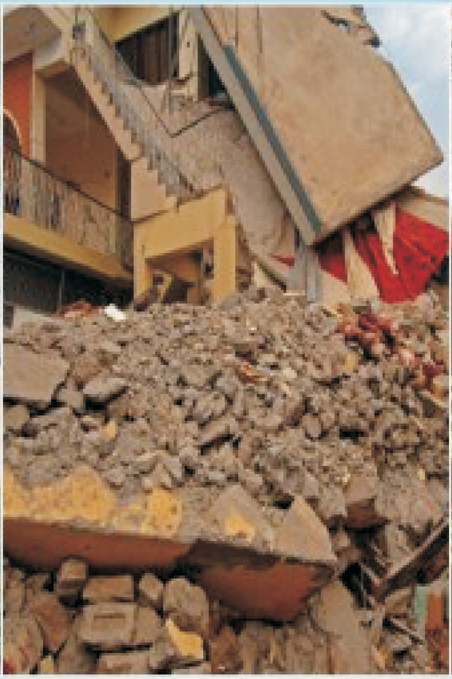
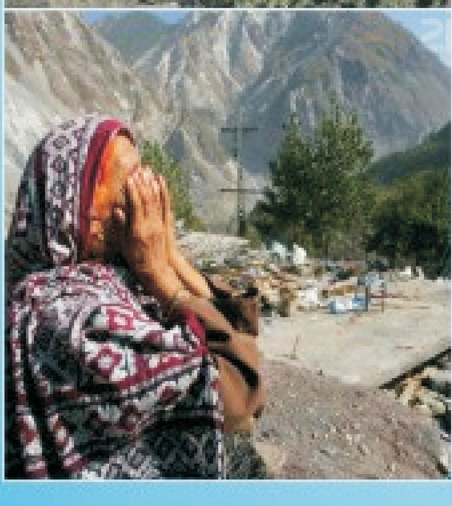
FINAL REPORT

AZAD JAMMU & KASHMIR

District Bagh

HAZARD, LIVELIHOOD AND VULNERABILITY BASELINE AND CONTINGENCY PLAN





May, 2009

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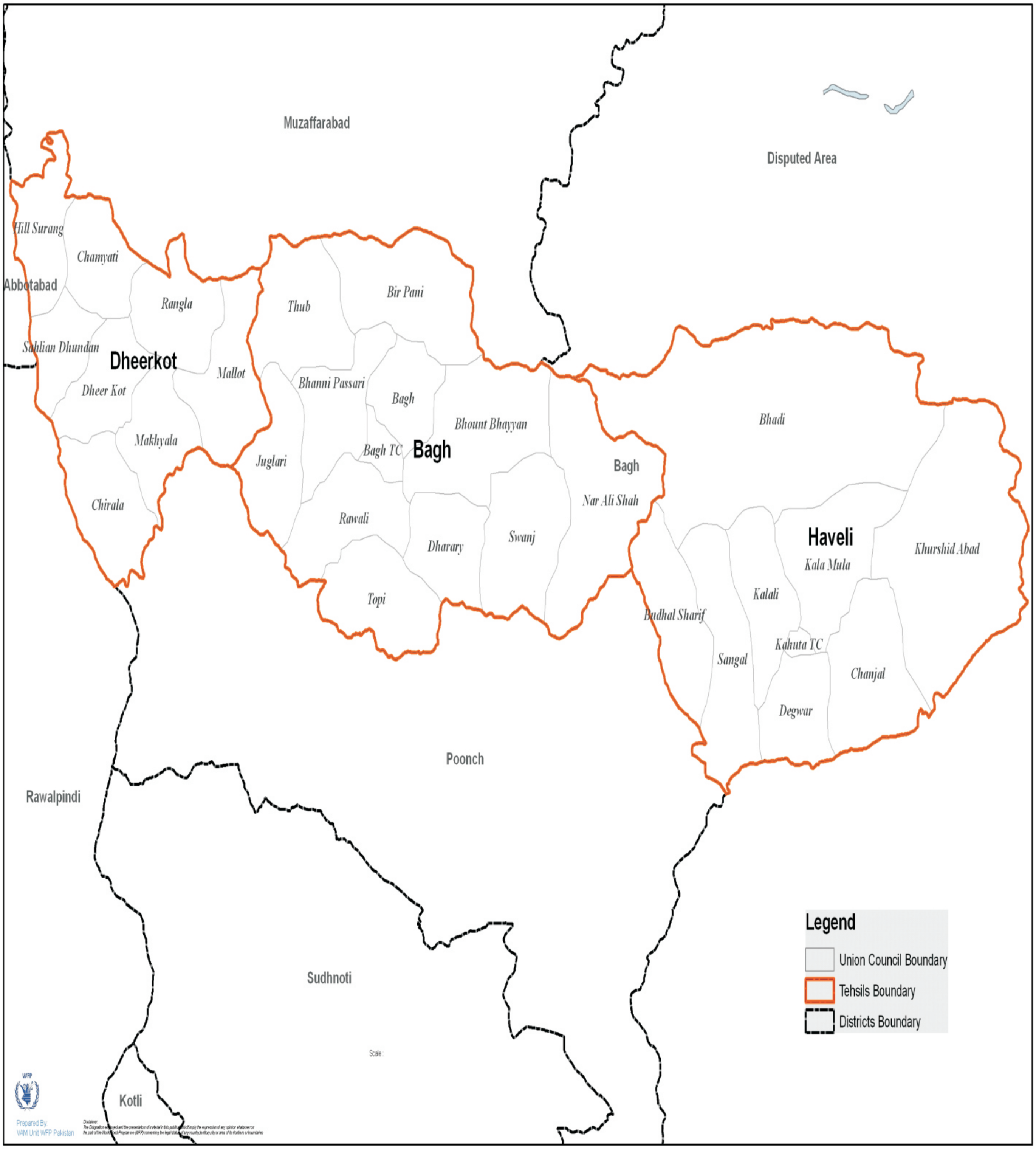
Estd. 1998

HRSP-AJK

Map of District Bagh with Union Council Boundaries



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PREFACE

In order to assist Bagh district government, UN and NGO partners and civil society in responding to the next natural disaster, this Livelihood Baseline and Contingency Plan has been prepared through a highly participatory and inclusive process involving stakeholders at district, tehsil and community levels. Government, UN and NGO partners have been actively involved in contribution to the document, and for this reason it forms a common assessment of the baseline situation in the District and should be used by all stakeholders as a key planning and preparedness tool.

We would like to thank all those who gave their time and expertise to this process.

The HLV team:

Dr. Syed Sajidin
Mr. Jiwan Das
Ms. Robeela Bangash
Mr. Neil Marsland

May 2009.

EXECUTIVE SUMMARY

District Bagh is part of the Azad Jammu Kashmir (AJK). The total geographical area of the district is 1368 Km.Sq. and the total 2008 projected population is 280,000 with an average house size of 7.4 persons per household. The district has three Tehsils, namely Dhirkot, Bagh and Haveli and falls in the lesser Himalayan zone. Elevation gradually increases as one travels from the North West to the south east of the district, and almost the entire district is between 3000 and 8000 feet above sea level.

Flash floods and landslides occur every year. Whilst each particular flood or landslide may affect small numbers of people, the cumulative effect on livelihoods over time and space is significant though impact on physical infrastructure (roads/bridges), houses and agriculture (crops, livestock, orchards etc.). Regular heavy snowfalls in winter are also problematic for villages and households in the higher altitudes which may be cut off from population centres and transport for over a month. Severe windstorms, which occur at least every third year at higher altitudes in particular, can decimate food crops thereby seriously affecting food security, and increasing the reliance on labour income to meet food needs. In Dhirkot tehsil, drought also occurs regularly with serious implications for food crop production. The following table lists the populations most at risk from various frequently occurring natural hazards, together with an indicative costing for livelihood support interventions for populations at high risk in relation to each hazard.[1]

Hazard Risk	Population at high risk			Indicative cost of Livelihood support
	Total	Female	Male	
Landslide/ flash flooding	84,911	42,901	41,970	US$ 2.9mn
Windstorm	219,394	110,677	107,084	US$2.0mn
Snowstorm/snow slide	63,642	32,235	31,406	US$0.6mn
Drought*	135,410	69,040	63,876	US$2.3mn

* Only in Dhirkot tehsil and some UCs in Bagh tehsil

The main hazards affecting people in Bagh district are hyrdo-metereological i.e. heavy rainfalls leading to flash floods and land slides, wind storms and snow storms/snow slide. In the lower, western parts of the district drought is also a problem. Of course, the district was also seriously affected by the 2005 earthquake. However, such seismic events are comparatively infrequent, and so the damage to lives and livelihoods, though severe at the time, is not likely to be repeated for several decades.

For the purposes of livelihood analysis, the district can be divided into two zones, corresponding to altitude.

Zone 1 lies at altitudes ranging from 3000 – 6000 ft[2], and is home to over 75% of the population of the district. Qualitative and quantitative fieldwork confirms that people living in this zone are

[1] In the unlikely event of another earthquake on the scale of the 2005 quake hitting Bagh, the cost of livelihood recovery could be as high as US$40mn (see Section 5).

[2] A fraction of land (1.19%) inhabited by only 1% of population also lies below 3000 feet. (Zone 0)

generally richer and more food secure than those living at higher altitudes. Income from various kinds of labour is a core component of total income, with a high percentage of households receiving income from migrant labour outside of AJK. From an agricultural point of view, double cropping is possible with most households growing maize in summer and fodder wheat in winter. Agriculture is mainly practiced to provide food for the household and for livestock. Owing to the small land holdings, however, the food produced can sustain the average family for a 3 – 4 months of the year only, hence the importance of labour income.

Zone 2 lies at altitudes of above 6000 ft and receives heavy snow in the winter. Whilst this zone accounts for about 40% of total surface area of the district, it is home to less than 25% of its population. The high altitudes and distances from urban centres restrict the livelihood options of people living in this zone. As in zone 1, a majority of families derive high proportions of total income form migrant labour, with seasonal migration during the winter months being common. However, mean incomes tend to be lower. Agriculture is more important as a source of livelihood in comparison to labour related strategies than in zone 1. Whilst average land size holdings are higher than in lower altitudes, agricultural production is restricted as only one summer harvest is possible. Characteristically families will grow maize mixed with beans and vegetables. Communities shift their livestock in summer to alpine pastures at high altitude and come back to lower altitudes before the onset of winter.

From a livelihood perspective, the impact of various different kinds of natural hazard within a UC depends upon: when the hazard hits and what is the resilience of different kinds of households to the hazard. Landslides and flash-floods occur during the monsoon season, peaking in July and August. These events will affect standing crops of maize and may delay / disrupt planting and harvesting of vegetables and grass cutting for winter livestock feed. They may also have localized economic effects through cutting off / washing away roads. These impacts will be most keenly felt by the poorer groups who have less diversified income sources and depend more on the local economy for food and income. The same argument applies to the impact of windstorms, which are normally more damaging in agricultural terms than landslides, flashfloods and indeed heavy snowfalls. This is because (a) the windstorms tend to peak in August when the maize crop is near to maturity and the harvests of apples and walnuts are due, and; (b) the storms affect a larger surface area than these other hazards – i.e. they are less geographically localized. From a broader livelihood perspective, snowstorms can be a particular problem in Zone 2 because they can cut communities off from the outside world for several weeks. Thus, flows of cash and food into these communities are severely affected causing considerable hardship.

Responses to the different hazards should be targeted to those most in need and phased according to time of year in relation to livelihood needs. In most cases it is recommended that priority should be given to the 40% of the population classified as "poor"[3] in fieldwork. This is an overall figure and would need to be adapted to individual communities and also with due sensitivity to avoid social tensions. Owing to the remote position of many of the villages, food aid would be an appropriate immediate response in the higher areas after various hazards have hit. Where fodder sources have been destroyed, compound feed is also a necessary intervention shortly after the event to prevent livestock morbidity and mortality. In the case of landslides, flash floods and windstorms in zone 1, distribution of winter wheat seed in October is also appropriate. Depending upon the magnitude of flash flooding and landsides, livestock mortality is possible, and therefore livestock re-stocking in the spring following severe landslides / flash-floods may be necessary.

[3] Various community level wealth ranking exercises were done as part of the fieldwork for this district livelihood baseline and contingency plan. These were then validated at Tehsil and district levels.

