Yes')	
3.1.1	If Yes, are you satisfied with the advice given (tick if 'Yes')	
3.2	Does the Livestock Officer visit your farm: (tick if 'Yes')	
3.2.1	If Yes, frequency of visits per 6 month	
3.3	Does the Livestock Assistant visit your farm: (tick if 'Yes')	
	If Yes, frequency of visits in last 12 months	
3.4	Do you visit Livestock Research center: (tick if 'Yes')	
3.4.1	If Yes, are you satisfied with the resear ch work done there: (tick if 'Yes')	
3.5	Was there any production loss due to Morbidity or …………………..: (tick if 'Yes')	
3.5.1	If Yes, explain the reason and affects …………………..	
3.6	Are there Private Livestock Extension Centers: (tick if 'Yes')	
3.6.1	Which is the preferred Extension advice provider (Govt-1, Private - 2)	
3.6.2	State reason of preference ………………………………………………	
3.7	Are there Women Livestock Extension providers: (tick if 'Yes')	
3.7.1	If Yes, are they performing to your satisfaction: (tick if 'Yes')	
3.7.2	Why women are not actively involved in provision of Extension advice? …………	
4.0	**Animal Sale and Purchase**	
4.1	Do you purchase animals from individual trader or nearby market (Trader-1, Market- 2)	
4.2	Do you sell your anim als to individual trader or nearby market (Trader -1, Market- 2)	
4.4	Why do you prefer to sell to individual trader (better price -1, long distance to market-2, fluctuating price in market-3, other …………..4)	
5.0	**Use of Balanced Feed/ Optimal Milk Yield**	
5.1	Do you give Balanced feed to your animals: (tick if 'Yes')	
5.1.1	If No, what are the constraints (high price -1, not good quality-2, not suited for animals-3, Other ………..4)	

5.2	Maximum milk yield for Buffaloe attained by ……………. Calving, for (breed) ………….	
5.3	Maximum milk yield for Cow attained by …………….. Calving, for (breed) ………….	
6.0	**Miscellaneous**	
6.1	What is the normal grazing period in a year (# of months)	
6.2	What are the average grazing hours per day	
6.3	Distance to Community grazing site (Km)	
6.4	Do you have CO to manage Community Grazing land: (tick if 'Yes')	
6.5	Do you practice rotational grazing in Community Grazing land: (tick if 'Yes')	
6.6	Do you give your animals to others on share basis: (tick if 'Yes')	
6.7	If Yes, what is the share of owner on maturity?-%	
6.8	Do you think that cow/ buffalo giving birth in July/ Aughust gives less milk in that season: (tick if 'Yes')	
6.8.1	If Yes, reason thereof: ……………………………………….	
6.9	What is the type of floor of your animal shed? (Kacha-1, Brick paved-2, Other …….3)	
7.0	**Cost of Services provided in Private Vet. Centers**	
7.1	Treatment of Clinical cases per visit - Rs	
7.2	Vaccination cost per animal – Rs	
7.3	Dipping (passing animals through medicated water) - Rs	
7.4	A.I cost per service – Rs	
7.5	Castrations per animal – Rs	
7.6	Hand spraying against disease - Rs	
7.7	Advisory services per visit – Rs	
7.8	Provision of preventive medicines (major) ………………………………………..	

Household Questionnaire (For Women)

District ……………………. UC Name …………………… Village Name ………………… Date ………..

CO Name …………………………….…Name of Enumerator : ……………………………..

Female Respondent Name: ……………………… Name of Male Respondent ……………..…….…

A - Household Demographic Information: (write relationship of all members to Male respondent)

S. No	1	2	3	4	5	6
	Relation to Male respondent	Age (Years)	Primary Profession[a]	Secondary Profession[a]	Education/Literacy[b]	Heath Status[c]
1						
2						
3						
4						
5						
6						
7						
8 9						
10						

a - Primary/ Secondary Profession Codes			
1- Own farming	4- Govt job	7- Business	10- Unemployed
2- Farm labor	5- Skilled off farm labor	8- Student	11- Household work
3- Private job	6- Unskilled off farm labor	9- Other works	12- Child/ Infant (<5)

b- Education/ Literacy Codes				c- Health Codes
1- Not Literate	4- Primary	7- Student Class 9-10	10 - Intermediate	1- Good
2- Literate	5- Student 6-8	8- Matric	11 - Post Intermediate	2- Fair
3- Studt upto Class 4	6- Middle	9- Studt Class 11-12		3- Poor

Major Constraints/ Problems (tick 3 in order of priority as 1, 2 & 3)

Electricity	Health care	Savings	Access to credit
Water supply	Drainage	Jobs/ Employment	Social cohesion
Telephone	Street pavement	Income (Poverty)	
Education	Transport	Fuelwood availability	

A - Decision making at House hold level

A.1   HH Expenditure planning

A.2   Children Education

A.3   Family planning

A.4   Child rearing

A.5   Seek CO membership

B - Practical Roles performed by Women

B.1   Fodder cutting

B.2   Fodder chopping

B.3   Feeding the animals

B.4   Grazing animals

B.5   Milking animals

B.6   Selling of milk Bye products

B.7   Selling of eggs

B.8   Selling of poultry birds

C- Strategic Decisions performed by Women

C.1   Work outside house premises

C.2   Take loans from Financial Institutions

C.3   Utilize loans at her Will

C.4   Plan Loan repayment Schedule

C.5   Purchase of Immovable Assets

C.6   Purchase of Movable assets (fridge, TV, ….)