1 INTRODUCTION

1.1 The need for a Livelihood Baseline and Contingency Plan

Pre-disaster information is always a vital resource in post disaster response (which includes post disaster assessments). When disaster strikes, it is critical to know how many people are likely to have been affected and how. This requires knowledge of the demographic breakdown of the population and the likely vulnerability of different people to the disaster. Vulnerability will determine how badly they will be affected, how quickly they can be expected to recover and what kinds of assistance they are likely to need. This information can also be used to create *livelihood based contingency plans*, to be used in case of a natural disaster.

Despite its obvious importance, it remains the case that in Pakistan today there is no single universally accepted source which combines information on hazards, vulnerability and livelihoods at district and sub-district level. In recent natural disasters, there have been problems in obtaining rapid and universally accepted and agreed information on which to base responses and post-disaster assessments. These problems were highlighted in the evaluation of the 2007 floods in Balochistan and Sindh[4]. Whilst there is a great deal of information available from different sources, this is scattered in different offices, at district, provincial and national levels and may not be in a format that facilitates rapid post-disaster decision making. Moreover, some of the information that does exist is old and needs to be updated and / or supported by more recent information to be useful for decision makers.

As well as the information gap, there is also a gap in pre-disaster planning. Most district level contingency plans focus only or mainly on *capacities and procedures* for dealing with disasters. Whilst such information is indeed vital, what is often missing is a detailed knowledge of the likely relief and recovery needs of the population, particularly in terms of recovery of their livelihoods. Combining this livelihood recovery element with existing contingency plans will add an important dimension to the capacity of district authorities to respond to the needs of populations stricken by natural disasters.

This hazard, livelihood and vulnerability (HLV) baseline and contingency plan has been developed to respond to the existing gaps in information and pre-disaster planning. It is intended that henceforth, this document will become a key resource for decision makers in dealing with the next natural disaster in the district.

1.2 What is in this document?

The document consists of a range of information gathered from different sources using different methods. The key elements are as follows:

- *General description* of the district
- *Hazard information:* This shows the history of hazards in the district: the frequency and severity of different hazards and the geographical areas where they strike.
- *Demographic information:* The next element in the baseline is a description of the demographic characteristics of the populations in the areas at risk. This is derived from

[4] Preliminary Damage and Needs Assessment, ADB and World Bank, Islamabad, Pakistan, September 2007.

1998 census data that has been updated to 2008 using techniques agreed with the Bureau of Statistics.

- *Livelihood exposure and vulnerability profiling*: This tool consists of four different elements: (i) Identification and description of different livelihood / wealth groups.
- (ii) Quantification of these groups (iii) Identification of those groups most affected by hazards and why (iv) Identification of those groups most vulnerable to hazards and why
- *Seasonal impact and response calendar:* This shows us what happens to the different activities taking place in an area (village, tehsil, district) over the year, how these are affected by different hazards and what that implies in terms of intervention types and timing.
- *Response typologies:* This gives likely scenarios in terms of numbers of people likely to be affected by moderate and severe hazards, together with probable livelihood support needs quantified as much as possible.
- *Annexes:* The annexes detail the following:
    1. Detailed livelihood based contingency plans
    2. Methodology used to compile HLV baseline and contingency plan
    3. Key organizations for livelihood support and recovery
    4. Socio-economic data at District and Tehsil Level
    5. Village and UC level demographic and housing data

2 GENERAL DESCRIPTION OF THE DISTRICT

District Bagh is part of the Azad Jamu Kashmir (AJK). It is bounded on the north by Muzaffarabad district, on the east by the occupied state of AJK, on the south by Poonch district as well as by the occupied state of AJK and on the west by Rawalpindi and Abbotabad districts of Pakistan. The total geographical area of the district is 1368 Sq. Kilometer and total 2008 projected population of the district is 280,000 with an average house size of 7.4 persons per household (detailed data in annex). Coniferous forests cover a total area of about 179 thousand acres, which is 53% of the total area of the district. Elevation gradually increases as one travels from the North West to the south east of the district, and almost the entire district is between 3000 and 8000 feet above sea level[5].

As in other parts of AJK, labour income (much of it from seasonal migration outside of the district) is very important in terms of overall household income. A 1992 survey estimated that off-farm income accounted for around 60 – 65% of total income on average. More recent work, including this baseline report, confirms that labour income remains critical to the livelihoods of households in the district. This is necessary as local agriculture is not able to support the food and income needs of families. About 85% of households have land holdings ranging from 2 to 10 kanals (Source: WFP/FAO survey 2007), and local production hardly suffices for 2 -3 months. The following table gives some indications of some key poverty and food insecurity indicators.

[5] A fraction of land (1.19%) inhabited by only 1% of population also lies below 3000 feet. (Zone 0)

Table 1. Food insecurity and poverty indicators for District Bagh

Aspect of food security	Classification	National ranking	Provincial ranking
1. Indicator of Availability of food at district level[6]	Extreme deficit (1)	22	6
2. Indicators of Access to food by rural population[7]	Low(2)	89	4
3. Indicators of Absorption of food by the rural population[8]	Moderate(3)	96	3
4. Overall food insecurity of the rural population[9]	Less secure (4)	71	3
5. Proportion of population below food poverty line[10]	28.7%	87	3
6. Per capita income	Extremely low(2)	23	1

National Rank: 1 – 120. 1 being worst and 120 the best; provincial raking depends on the number of districts. AJK has a total of 7 districts, so 1 is the worst and 7 is the best
(1) Classification: Extreme deficit; High deficit, Low; Sufficient Production; Surplus Production
(2) Classification: Extremely low; Very low; Low; Moderate; High/reasonable
(3) Classification: Severely affected; highly affected; less affected; affected
(4) Classification: Extremely insecure; Very insecure; Less insecure, moderately insecure, reasonably insecure

Source: Food Insecurity in Rural Pakistan 2003, WFP-SDPI publication

The above table indicates that in 2003 Bagh district was in the lower half of districts in Pakistan terms of "overall food insecurity" i.e. it was more food secure than over half of districts. Further, the proportion below the food poverty line was lower than most districts. This is important because the ratio of food produced to food consumed is very low (see indicator 1 in the table: "extreme deficit") and so most food has to be transported in from outside the district and purchased. For this reason, the per-capita income ranking is counter-intuitive and is probably incorrect. Indeed it is not supported by other studies which point to the above average incomes in AJK (see for example 1992 PERI survey; AGRODEV 1996; AJK 2003).

[6] Per capita per day consumption vs production of all food.

[7] This is a composite indicator derived from: roads (km) per 100km2 area; % of marginal cultivators (holding land less than 2.5 acres); landless labour as a % of rural households; adult literacy rate ,and; per capita income in each district.

[8] Another composite indicator of the extent to which food can be biologically absorbed by the body. It is derived from measures of: access to safe drinking water; immunization; infant mortality; availability of rural health infrastructure.
[9] This is an amalgamation of the composite scores for the indicators of availability, access and absorption

[10] This is the proportion of the population which is estimated who can not consume the standard average calories (Kcal units)

3 AREAS AT RISK: HAZARDS, DEMOGRAPHY AND VULNERABILITY CONTEXT

3.1 HAZARD ANALYSIS

One of the important functions of the HLV baseline is to get a consensus from key stakeholders in the district on the frequency, severity and geographical impact of hazards within the district. In terms of sheer magnitude, the October 2005 Earthquake overshadows everything else: in Bagh district, about 84,000 houses were destroyed/severely damaged, about 10,000 people lost their lives and their livestock were severely affected during and after the earth quake. Having said this, earthquakes are infrequent compared to hydro-meteorological hazards. Before 2005, the last major earthquake to hit the region was in 1905, whereas many hydro-meteorological hazards happen every year or every other year.

The close proximity of the district to the Himalayas has two effects: firstly a hydro-meteorological one: the district is affected by the impact of the Himalayas on seasonal airflows, touches the peaks from the west which increases precipitation thus making flash flooding, snow fall and landslides more likely than otherwise. Second, a major Himalayan fault line passes through the district. The earthquake RED ZONE/fault line determined by the Government of Pakistan also touches the district.

Indeed, Bagh district is exposed to various natural disasters because of its topography and location at the far western end of the Himalayan mountain range. The district is regularly affected by heavy rainfalls associated with flash floods and land slides as well as wind/snow storms. With the exception of 1992 flood that widely impacted large areas of Pakistan, including AJK, most of these hazards are mainly of localized nature. However, due to their frequency, the cumulative effect on livelihoods across time and space in the district as a whole is significant. These hazards occur regularly in the district and affect physical infrastructure (roads/bridges), houses and agriculture (crops, livestock, orchards etc.). In addition, regular droughts have been reported in Dhirkot tehsil in the western part of the district that lie relatively at lower elevations.

The following table sets out a historical time line for hazards in the district since the early nineties. The table was compiled from discussions with key informants at the district and tehsil levels. The information was also validated with communities during field visits to hazard prone area. For each hazard event, informants were asked to score the event in terms of physical damages and then economic losses (scores ranged from 0 to 5, 5 being the most severe). The scores were then summed to derive an overall impact score. Scores given by different groups of key informants were triangulated to derive overall scores for all the hazards. This method is clearly subjective and impressionistic; however, by repeating the exercise several times with different groups at village, tehsil and district levels, it becomes possible to distill common opinions and cross-check in several ways. The scoring tries to take into account the geographical extent of a particular hazard or type of hazard, its severity in terms of physical and economic impact within the geographical area and the frequency. The same events and types of hazards came up repeatedly in the fieldwork. Within this, two types of hazard were reported: exceptional relatively infrequent events and less severe but more regular events. Table 2 is arranged to show this clearly.

Table 2: Historical Time line for Natural Hazards in District Bagh

Hazard	Year	Season	Geography	Physical damages (% damaged in some way + Score)	Economic and financial losses (% production loss + Score)	Overall Impact (Sum of score)
Earthquake	1905	-	AJK	Houses 50% severe (Score 3)	Agriculture 20%; Livestock 80% (Score 5)	8
Heavy rains and associated flash flood	1992	Sept	District Bagh	5-10% Houses; Bridges and infrastructure 85% (Score: 4)	Agri 80%; Livestock 60% Forest 20-30; %Orchards 5-10% (Score: 4)	8
Drought*	1996/97	Feb/ March	Dhirkot	(Score 0)	100% crop and fodder losses Springs dried, severe water scarcity (Score: 2)	2
Drought*	2001/ 2002	Feb/ March	The whole Bagh District	(Score 0)	- Agriculture 80%; Livestock 70-80% ; Around 30% of hhs forced to migrate out of district (about 15% did not come back) (Score: 3)	2
Earthquake	2005	8 Oct	AJK including District Bagh.	84,000 houses were severely damaged 100% infrastructure (Score 4)	Agri 60% destroyed; Livestock 85% died and the remaining 15% was sold at very low price Forest 20-30% destroyed; Orchards 15% destroyed; 9174 people died (Score: 5)	9
Heavy rains and associated landslide**	Every year	July/ Aug	Parts of UCs throughout the district	Score: 0.5 (since 1990s) Total score: 9	Score: 0.5 (since 1990s) Total score: 9	18
Heavy rains and associated flash flood	Every year	July/ August	Parts of UCs close to nallas (streams)	Score: 0.25 every year Total score: 4.25	Score: 0.25 every year Total score: 4.25	8.5
Windstorm (Since 1990s)	Every 3rd year	March/ April July/ August	High altitude areas are more affected	1990s Houses damaged (Score: 0.25) Total score: 1.5	30 – 40% crop losses (Score: 2) Total score: 12	13.5
Heavy Snow/ slides (Since 1990s)	Every year	Jan	High altitude areas	No specific losses Score 0.25 every year Total score: 4.5	0	4.5
Drought* (Since 2003 - 2007)	Every 2 – 3 years	March to Sept	Parts of Dhirkot Tehsil	(Score 0)	100% crop and fodder losses (Score: 1) cumulative score: 5	5

* Drought is defined as when there are no rains in March and monsoon season (July/August).

** Heavy rains also trigger frequent land slides in most UCs impacting lives, houses and agricultural lands in localized areas.

One interesting aspect of the table is that it appears to suggest that climate change is having an effect on the frequency of hydro-meteorological hazards. According to respondents, windstorm, heavy snow fall and drought all appear to have increased in frequency over the last 10 – 20 years.

To derive an overall picture of the physical and economic impact of the different types of hazards, the damage, loss and overall impact scores per hazard were totaled. The results of this are presented in the following hazard matrix (Table 3). Overall, landslides and flash floods were scored highly. These have the same cause: heavy monsoon rains and may occur simultaneously in the same or different locations. Earthquakes were also scored highly – despite the fact that they are relatively infrequent. This is probably partly due to the fact that the last major earthquake was so recent. Windstorms were also a significant problem. Drought and heavy snow falls / slides received lower overall scores than other hazards partly because they are more geographically localized: drought in Dhirkot tehsil only and heavy snow falls / slides normally restricted to areas above 6000ft.

Table 3: Hazard matrix in District Bagh

Hazard	Frequency	Season	Geography*	Total physical damage score	Total economic loss score	Overall impact on score
Heavy rains/land slides (since 1990)	Every year	July/August	Parts of UCs throughout the district	9	9	18
Earthquake	About 60 years	Any time	Affects most of district and is severe in impact	7	10	17
Heavy rains/flash floods (since 1990)	Every year (1992 was severe)	July/August	Parts of UCs close to nallas (streams)	8.25	8.25	16.5
Windstorm (Since 1990)	Every 3rd year	March/April July/August	High altitude areas are normally more affected though can be fairly widespread	1.5	12	13.5
Drought (since 1990)	Every 3rd year	March - Feb	Mainly in Dhirkot	0	8	9
Heavy Snow/ slides (since 1990)	Every year	Jan	High altitude areas	4.5	0	4.5

* See demography at risk in the next section.

3.2 DEMOGRAPHY IN AREAS AT RISK

The overall picture is represented in Table 4. Detailed village by village figures are given in annex 2.

Table 4: Summary table of Populations at high risk from Hazards in district Bagh

High risk of Earth Quake							
Name of UC	% Population at high risk (1)	Likely affected population			Likely affected HH	% living up to 6000ft altitude	% living above 6000ft altitude
		Total	Male	Female			
Bhedi UC	24746	12714	12032	24746	3344	3%	97%
Kala Moola UC	23692	12013	11679	23692	3202	44%	54%
Khurshidabad UC	17550	8985	8565	17550	2372	28%	72%
Sangal UC	21210	10790	10420	21210	2866	90%	10%
Nar Sher ail khan UC	12799	6080	6718	12799	1730	100%	0%
Bagh UC	10242	5056	5192	10242	1384	100%	0%
Jaglari UC	22488	11434	11054	22488	3039	93%	7%
Bani Pasari UC	18184	8928	9256	18184	2457	100%	0%
Bir Pani UC	18061	8131	9930	18061	2441	20%	80%
Sawanj UC	16724	8070	8605	16724	2260	72%	28%
Thub UC	25658	13066	12592	25658	3467	100%	0%
Rangla UC	21033	10346	10689	21033	2842	100%	0%
Total (#)	**232388**	**115615**	**116732**	**232388**	**31404**	**22,756 hh**	**8,648 hh**
High risk of landslide/ flash flooding							
Name of UC	% Population at high risk (1)	Likely affected population			Likely affected HH	% living up to 6000ft altitude	% living above 6000ft altitude
		Total	Male	Female			
Digwar	40	1942	984	958	262	100%	0%
Nar Sher ail khan UC	60	4607	2189	2419	623	100%	0%
Bagh TC	30	2074	1009	1059	280	100%	0%
Bagh UC	40	1639	809	831	221	100%	0%
Khurshidabad	60	6318	3234	3083	854	28%	72%
Chanjal	60	6711	3376	3336	907	72%	28%
Dharay UC	30	2373	1243	1129	321	81%	19%
Bir Pani UC	60	6502	2927	3575	879	20%	80%
Sawanj UC	40	2676	1291	1377	362	72%	28%
Kala Moola UC	60	8529	4325	4205	1153	44%	54%
Total affected Population/HH		**43,371**	**21,388**	**21,970**	**5,861**	**3,479 hh**	**2,382 hh**

High risk of Windstorm							
Name of UC	% Population at high risk (1)	Likely affected population			Likely affected HH	% living up to 6000ft altitude	% living above 6000ft altitude
		Total	Male	Female			
Nar Sher Ali khan UC	60	4607	2189	2419	623	100%	0%
Bagh UC	30	1229	607	623	166	100%	0%
Rawali UC	40	6467	3156	3310	874	100%	0%
Thub UC	60	15395	7839	7555	2080	100%	0%
Bani Pasari UC	20	3637	1786	1851	491	100%	0%
Bir Pani UC	90	16255	7318	8937	2197	100%	0%
Rangla UC	80	16826	8277	8551	2274	100%	0%
Sahlian Dhoundan UC	70	6812	3259	3553	921	100%	0%
Chirala UC	60	5957	2817	3140	805	100%	0%
Hill Surang UC	70	8125	2435	4075	1098	100%	0%
Makhyala UC	70	10010	4751	5259	1353	100%	0%
Dharay UC	40	3164	1658	1506	428	81%	19%
Jaglari UC	50	11244	5717	5527	1519	93%	7%
Topi UC	80	13440	6640	6800	1816	86%	14%
Sawanj UC	60	4014	1937	2065	542	72%	28%
Chamyati UC	70	11681	5755	5926	1579	84%	16%
Dhir kot UC	50	7038	3571	3467	951	92%	8%
Bhedi UC	50	12373	6357	6016	1672	3%	97%
Chanjal UC	60	11185	5626	5559	1512	72%	28%
Kala Moola UC	70	16584	8409	8175	2241	44%	54%
Kalali UC	60	8340	4216	4116	1127	79%	21%
Khurshidabad UC	70	12285	6289	5996	1660	28%	72%
Sangal UC	60	12726	6474	6252	1720	90%	10%
Total affected Population		**219,394**	**107,084**	**110,677**	**29,648**		

High risk of snowstorm/snow slide							
Name of UC	% Population at high risk (1)	Likely affected population			Likely affected HH	% living up to 6000ft altitude	% living above 6000ft altitude
		Total	Male	Female			
Bir Pani UC	80	14449	6505	7944	1953	100%	0%
Chamyati UC	60	10080	4980	5100	1362	84%	16%
Bhedi UC	70	17322	8900	8422	2341	3%	97%
Chanjal UC	60	11185	5626	5559	1512	72%	28%
Sangal UC	50	10605	5395	5210	1433	90%	10%
Total affected Population		**63,642**	**31,406**	**32,235**	**8,600**		

High risk of drought								
Name of UC	% Population at high risk (1)	Likely affected population			Likely affected HH	% living up to 6000ft altitude	% living above 6000ft altitude
		Total	Male	Female			
Topi UC	55	9240	4565	4675	1249	86%	14%
Sawanj UC	50	8362	4035	4302	1130	72%	28%
Chamyati UC	100	16687	8221	8466	2255	84%	16%
Chirala UC	100	9929	4696	5233	1342	100%	0%
Choor-Mallot UC	100	19154	9509	9645	2588	100%	0%
Dhir kot UC	100	14075	7141	6934	1902	92%	8%
Hill Surang UC	100	11607	3478	5822	1569	100%	0%
Makhyala UC	100	14300	6787	7513	1932	100%	0%
Rangla UC	100	21033	10346	10689	2842	100%	0%
Sahlian Dhoundan UC	100	9731	4656	5075	1315	100%	0%
Total affected Population		**135,410**	**63,876**	**69,040**	**18,124**		

(1) The percentage population at high in the affected UCs was determined based on working groups discussions during the district consultative workshop held in Islamabad 09 -11 February, 2009. The last two columns are estimated on the basis of actual data of WFP on village wise altitude measurements.

3.3 LONGER TERM TRENDS (VULNERABILITY CONTEXT)

There are some important longer term trends that are having an impact on the livelihoods of the district. One of the critical issues has been environmental degradation. The AJK PPA report notes that due to both illegal commercial deforestation and increased population, forest resources have decreased significantly (AJK; 2003:94). This has accelerated still further after the 2005 earthquake due to demands for construction timber. This in turn has had major effects on availability of water resources, occurrence of soil erosion and landslides and is also a factor in increasing the likelihood of flash flooding. Population growth has added to the pressure on natural resources, and this has been exacerbated by migration from Indian occupied Kashmir during the 1990s. One aspect of this is that land ownership has become more fragmented and a further one is that more and more marginal lands and lands vulnerable to erosion and landsides are being cultivated. Average land holding size is well below one acre.

Off-farm employment and remittances from outside the district have been important sources of income for some time. For example, a 1992 survey found that on average a total of 60.2% of household income came from these sources[11] compared to 39% from on-farm sources (PERI 1992). It would appear that a   combination of high population growth, negative environmental trends, and the emergence of labour opportunities over the past 20 – 30 years has further reduced the reliance on farming, livestock rearing and forest products for the average household still further. There has been a trend of construction and masonry, tailoring, portering and work in

[11] The 1992 PERI survey found that on average off-farm employment within country was 39% of household income whilst remittances contributed 21.4%.

hotels and shops assuming a greater importance within overall livelihood strategies (AJK 2005:90). Some of this work takes place outside of AJK.

The 2005 earthquake accelerated some of these hazard trends. Deforestation has increased due to demands for construction timber. Also, opportunities for work in the construction industry have increased as there is still significant construction work to be done. Considerable numbers of livestock were killed during the earthquake and this has also had an impact on wealth and to some extent on nutrition. Average livestock holdings were 4 (including 1-2 cattle and about 1-2 goats)[12] but post-earthquake our field discussions revealed that these are now hardly one cattle per household.

There is also some evidence that climate change is starting to have an impact on the type, frequency and severity of hydro-meteorological hazards affecting the district. The occurrence of extreme climatic events erratic precipitation (heavy or no rains/snowfall), thunderstorms, and windstorms have increased since 1990s. These extreme events have increased the incidence of landslides, avalanches, flash flooding and droughts[13] in the mountain areas. Like other parts of the country, the sub-mountain areas are also experiencing increases in temperatures, which are leading to declining yields of most crops[14].

Most houses before the earthquake had poor earthquake resilience. Of the total housing stock, 84% was destroyed and damaged in AJK[15]. Among other reasons, these are traditionally constructed on steep slopes. The new ERRA policy stresses that all new houses are required to be constructed on flat ground. ERRA support for reconstruction of houses has also indirectly encouraged the extended families to break and construct independent houses by the nucleus families. Anecdotal evidence therefore suggests that this new practice has had social consequences, weakening community and extended family cohesiveness, and thus reducing the strength of social safety nets. The practice is of course not always followed, but there are financial incentives to this new kind of construction. One positive consequence of this is that houses will be less vulnerable to future earthquakes and also landslides. On the negative side, the positioning of houses on formerly cultivated land further limits agricultural production.

The above long term trends have important implications for future disasters and resilience of the communities to cope with these disasters. Human pressure on natural resources together with climatic changes will increase the occurrence of disasters such as landslides, avalanches, flash floods, windstorms and droughts. These pressures will further reduce the resilience of the poor population to cope with these disasters. However, income diversifications through increasing reliance on off-farm opportunities (that are available within AJK and in Pakistan) may help in timely availability of cash to meet their post disaster food needs. A detailed vulnerability study may however be needed in disaster prone areas including the expected impacts of climate change to understand these trends and to devise risk reduction strategies.

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[12] 1992 PERI survey: Socio-economic study of Azad Jammu and Kashmir, # 146, Punjab Economic Research Institute (PERI).

[13] During discussion with communities in Dhikot, it was pointed out that for the last many years women are facing difficulties in fetching drinking water because most of their springs have dried up due to insufficient rains and snowfall.

[14] See Hussain S. and Mud Asser, M. (2007), Impact of Climate Change on Agriculture in the Mountain Areas of Pakistan, Agricultural Systems 94 (2007) 494-501.

[15] (Source: Pakistan 2005 Earthquake Early Recovery Framework, United Nations System, Islamabad, Pakistan, November 2005.)

4 LIVELIHOOD, VULNERABILITY AND RESPONSE OPTIONS

For the purposes of livelihood analysis, the district can be divided into three zones, corresponding to altitude.

Zone 0 lies below the altitude of 3000 ft, covering only 1.19% geographic area and a population of 1%. Most households are involved in business/shop keeping and off-farm activities, especially in transport sector. They are relatively richer and most also own land in Zone 1.

Zone 1 lies at altitudes ranging from 3000 – 6000 ft, and is home to around 70% of the population of the district. Qualitative and quantitative fieldwork confirms that people living in this zone are generally richer and more food secure than those living at higher altitudes. Income from various kinds of labour is a core component of total income, with a high percentage of households receiving income from migrant labour outside of AJK. From an agricultural point of view, double cropping is possible with most households growing maize in summer and fodder wheat in winter. Agriculture is mainly practiced to provide food for the household and for livestock. Owing to the small land holdings, however, the food produced can sustain the average family for a 3 – 4 months of the year only, hence the importance of labour income.