C.7   Purchase household consumptin items

C.8   Purchase of Livestock

C.9   Vaccine treatment for animals

C.10   Sale of Immovable Assets

C.11   Sale of Movable Assets

C.12   Sale of Livestock

C.13   Visit Hospital/ Clinics at her own

C.14   Girls education

VILLAGE QUESTIONNAIRE (by Group discussion)

			Date ……………………		
	Enumerator ………………….., Village …………………… UC ………………				
	Distt ……………….., Date of Enumeration ………………………				
	Village Infrastructure (tick if Yes)				
	Electricity			Piped Water supply	
	Telephone			Hand pumps for Drinking water	
	Mobile Tele service			Well for Water supply	
	Internet Café			Pacca Drains	
	Grocery shops			Brick paved Streets	
	Meat/ Mutton Shop			Tailor shop	
	Distance to Infrastructure and Services (Km)*				
1	Metalled road	………….	19	**Govt Primary** School for Boys	………….
2	Bus/ Wagon Stop	………….	20	" " Girls	………….
3	Railway Station	………….	21	" " Mixed	………….
4	Grain Market	………….	22	**Govt Middle** School for Boys	………….
5	Utility Store	………….	23	" " Girls	………….
6	Livestock Market	………….	24	" " Mixed	………….
7	Post Office	………….	25	**Govt High** School for Boys	………….
8	PCO	………….	26	" " Girls	………….
9	Commercial Bank	………….	27	" " Mixed	………….
10	NGO/ Micro Finance Institute	………….	28	**Govt College** for Boys	………….
11	Agricultural Office	………….	29	" " Girls	………….
12	Veterinary Office	………….	30	" " Mixed	………….
13	Dispensary	………….	31	**Private Primary** School for Boys	………….
14	BHU/ RHC	………….	32	" " Girls	………….
15	Medical Store	………….	33	**Private High** School for Boys	………….
16	Private Docrtor's Clinic	………….	34	" " Girls	………….
17	Lady Health Visitor	………….	35	**Private College** (Mixed)	………….
18	Private Vet. Medicine Store	………….	36	Madrissah (Religious School)	………….
	Village Natural Resources (tick if Yes)				
1	No of Karezes				
2	Chromite (Yes/No)				
3	Coal (Yes/ No)				
4	Other minerals …..				

Annex – B
List of Selected Villages in Mastung District

S.No	Village	Union Council
1	South Kirdgap	Kardgap
2	Bezani	Soro
3	Killi Londa	Sorgaz
4	Sounger	Sorgaz
5	Rodeni	Sorgaz
6	Koshkak	Sheikh Wasil
7	Kandawa	Sheikh Wasil
8	Saeedabad	Sheikh Wasil
9	Kaneti Jadeed	Shireen Aab
10	Bacha Abad	Shireen Aab
11	Babakani	Kanak
12	Garh Marw	Splingi
13	Sayadan	Kanak
14	Killi Manu Khan	Kanak
15	Marghai	Karez Noth
16	Killi Abdul Razaq (Anjeera)	Kodkocha
17	Laka	Karez Noth
18	Ghos Abad	Dasht (Sperzand)
19	Naik Mohammad	Dasht (Sperzand)
20	Killi Noor Khan	Kodkocha
21	Sardar Ahmad	Kardgap
22	Abad	Kardgap
23	Shapch Langove	Soro
24	Shapch	Soro
25	Zarawal	Shireen Aab
26	Dost Abad	Splingi
27	Reki	Karez Noth
28	Badha Khan	Splingi
29	Ghar Jehangir	Kodkocha
30	Faizabad	Dasht (Sperzand)

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Rural Support Programmes Network

RSPN is a platform for nine Rural Support Programmes (RSPs) of Pakistan and undertake policy advocacy, strategic guidance, capacity building and sharing of best practices among the RSPs and with other stakeholders. The RSPs involve poor communities (mainly but not exclusively rural) in improved management and delivery of basic services through a process of social mobilization. Currently, the RSPs have a presence in 94 of the country's 138 district and 2 FATA agencies, stretching from the mountainous north to the central plains and down to the southern coastline. The RSPs collectively work with 2.21 million rural households, who are member of the RSPs-fostered community organizations. RSPN was registered in 2001 under the Pakistan companies Ordinance 1984 as not-for-profit company.