Zone 2 lies at altitudes of above 6000 ft and receives heavy snow in the winter. Whilst this zone accounts for about 40% of total surface area of the district, it is home to less than 25% of its population. The high altitudes and distances from urban centres restrict the livelihood options of people living in this zone. As in zone 1, a majority of families derive high proportions of total income form migrant labour, with seasonal migration during the winter months being common. However, mean incomes tend to be lower. In addition, agricultural production is lower as only one summer harvest is possible. Characteristically families will grow maize mixed with beans and vegetables. Communities shift their livestock in summer to alpine pastures at high altitude and come back to lowlands before the onset of winter. Figure 1 on the next page gives a clear depiction of the district and the two zones (Zone 1 and Zone 2).

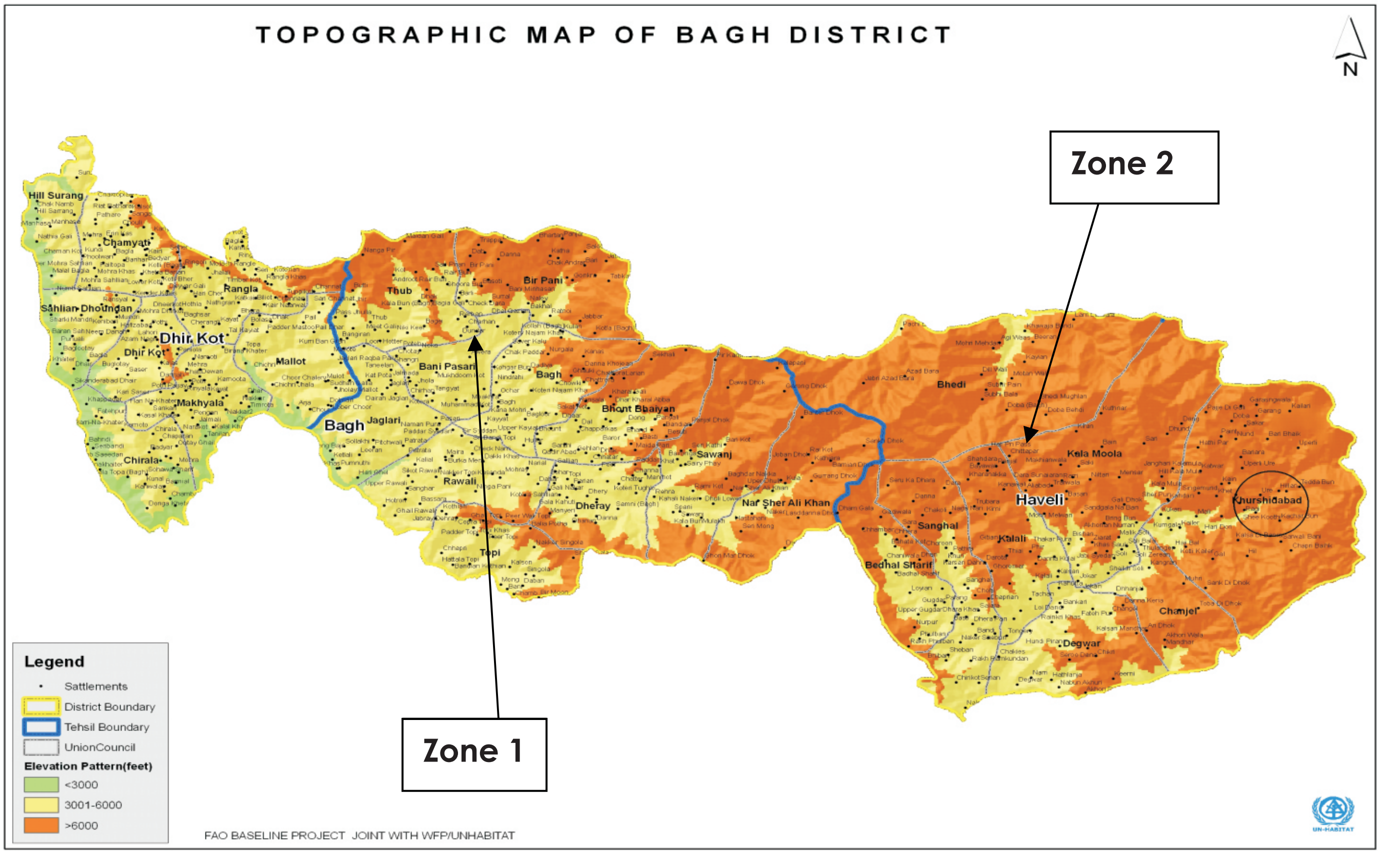
Table 5: Proportion of population and area by zones in district Bagh

Topographic Zone (ft)	Population (%)	Geographic Area (%)
Zone 0 (below 3000 ft)	1	1.19
Zone 1 (3000 – 6000 ft)	76	58.01
Zone 2 (>6000)	23	40.79

There is also an association between these zones and the incidence of certain types of hazards. In zone 1, the main hazards are flashfloods, landslides and windstorms, with drought being a particular problem in Dhirkot. In zone 2, drought is never experienced and snow storms and snow slides are important hazards, in addition to windstorms – which are more severe and frequent than in zone 1. Landslides and flash flooding is another hazard, but is more of a problem at lower altitudes.

The combination of differences in general livelihood patterns and differences in hazard types means it is sensible to analyze livelihood, vulnerability and response options in the two zones separately. As can be seen from table 4, certain Union Councils cut across zones 1 and 2. This is important to note when planning responses.

Figure 1: Map of District Bagh showing two main livelihood zones



4.1 ZONE 1: 3000 < 6000 FT

4.1.1 LIVELIHOOD GROUPS, VULNERABILITY AND POVERTY

The following table lists the main sources of livelihood of the households in zone 1. The table reveals a strong relationship between wealth status and type of employment. A small percentage of households (5%) who have members working abroad, are perceived as being the wealthiest. These groups will also have the largest amounts of land and livestock. In the medium wealth category (about 50%) are three separate groups: households with persons working in government service (normally within the district or AJK), those with members working in Pakistan and those working in small businesses within the district. The largest single category (around 40%) is seen as "poor" and depends on a combination of daily wage labour and small-scale agricultural production. The threat of unemployment is a constant aspect of the lives of these families. A small category (3%) or so are seen as very poor and rely on a combination of charity, perhaps some small piece of work and own production.

Even the largest land holdings of 10 - 15 kanals (2 – 3 acres) will not generate sufficient food to feed a family of 7 or 8 persons without irrigation. In confirmation of this, figures from a WFP/FAO survey conducted in 2007 strongly suggest that most households rely heavily on the market for food[16].

Table 6: Livelihood Groups and poverty in Zone 1: 3000 - 6000 ft in district Bagh

Livelihood group	Characteristics	Wealth and vulnerability status	Proportion in overall population
Group 1: Working abroad and agriculture	• Remittances • Large well constructed house • 5 – 10 Kanals agriculture land • 2 - 5 buffaloes/cows	Better off	5 %
Group 2: Government service	• Monthly salary • 5- 10 Kanals agriculture land • 1-2 buffaloes/cows	Medium	7%
Group 3: Working in Pakistan (cooks, waiters, masons, tailors, other skills)	• Monthly salary • 5-10 Kanals agriculture land • 1-2 buffaloes/cows • 1-2 sheep/goats	Medium	35%
Group 4: Petty Businesses/ transport/shops/hotels etc. within the district.	• Income from business • 1-2 Kanals agriculture land • 50% keep 1-2 buffaloes/cows	Medium	10%
Group 5: Local daily wage (mainly unskilled) all year	• Irregular income from daily wage labour – often unemployed • take informal credit and normally indebted • 1-2 Kanals agriculture land • 1-2 cows/sheep/ goats and some poultry birds	Poor	40%
Group 6 (a) Elderly Widows Group 6 (b) Disabled adults	• Possibly some wage labour in crop harvesting/working in houses • Charity • 1-2 Kanals agriculture land • 1-2 sheep/ goats and some poultry birds	Very poor	3%

[16] See FAO / WFP "Household Food Security, Vulnerability and Market Assessment (HFSVMA) in AJK, March 2007" Page 33.

4.1.2 SEASONALITY

One characteristic of the better off and medium groups is that there is less seasonality in their income than the poorer groups. For group 5 in the above table, who rely largely on local daily wage labour, there are low and high season periods. The lean season is during the winter months (October – February), here these families rely more on meagre harvests and take out consumption loans from local moneylenders and shopkeepers. The poor are usually highly indebted.

The local labour situation has been improved to some degree by the growth in the construction industry which has happened as a consequence of the 2005 earthquake. This has generated new opportunities for skilled and unskilled labour and has generated a temporary boost to the local economy. It is expected to slow down over the next 3 -5 years.

In terms of agriculture, maize is the main crop grown for grains during the summer (kharif) season. Households also grow wheat in the Rabi season but this does not reach maturity and is used as green fodder. At the lower altitudes in Dhirkot tehsil, some farmers are able to grow wheat for human consumption. Some kitchen gardening mainly by women is also practiced (the vegetables include turnip, spinach, okra, tomatoes, etc). Fruits are grown on bunds that include apple, apricot and some walnuts, some of which is sold in the nearby market.

Women play the major role in agriculture from planting to harvesting and cutting and storage of fodder. Some households also hire daily wage labour for crop harvesting and grass cutting. Communities collect and store the grasses for the winter season. The grass cutting season starts in September and goes until the end of October. Some communities have pasture lands in Zone 2; animals are migrated there in May soon after maize planting and stay there till September/October.

The seasonal calendar of communities in Zone 1 is given in Figure 1.

Figure 1: Seasonal calendar for various activities in Zone 1 in district Bagh

Activities/Crop	J	A	S	O	N	D	J	F	M	A	M	J
Labour calendar												
Local wage labour (agriculture and off-farm)	X	X	X						X	X	X	X
Wage labour in AJK	X	X	X	X	X				X	X	X	X
Salaried labour in AJK (including those in district both private and government	X	X	X	X	X	X	X	X	X	X	X	X
Salaried labor in Pakistan	X	X	X	X	X	X	X	X	X	X	X	X
Agricultural activities calendar												
Repairing of houses/land terraces/bunds/land preparation etc.									X			
Maize crop				H					P	P		
Wheat for fodder (for grains in Dhirkot)				P	P				F	F	G	
Vegetables (winter and summer)	P/H	P/H	P/H	P/H	H				P/H	P/H	P/H	P/H
Fruits (Apple)			H	H								
Fruits (nuts)	H	H										H
Grass cutting			H	H								
Seasonal migration to pastures	X	X	X								X	X

Monsoon rains Snowfall season spring rains
P: Planting; H: Harvesting; F: Wheat Harvesting as green fodder; G: Wheat harvesting for grains

4.2 ZONE 2: > 6000 FT

4.2.1 LIVELIHOOD GROUPS, VULNERABILITY AND POVERTY

The basic categories of livelihood types in zone 2 are similar to zone 1. There are however some differences in proportions and characteristics. One of the main differences is a greater reliance on agriculture, natural resources and livestock for food and income. While most agricultural production depends on rains, some pockets exist where a small proportion of land is irrigated through spring water and/or snow melt (especially in Haveli). It also appears that households in this zone are on average less well-off than in zone 1[17], although this would need to be verified by more extensive investigations. A further difference is that there appears to be greater seasonality in income sources (further details under the seasonality sub-section below); seasonal migration of wage labour (in the winter season) is common in this zone.

[17] Source: Sample survey completed as part of HLV fieldwork in district Bagh.

Table 7: Livelihood groups and poverty in Zone 2, district Bagh

Livelihood group	Characteristics	Wealth and vulnerability status	Proportion in overall population
Group 1: Working abroad	- Remittances - 10-20 Kanals land (above half cultivable) - 3 - 5 buffaloes/cows	Better off	2 %
Group 2: Government service	- Monthly salary - 5-10 Kanals agriculture land - 1-2 buffaloes/cows	Medium	5%
Group 3: Working in Pakistan seasonal labour (short contract - mines, waiters, other work etc.)	- Seasonal income from labour - 1-2 Kanals agriculture land - 1-2 buffaloes/cows - 1-2 sheep/goats	Medium	35%
Group 4: Petty Businesses/ transport/shops/hotels etc.	- Income from business - 1-2 Kanals agriculture land - 1-2 buffaloes/cows	Medium	3%
Group 5: Agriculture/livestock and daily wage labour	- 5-10 Kanals agriculture land - Agricultural and non-agricultural daily wage labour - 3 – 5 buffaloes/cows	Poor	20%
Group 6: Local unskilled daily wage labour	- Irregular income from daily wage labour (agriculture/off-farm - Take informal credit and often heavily indebted - 1-2 Kanals agriculture land - 1-2 cows/sheep/ goats and some poultry birds.	Poor	30%
Group 7 Widows/disabled	- Wage labour in crop harvesting/working in houses - Charity - 1-2 Kanals agriculture land - 1-2 buffaloes/cows/sheep/ goats	Very poor	5%

4.2.2 SEASONALITY

As in zone 1, most livelihoods heavily depend on labour. It does appear, however, that for those who work outside AJK (group 3 above), and this is more seasonal in nature than in zone 1. Characteristically, male members of the households will migrate to large cities/towns such as Karachi, Islamabad, Rawalpindi, Lahore in November (cold season) and work as wage labour. They will then come back in March / April before the summer season to help the families in land preparation, crop cultivation and repairing of houses, and will try and earn income locally. At this time, they will be competing with the largest group in the table above – group 6, who rely heavily on local labour opportunities. As noted earlier, these have been given a boost by the boom in the construction industry post-earthquake.

In relation to agricultural production, maize mixed with beans and vegetables (kitchen gardening) is the main cropping pattern in Zone 2. Farmers also grow potatoes. All these crops are planted in March/April during the spring rains and meet household subsistence needs for between 2 and 6 months (mainly in the winter season). Households also grow some fruits (apple and walnuts) mainly for their own consumption and sale in local markets. Some food and cash income needs are also met from wild plants, including wild spinach, mushrooms, honey and walnuts.

Women play the major role in agricultural production in all the activities through out the year. There is a strong tradition of keeping livestock in the communities and again women play the leading role.

Figure 2: Seasonal calendar for various activities in Zone 2, district Bagh

Activities/Crop	J	A	S	O	N	D	J	F	M	A	M	J
Labour Calendar												
Local wage labour (agriculture/ off-farm)	X	X	X	X							X	X
Wage labour in AJK					X	X	X					
Labor in Pakistan					X	X	X	X	X			
Agricultural activities calendar												
Repairing of houses/land terraces/bunds/land preparation etc.									X			
Maize crop				H					P	P		
Intercropped red beans,			H	H					P	P		
Potatoes				H					P	P		
Vegetables(Chilies etc)	H	H	H	H					P	P		
Grass cutting for winter			H	H								
Seasonal migration to pastures	X	X	X	X							X	X

Monsoon rains Snowfall season (15 December – 15 March* spring rains
P: Planting; H: Harvesting;

* The normal snowfall season is 15 December – 15 March. In exceptional cases it can be up to April

5 RESPONDING TO DISASTERS: COMMUNITIES AND EXTERNAL ASSISTANCE NEEDS

As noted earlier, District Bagh is prone to various types of natural hazards. These can be categorized into two types: regularly occurring events and exceptional events. In the first category are included flash floods, windstorms, land slides, snow storms which happen in several places every year and also droughts in Dhirkot tehsil which occur every 2 – 3 years. In the second category are included exceptional floods (e.g. the 1992 flood) and droughts (e.g. the severe droughts of 1996-7 and 2001-02 in Dhirkot tehsil) and highly exceptional events such as the 2005 earthquake.

5.1 COMMUNITY COPING MECHANISM

The responses to these different types of hazards can be distinguished by the degree to which local communities and households are able to reduce the risk of the hazard turning into a disaster – either by preventing or reducing the effects of the hazard, and/or effectively dealing with the consequences. To deal with the impact of regularly occurring hazards, communities and households have developed a number of coping mechanisms. These are often sufficient to contain the effects of the hazard, but at some often considerable cost on their asset-base and their resilience to repeated shocks.

The following coping mechanisms (Table 8) are employed to deal with the hazards of land slides, flashfloods and drought.

Table 8: Coping Mechanisms for Land Slides and Flash Floods in district Bagh

General for all kind of disasters	Flash Floods/Land slides	Windstorm	Snow-slide	Drought
• Use local safety nets (sharing of resources/shelter/food etc) • Wait for government relief • Reduce expenses on consumption • Sale of livestock • Obtain remittances from family members working in Pakistan and abroad • Obtain credit distress loans for food and repairs • Repair houses/Make temporary shelters • Send male members for local or migrant labour.	• Divert water • Shift houses • Put big stones in the Nalas to break the pressure of water • Use wooden flat pieces to cross the Nalas	• Tree plantations on bunds to reduce crop losses • Protect fodder (dry grasses and maize stalks • Try to shift the family and livestock in some safe shelter	• Quickly remove snow from the roof tops. • Construct houses in safe places	• Reduce water use • Increase wage labour • Sell livestock

Despite the hardships experienced from these hazards, communities and individuals are resourceful and determined to try and deal with their problems in the absence of external support as the following example shows:

Dealing with flash-floods in Huda Barri refugee camp: Bagh town

Huda Barri refugee camp is comprised of refugees from Indian occupied Kashmir. The refugees started migrating into Bagh town in 1990, and the camp was established in 1997. The camp is comprised largely of men (only about 10% of men live with their wives) and is situated next to the main stream (Nala) running through Bagh town. Many such refugee camps are situated near streams.

There are 250 households in the settlement, divided into three sections A, B, C. Overall the population is 1365, which has grown from 1200 in 2000. The settlement is about 500 meters long, all of which is in the red zone. None of the refugees have agricultural land, and this is government policy, and they cannot get access to the land behind the settlement, which is owned by landowners and the town council.

75% of the population derives their livelihoods from daily wage labour. Work is plentiful between February and July but slow in winter. The refuges are not allowed to travel out of the district for work in the winter. Most daily wage labour is construction related.

Landslides and flash flooding occur every year in the June – August period. Since establishment in 1997, the worst years were:

- 1998: Land sliding – 8 homes were damaged in A section at the back of the settlement.
- 1999: Flash flood – affecting Sections A, B and C, main problems for front houses.
- 2006: Combination of landslide and flashflood – 25 out of 250 houses destroyed, 40 houses partially damaged.
- 2008: Heavy rainfall - houses inundated but physical damage limited.

Apart from the physical damage, the hazards disrupt livelihoods and income earning capacities as people are forced to stop working to sort out repairing the damage. They also have to take loans and buy things on credit from shopkeepers.

Despite these difficulties, the community copes with these hazards as best they can. Through a self-help scheme, households have hired bulldozers every year in July- August to make new channels in the river to divert flash flood waters away from their houses. This has been partially successful in reducing destruction, but is expensive, costing well over 100,000 rupees for a hire of 2 bulldozers for 10 days each year. When asked what solutions they proposed to the problem, key informants in the camp stated that in the absence of resettlement it would be necessary for the government to build a protection wall in front of the camp. Households were willing to contribute labour to this task.

5.2 SUPPORTING COMMUNITIES IN DEALING WITH FREQUENTLY OCCURRING HAZARDS

The above table suggest that for most of the regularly occurring hazards, communities can cope, but with some depletion of assets and dip in wealth. Thus for smaller events, investment are needed only for risk reduction measures so that to avoid the risks of occurring of these hazards in the future. The immediate response interventions are justified in situations where there are large events and need a combination of risk reduction and response.

There are a number of ways in which communities can be “helped to help themselves” to reduce the impact of frequently occurring hazards. These measures can and should be taken to reduce the risk of the occurrence of a hazard turning into a disaster for villages and households. Through various discussions with district and tehsil officials, NGO staff, and men and women living in

Bagh, a number of risk reduction measures were highlighted. If implemented, these could reduce the effects of both small and larger-scale hazards, and many could be put into place at a fraction of the cost of the various response measures detailed later on in this report. Ideally, risk reduction measures should be implemented alongside response planning and response action, so that livelihoods can be protected during the impact of the hazard and supported after the hazard has stuck.

The following table lists those risk reduction measures which were repeatedly highlighted during fieldwork:

Hazard type	Risk reduction measure	Community current practice	Community contribution	State / UN agency / NGO support
A. Flash-flooding; landslides	1. Small Check dam	Being done at a small scale	Implementation and labour/cash contribution	Funding and technical design support; food /cash for work schemes
	2. Afforestation	Not being done at community level	Plantation and management of plants	Community mobilization and technical support; food /cash for work schemes
	3. Small-scale drainage channels	Not being done	Labour for construction	As above
	4. Small-scale embankments / safety walls	Not being done	Gathering of local materials; labour for construction	As above
	5. Shifting to safer places	Being done (no identified places)	Mediating in land discussions (community leaders); Construction of houses	Providing new land, mediating in land discussions
B. Windstorms	1. Crop shed to protect from wind storms	Not being done	Gathering of local materials, construction Tree plantation to shield the crops	Mobilisation, training, Extension services
	2. Short height varieties of maize	Being done to some extent	Participation in adaptive trials, plantation, seed multiplication	Technical advice, mobilisation
	3. Livestock sheds	Being done	Gathering of local materials, construction	Mobilisation, training, and credit for iron roof sheets (Khushli Bank)
	4. Tree wind breakers	Being done to some extent	Establishment of nurseries, plantation in fields	Mobilisation, training facilitation
C. Snow fall/ snow slides	1. Village snow clearance and gritting sheds	Being done	Gathering of grit; gathering of local materials for construction.	Provision of shovels; ox driven snow ploughs; training
	2. Livestock vaccination	Not being done		

Hazard type	Risk reduction measure	Community current practice	Community contribution	State / UN agency / NGO support
D. Drought	1. Afforestation	Not being done at community level	As for flash-flooding and landslides	As for flash-flooding and landslides
	2. Introduction of drought resistant crops	Not being done	Participation in adaptive trials, plantation, seed multiplication	Technical advice, mobilisation
	3. Rain water harvesting structures	Being done to some extent	Labour for construction	Funding for low cost materials , mobilization and capacity building
	4. Linking springs with water storage tanks	Being done	Implementation; operations and maintenance	Funding, Mobilization and capacity building

5.3 TYPE, TIMING, QUANTITIES AND COSTS OF MATERIAL SUPPORT FOR EXCEPTIONAL EVENTS

When very large scale hazards hit the district, risk reduction measures and community coping strategies will not be sufficient to avert large scale damage to lives and livelihoods (although they may be able to reduce the severity of impact). In these situations, external support from the government and other external actors is required. These actors include local and international NGOs, UN agencies, international aid donors, the private sector and philanthropic private individuals and foundations.

In order to facilitate these responses, livelihood based contingency plans have been developed for the various types of exceptional hazards that may occur in the district. A number of steps have been taken to ensure that these plans are constructed on the basis of plausible assumptions and, crucially, that they are understood and endorsed by local government and NGOs operating in the district.

The ***technical steps*** to achieve this are as follows:

1. With the exception of earthquake, which may strike at any time of year, a hazard impact calendar has been constructed for each hazard. This shows when the hazard strikes in relation to the livelihood activities taking place at the time. From this, it is possible to pick out appropriate type and timing of response activities to support livelihoods.

2. This information is then “mapped” onto the demographic information contained in table 4 above, and is adjusted according to an estimate of likely vulnerability of the population subject to the hazard using information contained in the wealth / livelihood categorization tables. This is done because for a given severity of event, whilst many people will be affected, those with less assets and incomes will be in greater need of assistance.

3. The amount and cost of material assistance likely to be necessary to restore livelihoods is then calculated in a spreadsheet using current prices (this can be updated as necessary), and an estimate of overall quantities and costs is given. This then serves as a hazard contingency plan for the district and can inform budgetary allocations and / or stockpiling decisions and also can guide initial planning and budgeting estimates after a hazard has struck.

In order to gain ***endorsement of Bagh district government and local NGOs***, the following steps have been taken:

1. The hazard impact calendar and types and timing of responses are developed in full consultation with the tehsil and district level government officials and NGOs.

2. Costs and amounts of material assistance are validated with these stakeholders.

3. The overall contingency plan is then discussed with district level officials and validated by them.

The following sections thus represent the output of a transparent and technically sound process of consultation with key stakeholders in the district.

5.3.1 RESPOSE TO EARTHQUAKE

Owing to the widespread devastation caused by a major earthquake, the contingency planning assumption is that assistance will be needed for 100% of the rural population[18],[19]. On the basis of experience over the past 100 years, the likelihood of another earthquake on the scale of the 2005 quake in the foreseeable future is possible but remote. For this reason, it is certainly not recommended that the following estimates of response needs should be utilized for stockpiling or budgetary allocation decisions. Rather they should be taken as a guide to possible needs in the event of an earthquake on the scale of the 2005 quake occurring in the next 10 – 15 years. Table 9 lists response interventions in sequence. Estimated quantities of these response interventions are given in Table 10. The estimates are made on the basis of 2008 prices and using estimated 2008 population figures and livelihood patterns taking in to account the needs of communities in zone and zone 2.

Table 9: Sequence of response interventions

Activity	Time line
1. Rescue	First week
2. Tents/ camps/hygiene kits	First week
3. Food support	First week to 6 months
4.Kitchen Utensils, cooking stoves	First month
5.Cash for Distress loans	First month
6. Medical support	First week to six months
7.Compound feed for livestock	immediate
8. Veterinary Support for animals	First month
9. Support for Agri small tools	Depend on season
10. Wheat seed + fertilizers	One month before planting season
11. Maize seed + Fertilizer	One month before planting season
12.Kitchen Gardening Package	One month before planting season
13. Orchard Plants supply	Depend on season
14. Support for EQ resistant housing	After six months

[18] The high risk UCs (based on the experience of 2005 earthquake) are: Bhadi, Kala Mula, Khurshid Abad, Sangal, Nar Sher Ali, Bagh (Rural), Juglari, Banni Passari, Bir Pani, Swanj, Thub and Rangla.

[19] The Urban population was not rated in the high risk areas in 2005 earthquake during discussions.

15.Restocking of small animals	After six months
16. Restocking of cattle cows/Buffaloes	After six months
17.Animal sheds	Depend on season
18. Poultry sheds	Depend on season
19. Cash for work to labour (during relief/ recovery)	First week to one year
20. Support for disabled persons	First week to one year
21. Rehabilitation of fresh water supplies	First month
21. Rehabilitation of irrigation channels	After six months

* In the district consultative workshop, it was pointed out that based on 2005 EQ experience, there is a need to enhance coordination mechanism (Govt., NGOs, UN) . Whilst the DDMA should be the coordination Centre, this would require a lot of capacity building.

Table 10: Livelihood based contingency plan for earthquake affected communities

Type of response	Number of affected Ucs	Number of affected HH	Proportion of HH in need of support (%)	Period/ Duration of Intervention	Estimated Cost (million of USD)
1. Rescue, Health, hygiene	12	31,404	100	-	-
2. Shelter	12	31,404	100	First Week	-
3. Food Support (for 3 months)	12	31,404	100	First Week to 3 Months	5.65
4. Kitchen Utensils	12	20,026	64	First Month	1.20
5. Distress Cash Grants (Eqvi. of one month)	12	17,750	57	First Month	1.07
6. Medical Support	12	31,404	100	First Week to 6 Months	-
7. Livestock Feed (5 Kg for 2 cows each /hh for a month)	12	20,026	64	Second month	1.50
8.Support for Agri. Small tools	12	20,026	64	Three months	1.00
9. Veterinary Support (3 animals/hh)	12	31,404	100	First month	0.04
10. Wheat Seed support (10 Kg seed / Kanal for 2 Kanals/HH)	12	9,102	29	October	0.05
Fertilizer support (Urea)	12	9,102	29	October	0.20
Fertilizer support (DAP)	12	9,102	29	October	0.46
11. Maize seed support (6 Kg/Kanal for 2 Kanals/hh)	12	20,026	64	March / April	0.06
Fertilizer support (Urea)	12	20,026	64	March / April	0.45
Fertilizer support (DAP)	12	20,026	64	March / April	1.00

Type of response	Number of affected Ucs	Number of affected HH	Proportion of HH in need of support (%)	Period/ Duration of Intervention	Estimated Cost (million of USD)
12. Kitchen Gardening Support	12	20,026	64	October	0.20
13. Support for Earthquake resistant houses	12	20,026	64	In 6 months	-
14. Restocking of small ruminants (2 goat/hh)	12	20,026	64	Spring Season	2.80
15. Restocking of cattle animal (1 cow/hh)	12	20,026	64	do	12.92
16. Support for Animal Sheds	12	20,026	64	do	10.01
TOTAL million USD	**12**				**38.62**

5.3.2 RESPONSE TO FLASH FLOODING/ LAND SLIDING

The 1992 flash flood has been used as a reference being the worst case scenario. Total numbers of households in high risk UCs that are likely to be affected by flash floods as projected for 2008 are 12,770. Only the poor group (which is 40% of the total households) has been targeted for response (except for rescue in which the whole community has to be targeted). Flash flooding will cause erosion of lands, destroying standing crop of maize and damages livestock fodder/feeds. The following figure lists the proposed response interventions and their sequencing in case of flash flood of 1992 scale in the area.

Figure 3: Response strategy for Flash Flood and requesting of interventions in the high risk UCs, Bagh district

Response strategies	Months of the Year											
	J	A	S	O	N	D	J	F	M	A	M	J
1. Shelter (tent)		1	1									
2. Food support		2	2									
3. Kitchen Utensils		3	3									
4. Compound feed for livestock		4	4									
5. Veterinary support for livestock		5	5	5								
6. Support for Agri small tools				6								
7. Wheat seed and fertilizer (Zone 1 only)				7								
8. Maize seed and Fertilizer									8			
9. Support for Kitchen gardening package				9					9			

10. Support for restocking small ruminant								**10**	**10**			
11. Support of restocking cattle cows								**11**	**11**			
12. Cash for labour work		**12**	**12**									
13. Rehabilitation of freshwater supply				**13**	**13**							

Flooding season

<u>Sequence of response interventions</u>
(Based on seasonal calendar analysis Figure: 1 & 2)

1. Shelter as soon as possible at time of/after floods for a month by district government August - Sept
2. Food relief as soon as possible at time of/after floods - one month by WFP: During August - Sep
3. Kitchen utensils (along with food) INGOs: August-September
4. Compound feed for livestock : (August - September) FAO/NGOs/INGOs
5. Veterinary support for livestock (August to November) FAO/INGOs/Livestock Department/ Local NGOs
6. Support for agriculture small tools (October) FAO/INGOs/NGOs, Bilateral donors
7. Wheat seed with fertiliser for 2 kanal (October). FAO/INGOs/Government
8. Maize seed with fertiliser for 2 kanal (March) FAO/INGOs/Government
9. Support for kitchen gardening package (October and March) FAO/INGOs
10. Support of restocking of small ruminants (February –March) FAO/INGOs
11. Support of restocking Cattle animals cows (Feb-March) FAO/INGOs/government
12. Cash for labour work in repairing and construction-October (Govt. donors)
13. Rehabilitation of fresh water supply (Oct – Nov) (District Municipal Authority, INGOs)

Table 11: Livelihood based contingency plan for Flash Floods/ land sliding in High Risk UCs

Type of response	Number of affected Ucs	Number of affected HH in need of support	Proportion of HH in need of support (%)	Period/ Duration of Intervention	Estimated Cost (million of USD)
1. Food Support (for 1 months)	10	2,344	40	Aug/ Sept	0.14
2. Kitchen Utensils	10	2,344	40	do	0.14
3. Distress Cash Grants (Eqvi. of one month)	10	2,344	40	do	0.14
4. Livestock Feed (5 Kg for 2 cows each /hh for a month)	10	2,344	40	do	0.18
5. Support for Agri. Small tools	10	2,344	40	do	0.12
6. Veterinary Support (3 animals/hh)	10	5,861	100	do	0.01

Type of response	Number of affected Ucs	Number of affected HH in need of support	Proportion of HH in need of support (%)	Period/ Duration of Intervention	Estimated Cost (million of USD)
7. Wheat Seed support (6 Kg seed / Kanal for 2 Kanals/HH)	10	1,196	20	October	0.01
Fertilizer support (Urea)	10	1,196	20	October	0.03
Fertilizer support (DAP)	10	1,196	20	October	0.06
8. Maize seed support (3 Kg/Kanal for 2 Kanals/hh)	10	2,344	40	March	0.01
Fertilizer support (Urea)	10	2,344	40	do	0.05
Fertilizer support (DAP)	10	2,344	40	do	0.12
9. Kitchen Gardening Support	10	2,344	40	do	0.02
10. Restocking of small ruminants (2 goat/hh)	10	2,344	40	Spring Season	0.33
11. Restocking of cattle animal (1 cow/hh)	10	2,344	40	do	1.51
12. Repairing and construction (Cash for labour work)	10	5,861	100	October	-
13. Rehabilitation of fresh water supply	10	5,861	100	October	-
TOTAL million USD					**2.86**

5.3.3 RESPONSE TO WIND STORMS

Windstorms were frequently mentioned by the communities and district/ officials throughout the district in both the zones. There are two seasons for windstorm. The worst windstorms usually occur during August-September. These also come in March-April. Windstorms destroy the standing crops of maize and vegetables. Whilst in some cases, roofs of the houses are blown away and animal sheds are affected, in this report the contingency plan has been prepared considering only crop losses. However cash for labour work has been included to only 10% of the affected households whose roofs/animal sheds are damaged by the windstorm. Windstorm affects both Zone 1 and Zone 2. The total number of households of the high risk UCs in Zone 1 and Zone 2 are 50,000 and 15,000 respectively[20]. Response support covering 40% of the communities that are poor vulnerable is recommended. This results in a total of 26,000

[20] The windstorm Nar Sher Ali khan, Bagh, Rawali, Thub, Bani Pasari, Rangla, Sahlian Dhoundan, Chirala, Hill Surang, Makhyala, Dharay, Jaglari, Topi, Bir Pani, Sawanj, Chamyati, Dhir kot, Bhedi, Chanjal, Kala Moola, Kalali, Khurshidabad, Sangal

households (20,000 HH in Zone 1 and about 6,000 in Zone 2). Support should reach theses households before the sowing time of these crops next year. Direct food support will not be necessary because at the time of wind storms, the poor communities meet their food needs from the market. However, to recover, the communities would need an urgent seed support for winter vegetables and support for maize seed along with recommended fertilizers before the next year sowing season.

Figure 4: Response strategy and sequencing of intervention for Wind Storm affected communities in district Bagh.

Response strategy	J	A	S	O	N	D	J	F	M	A	M	J
1. Distressed grant			1	**1**					1	1		
2. Maize seed +Fertilizers											**2**	**2**
3. Kitchen Gardening Package			3	**3**					3			
4. Tree plantation (risk reduction measures		4	4									

Windstorm season

<u>Sequence of Response</u>
1. Distressed Cash grant for repairing damaged houses/rooftops/animal sheds Aug/Sept (District Govt, donors)
2. Maize seed +Fertilizers for 2 kanals (May/June); FAO/INGOs/NGOs/Agri. dept
3. Kitchen Gardening package October and March FAO/I/NGOs/agri. Dept
4. Tree plantation risk reduction measures in July/August

Table 12: Livelihood based contingency plan for Windstorm affected communities in district Bagh

Type of response	Number of affected Ucs	Number of affected HH in need of support	Proportion of HH in need of support (%)	Period/ Duration of Intervention	Estimated Cost (million of USD)
1. Distress Cash Grants (Eqvi. Of one month)	23	13,422	45	Aug/ sep or March	0.81
2. Maize seed support (3 Kg/Kanal for 4 Kanals/hh)	23	13,422	45	do	0.08
Fertilizer support (Urea)	23	13,422	45	do	0.30
Fertilizer support (DAP)	23	13,422	45	do	0.67
3. Kitchen Gardening Support	23	13,422	45	Sept/ Oct	0.13
4. Tree plantation (risk reduction measures)	23	13,422	-	-	-
TOTAL million USD					**1.99**

5.3.4 RESPONSE TO SNOWFALL IN DISTRICT BAGH

The snowfall season normally starts from 15th December and it continues till 15th March. In exceptional cases the snowfall season can be up to April. During this period, most activities become stagnant and people remain in houses feeding themselves and their livestock on available resources which are stocked before the onset of the snowfall season. Road access is difficult, in some cases impossible. For example the road to UC Bhedi which lies on the other side of the high mountains close to the Indian border can be completely blocked for several months.

The communities in the snowfall season are badly affected by cold related diseases and face shortages of fuel wood, food and fodder. The availability of drinking water is also affected because the water freezes in the pipes, springs and channels. Severe snowfall also increases the incidence of snow sliding, land sliding and avalanches in these high mountain areas.

Total population at high risk of snowfall is estimated to be about 64,000 (about 8767 hh). All these households are at risk and in need of different kinds of support as set out in Figure 5. A summary of contingency plan is provided in Table 13 (further details are in the detailed contingency plan in Annex 1).

Figure 5: Response strategy/Calendar for snowfall affected communities

Response strategies	J	A	S	O	N	D	J	F	M	A	M	J
1. Health facilities						1 1	1	1	1 1			
2. Food support									2	2		
3. Compound feed for livestock									3	3		
4. Veterinary support for livestock							4	4	4 4	4		
5. Fuel wood support									5			
6. Rehabilitation of drinking water									6	6		
7. Rehabilitation of houses (cash for work)										7	7	

Snowfall season (15th December – 15 March

Sequence of response interventions

1. Health facilities both preventive as well curative measures (through out the snow fall season (15th December to end of April) by health department/ NGOs (this would require preparatory package before the beginning of snow fall season).
2. Food support for one month to fulfill the immediate needs as most of the stocks are exhausted during the snow fall season (Mid March–April) by District govt/WFP/NGOs
3. Compound feed for livestock for a month to fulfill the immediate needs as most of the stocks are exhausted during the snow fall season (Mid March – April) by Livestock dept/FAO/NGOs
4. Veterinary support for livestock both preventive as well curative measures (through out the snow fall season (15th December to end of April) by Livestock dept/FAO/NGOs
5. Fuel wood support by District government/Forest department/NGOs
6. Rehabilitation of drinking water (March - April) by District government/ FAO/NGOs
7. Rehabilitate houses - cash for work (April – May) by UNHabitat/NGOs

Table 13: Livelihood based contingency plan for Snowstorm affected communities in district Bagh

Type of response	Number of affected Ucs	Number of affected HH in need of support	Proportion of HH in need of support (%)	Intervention Period		Estimated Cost (million of USD)
				Period	Days	
1. Health facilities	10	4,921	48	Dec-mar	120	-
2. Food support	10	4,921	48	Mar-Apr	1	0.30
3. Compound feed for livestock	10	4,921	48	do	30	0.30
4. Veterinary support for livestock	10	4,921	48	Dec-mar	1	0.01
5. Fuel wood support	10	4,921	48	Mar-Apr	1	-
6. Rehabilitation of drinking water (per village	10	4,921	48	do	1	-
7. Rehabilitation of houses (cash for work)	10	4,921	57	do	1	-
TOTAL million USD						**0.60**

5.3.5 RESPONSE TO DROUGHT IN DHIRKOT TEHSIL

Drought is generally felt if there are no or insufficient rains in February – March followed by no rains throughout the subsequent monsoon season. Crop yields for food and fodder are low or non-existent, there are limited grasses for animals (especially cattle) in grazing lands, and springs dry-up and women have to fetch drinking water from long distances. The frequency of drought in Dhirkot tehsil seems to be increasing. The total number of households in the tehsil is 15,747, and as the vast majority of these are involved in agriculture to some degree, they are at risk in case of drought. Response is therefore recommended to cover 100% households in Dhirkot thesil and for some areas of Bagh tehsil. The responses and their sequencing is given in figure 6 and a summary of contingency plan in Table 14 (see detailed contingency plan in Annex 1).

Figure 6: Response strategy/Calendar for drought affected communities

Response strategies	J	A	S	O	N	D	J	F	M	A	M	J
1. Food support			1	1	1							
2. Compound feed for livestock			2									
3. Veterinary support for livestock			3	3	3							
4. Maize seed +Fertilizer									4			
5. Kitchen Gardening Package									5			

Drought period

Sequence of response interventions

1. Food support for (September – November) Government/WFP/INGOs
2. Compound feed for livestock (September) Government/INGOs
3. Veterinary support for livestock September to November (FAO/INGOs/Livestock Dept)
4. Maize seed +fertilizer (March) FAO/INGOs
5. Kitchen gardening package (March) FAO/INGOs

Table 14: Livelihood based contingency plan for Drought affected communities

Type of response	Number of affected Ucs	Number of affected HH	Proportion of HH in need of support (%)	Period/ Duration of Intervention	Estimated Cost (million of USD)
1. Food Support	9	7,868	43	Sept - Nov	1.42
2. Livestock Feed	9	7,868	43	Sept	0.59
3. Veterinary Support	9	7,868	43	Sept - Nov	0.01
4. Maize seed and fertilizer	9	7,868	43	March	0.05
5. Kitchen Gardening Support	9	7,868	43	March	0.18
Total support USD					2.25

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List of Annexes

ANNEX 1: DETAILED CONTINGENCY PLANS FOR VARIOUS HAZARDS IN DISTRICT BAGH

The following Annex gives the detailed breakdown of hazard-specific contingency plans. In constructing the plans a number of quantities and assumptions have been made. These are explained below:

Food:
The food package per household (HH) for one month includes the following items:
Rice: 10 kgs, Lentils: 10 Kgs, Oil 5 ltrs, Wheat Flour: 80 kgs, Sugar: 5kg, Tea: 01kg , Iodized salt: 1 kg, Red chilies: 1/2kg.

The above food package is designed with the consultation of WFP and provides about 2150 K calories/person/day. The prices of food are mentioned CG is based on the current market rates. The fluctuation in the food prices is frequent so it can be change any time of the year.

The quantity of the above mentioned food items may change according to the area context or geographical and the eating habits of the affected communities.

Kitchen Utensils:
Wok (Tawa), 12 Plates different size, Sauce Pan, Cooking pot, 6 cups, 6 small bowls, 1 big bowl, 6 Glasses, 1 Jug, 6 Spoons, Knife, Piece of cloth, Basket/plate for Bread, Cooking, Cooking spoons 2, Bucket with Mug, Cooking Stove with Gas Cylinder) + Match box, Lantern, Washing soap with foam.

Livestock Feed:
The quantity of the animal feed is designed with the consultation of FAO technical team.

Livestock Vaccination:
The livestock vaccination per animal is done in the consultation with FAO team and based on FAO experience in the field in different parts of the county.

Livestock Restocking:
The number of livestock is recommended with the consultation of community, as well as with the Livestock Department at the district level. This package is highly recommended for the poorest of the poor segments of society especially women.

Poultry Restocking:
24 Chicks (age ten weeks) + 50 kg poultry feed per HH. This package is designed with consultation of FAO technical team. This intervention is designed & recommended for the women the most vulnerable segment of the society.

Agri inputs:
Wheat seed/Maize seed/Veg seed, Rice seed/potato/ kitchen package and fertilizer: The quantity of the agriculture inputs are recommended on the basis of consultation with farming community in the field and verified with technical experts of agriculture department at local level.

Scenarios:
The Contingency plan is a sample model to develop any contingency plan according to the context and situation. In the sample model contingency plan the **most likely** scenario is covered.

In worst case scenario the sample model can be used but the contingency plan will be based on the magnitude of the disaster. The CP will be developed according to the need of the local area affected by the disaster.

Table A1: Livelihood based contingency plan for Earthquake affected communities

S.No	Activity	Affected area	Support Unit	Period	Total HH	Affected HH	Cost per unit (USD)	Unit Quantity/ hh	Duration (days)	total quantity (000 units)	Total amount (million USD)	Responsibilities
1	Rescue, Health, hygiene	12 high risk Ucs (Annex 2)	-	-	31,404	31,404	-	-	-	-	-	NDMA/District Government/NGOs
2	Shelter	Do	Tent	First Week	31,404	31,404	-	-	-	-	-	do
3	Food Support (for 3 months)	Do	Package	First Week to 3 Months	31,404	31,404	2	1	90	2,826	5.65	District Government/ WFP / INGOs
4	Kitchen Utensils	50% of all Zone 1 and 100 in Zone 2* in 12 UCs	Set	First Month	31,404	20,026	60	1	1	20	1.20	INGOs
5	Distress Cash Grants (Eqvi. Of one month)	40% in Zone 1 and 80% in Zone 2* in 12 Ucs	Cash	First Month	31,404	17,750	2	1	30	533	1.07	District Government / INGOs
6	Medical Support	12 high risk Ucs (Annex 2)	-	First Week to 6 Months	31,404	31,404	-	-	-	-	-	Health Dept/ WHO / Unicef / INGOs
7	Livestock Feed (5 Kg for 2 cows each /hh for a month)	50% of all Zone 1 and 100 in Zone 2* in 12 UCs	Kg	First month	31,404	20,026	0.25	10	30	6,008	1.50	Livestock Dept/ FAO / NGOs
8	Support for Agri. Small tools	Do	Set	Three months	31,404	20,026	50	1	1	20	1.00	Agri Dept/ FAO / NGOs
9	Veterinary Support (3 animals/hh)	12 high risk Ucs (Annex 2)	Vaccine	First month	31,404	31,404	0.40	3	1	94	0.04	Livestock Dept/ FAO / NGOs
9	Wheat Seed support (6 Kg seed / Kanal for 2 Kanals/HH)	50% of all Zone 1* of 12 Ucs	Kg	October	31,404	9,102	0.5	12	1	109	0.05	Agri Dept/ FAO / NGOs
	Fertilizer support (Urea)	Do	Kg	October	31,404	9,102	0.45	50	1	455	0.20	do
	Fertilizer support (DAP)	Do	Kg	October	31,404	9,102	1	50	1	455	0.46	do
10	Maize seed support (3 Kg/Kanal for 2 Kanals/hh)	50% of all Zone 1 and 100 in Zone 2* in 12 UCs	Kg	March / April	31,404	20,026	0.5	6	1	120	0.06	do

	Fertilizer support (Urea)	Do	Kg	March / April	31,404	20,026	0.45	50	1	1,001	0.45	do
	Fertilizer support (DAP)	Do	Kg	March / April	31,404	20,026	1	50	1	1,001	1.00	do
11	Kitchen Gardening Support	Do	Package	October	31,404	20,026	10	1	1	20	0.20	do
12	Support for Earthquake resistant houses	Do	House	In 6 months	31,404	20,026	-	-	-	-	-	UN Habitat / Government / ADB / WB/Donors
13	Restocking of small ruminants (2 goat/hh)	Do	Number	Spring Season	31,404	20,026	70	2	1	40	2.80	Livestock Dept/ FAO / NGOs
14	Restocking of cattle animal (1 cow/hh)	Do	Number	do	31,404	20,026	645	1	1	20	12.92	Livestock Dept/ FAO / NGOs
15	Support for Animal Sheds	Do	Number	do	31,404	20,026	500	1	1	20	10.01	Livestock Dept/ FAO / NGOs
	TOTAL million USD										**38.62**	

Table A2: Livelihood based contingency plan for Flash Floods/ Landslides in High Risk UCs

S.No	Activity	Affected area (1)	Support Unit	Period	Total HH likely to be affected (2)	Affected HH in need of support (3)	Cost per unit (USD)	Unit Quantity/ hh	Duration (days)	total quantity (000 units)	Total amount (million USD)	Responsibilities
1	Food Support (for 1 months)	10 High risk UC	Package	Aug/ Sept	5,861	2,344	2	1	30	70	0.14	District Government/ WFP / INGOs
2	Kitchen Utensils	Do	Set	do	5,861	2,344	60	1	1	2	0.14	INGOs
3	Distress Cash Grants (Eqvi. Of one month)	Do	Cash	do	5,861	2,344	2	1	30	70	0.14	District Government / INGOs
4	Livestock Feed (5 Kg for 2 cows each /hh for a month)	Do	Kg	do	5,861	2,344	0.25	10	30	703	0.18	Livestock Dept/ FAO / NGOs
5	Support for Agri. Small tools	Do	Set	do	5,861	2,344	50	1	1	2	0.12	Agri Dept/ FAO / NGOs
6	Veterinary Support (3 animals/hh)	Do	Vaccine	do	5,861	5,861	0.40	3	1	18	0.01	Livestock Dept/ FAO / NGOs

7	Wheat Seed support (6 Kg seed / Kanal for 2 Kanals/HH)	Only Zone 1 of the 10 Ucs	Kg	October	5,861	1,196	0.5	12	1	14	0.01	Agri Dept/ FAO / NGOs
	Fertilizer support (Urea)	Do	Kg	October	5,861	1,196	0.45	50	1	60	0.03	do
	Fertilizer support (DAP)	Do	Kg	October	5,861	1,196	1	50	1	60	0.06	do
8	Maize seed support (3 Kg/Kanal for 2 Kanals/hh)	All 10 Ucs	Kg	March	5,861	2,344	0.5	6	1	14	0.01	do
	Fertilizer support (Urea)	Do	Kg	do	5,861	2,344	0.45	50	1	117	0.05	do
	Fertilizer support (DAP)	Do	Kg	do	5,861	2,344	1	50	1	117	0.12	do
9	Kitchen Gardening Support	Do	Package	do	5,861	2,344	10	1	1	2	0.02	do
10	Restocking of small ruminants (2 goat/hh)	Do	Number	Spring Season	5,861	2,344	70	2	1	5	0.33	Livestock Dept/ FAO / NGOs
11	Restocking of cattle animal (1 cow/hh)	Do	Number	do	5,861	2,344	645	1	1	2	1.51	Livestock Dept/ FAO / NGOs
	TOTAL million USD										**2.86**	

(1) Total of 10 Ucs are at high risk of flooding/land sliding. The proportion of population /area in each UC exposed to the hazard is given in Table 4.

(2) The total number of hh in the ten high risk ucs including Bagh TC is equal to 11474 out of which about 5861 hh are likely to be affected because of their exposure to the hazard based on column 2 from Table 4. Their proportion in zone 1 & 2 is estimated to be 59% and 49% respectively.

(3) Of the total number of hh exposed to the hazard (5861), about 43% are in need of support in Zone 1 and about 55% hh are in need of support in Zone 2 (see table 6 and 7 for livelihood groups in Zone 1 & 2 respectively).

Table A3: Livelihood based contingency plan for Windstorm affected communities in district Bagh

S.No	Activity	Affected area (1)	Support Unit	Period	Total HH (2)	Affected HH in need of support (3)	Cost per unit (USD)	Unit Quantity/ hh	Duration (days)	total quantity (000 units)	Total amount (million USD)	Responsibilities
1	Distress Cash Grants (Eqvi. Of one month)	23 high risk Ucs	Cash	Aug/ sep or March	29,648	13,422	2	1	30	403	0.81	District Government / INGOs
2	Maize seed support (3 Kg/Kanal for 4 Kanals/hh)	Do	Kg	do	29,648	13,422	0.5	12	1	161	0.08	Agri Dept/ FAO / NGOs
	Fertilizer support (Urea)	Do	Kg	do	29,648	13,422	0.45	50	1	671	0.30	do
	Fertilizer support (DAP)	Do	Kg	do	29,648	13,422	1	50	1	671	0.67	do
3	Kitchen Gardening Support	Do	Package	Sept/ Oct	29,648	13,422	10	1	1	13	0.13	do
4	Tree plantation (risk reduction measures	Do	# of plants to estimated	Aug/ sep	29,648	13,422	-	-	-	-	-	forest dept/ FAO
	TOTAL million USD										**1.99**	

(1) Total of 23 Ucs are at high risk of windstorm. The proportion of population/area in each UC exposed to the hazard is given in Table 4.

(2) The total number of hh in the 23 high risk ucs is equal to 48,761 hh out of which about 29,648 hh in various UCs are at high risk because of exposure to the hazard based on column 2 from Table 4. Their proportion of hh likely to be affected in zone 1 & 2 is estimated to be 80% and 20% respectively.

(3) Of the total number of hh exposed to the hazard in each zone, about 43% hh are in need of support in Zone 1 and 55% in zone 2 (see table 6 and 7 for livelihood groups in Zone 1 & 2 respectively).

Table A4: Livelihood based contingency plan for Snow storm/ snow sliding affected communities

S.No	Activity	Affected area (1)	Support Unit	Period	Total HH likely to be affected (2)	Affected HH in need of support (3)	Cost per unit (USD)	Unit Quantity/ hh	Duration (days)	total quantity (000 units)	Total amount (million USD)	Responsibilities
1	**Health facilities**	5 High risk UC (Zone 1 & 2)	medicine	Dec-mar	10,260	4,921	-	-	120	-	-	Health Dept/ WHO INGOs
2	**Food support**	do	package	Mar-Apr	10,260	4,921	60	1	1	5	0.30	District govt/ WFP/ NGOs
3	**Compound feed for livestock**	do	Kg	do	10,260	4,921	2	1	30	148	0.30	Livestock Dept/ FAO / NGOs
4	**Veterinary support for livestock**	do	Vaccine	Dec-mar	10,260	4,921	0.25	10	1	49	0.01	Livestock Dept/ FAO / NGOs
5	**Fuel wood support**	do	Kg	Mar-Apr	10,260	4,921	-	-	1	-	-	District govt/ NGOs
6	**Rehabilitation of drinking water (per village**	do	#	do	10,260	4,921	-	-	1	-	-	do
7	**Rehabilitation of houses (cash for work)**	do	#	do	8,600	4,921	-	-	1	-	-	do
	TOTAL million USD										**0.60**	

(1) Total of 5 Ucs are at high risk of snow storm/ snow sliding. The proportion of population/area in each UC exposed to the hazard is given in Table 4.
(2) The total number of hh in the 5 high risk ucs is equal to 15,812 out of which about 10,260 hh are likely to be affected because of their exposure to the hazard based on column 2 from Table 4.
(3) Of the total number of hh exposed to the hazard (10,260), about 43% are in need of support in Zone 1 and about 55% hh are in need of support (see table 6 and 7 for livelihood groups in Zone 1 & 2 respectively). These are estimated to be 2583 in Zone 1 and 2338 in zone 2 (total: 4921 hh).

Table A5: Livelihood based contingency plan for Drought affected communities

S.No	Activity	Affected area	Support Unit	Period	Total HH	Affected HH in need of support (1)	Cost per unit (USD)	Unit Quantity/ hh	Duration (days)	total quantity (000 units)	Total amount (million USD)	Responsibilities
1	Food Support (for 3 months)	Dhirkot Tehsil (All 7 Ucs: 100% hh) Bagh Tehsil (2 Ucs: 60% hh)	Package	Sept - Nov	18,299	7,868	2	1	90	708	1.42	District Government/ WFP / INGOs
2	Livestock Feed (5 Kg for 2 cows each /hh for a month)	Do	Kg	Sept	18,299	7,868	0.25	10	30	2,360	0.59	Livestock Dept/ FAO / NGOs
3	Veterinary Support (3 animals/hh)	Do	Vaccine	Sept - Nov	18,299	7,868	0.40	3	1	24	0.01	Livestock Dept/ FAO / NGOs
4	Maize seed support (3 Kg/Kanal for 4 Kanals/hh)	Do	Kg	March	18,299	7,868	0.5	12	1	94	0.05	Agri Dept/ FAO / NGOs
5	Kitchen Gardening Support	Do	Package	March	18,299	7,868	10	1	1	8	0.08	do
	TOTAL million USD										**2.25**	

- All the affected HH are in Zone 1 or below. The focus is only 43% hh of the total that are categorized as poor including women headed, elderly and disabled (based on Table 6 in the text).

ANNEX-2: METHODOLOGY FOR HLV BASELINE AND CONTINGENCY PLAN

Baseline data collection and compilation involved three steps: (i) Review of secondary data collection and analysis, (ii) Group discussions with district and tehsil officials as well as village communities to obtain qualitative/quantitative information in the district on hazards, vulnerabilities and response to these hazards, and (iii) Triangulation of field findings with secondary data for further validation. In addition a questionnaire was used to assess food security status of the hazard prone population in the area.

The secondary data includes the analysis of demographic data by sex /rural-urban and age group. The 1998 Census data was collected at tehsil and Union Council levels and projected to 2008. Similarly, agriculture and livestock statistics was collected from the census reports and some from the district officials. List of tables on secondary data are annexed to the baseline report. It provides a useful source for preparing response/ contingency plan in case of disaster and can be readily used for post disaster damage and livelihood assessments.

Participatory methods were used in the field for collection and analysis of qualitative data from the government officials/NGOs and communities in the hazard prone areas.

The following steps were adopted:

(i) Initial meetings were conducted with NDMA to identify five hazard prone districts, including the present district. A thorough review of literature about the district was carried-out and secondary data compiled before the field visit. Further discussions were held with the officials of Provincial Disaster Management Authority (PDMA) and Provincial Relief Commissioner in the province.

(ii) Visits were made to the districts for further understanding of hazards, livelihoods and vulnerabilities. These involved:

- Group discussions with district officials (DDMA and senior district officers from revenue and line departments) for half a day followed by discussions with local NGOs (for further validation and more details). Flip charts were used to obtain the following information:

    - Hazard mapping and impacts
    - Identification of vulnerable areas (prone to various hazards) on district map.
    - Coping mechanisms, assessment systems and relief efforts
    - Role and responsibilities at district and sub-district level in response to disaster
    - Broad classification of livelihood groups

- The above results were further validated in a group meeting with officials, using the same flip-charts.-wise quantitative information on cropping and livestock etc. was also obtained.

(iii) Finally, based on discussions with district/ tehsil officials and NGOs, a list of high risk areas (UCs) was prepared and field visits conducted. This involved the following steps:

- High risk UCs was selected in consultation with government officials and NGOs for field visit in each area (zone).

- Prior appointments were made through local NGOs with the hazard prone communities in the selected UCs (where necessary) in each tehsil.

- Interviews were held with communities in vulnerable areas using PRA tools (at least two - four villages in each of the hazard prone areas)[21]. Interviews were also held with selected members of the community form different socio-economic groups to assess food security situation of the communities in the area.

- Information collected through district/tehsil meetings was further validated. Livelihood groups and their characteristics were identified and quantified in proportion in each village and their seasonal activities were mapped-out, including calendar of activities for their livelihood sources (in normal and bad years), and coping strategies during disasters and type of/ timing for support needed by the most vulnerable groups.

(iv) The findings on the basis of the above were presented to the district officials and NGOs in a separate/ joint meeting to debrief/validate and agree upon the results. A debriefing was also held with PDMA and NDMA. The findings were also shared with various stakeholders including the UN partners, NGOs and NDMA at the national level, before finalizing the baseline document.

[21] See Annex-3-E in the annex

ANNEX-3: INSTITUTIONS FOR LIVELIHOOD SUPPORT

A. List of Important contacts:

S.No	Name	Department-	Designation	Contact#
1	M.A.Raqeeb	District Administration	Deputy. Commissioner	0300-5556844
2	Raja M. Siddique Khan	District Administration	ADC	0355-7300152
4	Abdul Hameed Mughal	District Administration	Assistant Commissioner	0301-5330501
5	Syed Nusrat Gardezi	Revenue dept	Naib Tehsildar	0300-5001036
6	Mahmood Rathore	Highway	Xen	0345-5174165
7	Muhammad Irshad	PHED	Sub Divisional Officer	0301-5678178
8	Muhammad Zubair Khan	PWD	Sub Divisional Officer	0301-5669868
9	Khawaja Abdul Latif	PWD-Highways	Sub Divisional Officer	0333-5948809
10	Zaffar-ul-Haq Kiani	PWD-Buildings	Sub Divisional Officer	03345819964
3	Syed Qaim Hussain	Forest	DFC	0334 -5269615
15	Ahmad Hussain	Local Government and Rural Development	Assistant Director	0301-5470275
16	Ikram-ul-haq	Social Welfare	Assistant Director	03345-5470348
17	KH.Ghulam Mahmood	Agriculture	Assistant Director	0304-5399614
18	Dr.Syed Mumtaz	Animal Health	Assistant Director	0344-5344114
19	Dr.Syed Laiqat Hussain Gardazi	Livestock Department	District Livestock Officer	0335-7203456
20	Dr.Liaqat Gardazi	District Ls-Poultry	Livestock Development Officer	0335-7203456
11	Zohra Yasmin	Forest Dept	D.E.O.F.	0333-5104719
12	Dr.Arshad Mahmood	Health	DHO	0300-4456907
13	Syed Asnad Gillani	Education	DEO	0301-5284699
14	Raja Ashraf Khan	Education	DEO	0346-5162220

B. List of NGOs district Bagh

S.No	Name	Designation	Organization	Location	Cell/phone
1	Mr. Tariq Mehmood	Chief Executive Officer (CEO)	Maqsood Welfare Foundation (MWF)	Bagh	0300-5049974
2	Mr. Zulfiqar Haider Raja	Director Operations	Kashmir International Relief Fund	Bagh	0334-5313019
3	Mr. Gohar Imdad	Field Coordinator	Action Aid	Bagh	058720-45028
4	Mr. Zahid Iqbal	M & E officer	DRU	Bagh	0333-5715160
5	Syed Ikram Ali Shah	Social Protection Coordinator	UNDP/DRU Bagh	Bagh	0333-2302242
6	Mr. Mohammad Saboor Saqib	Livelihood Officer	FAO/DRU Bagh	Bagh	0333-5405859
7	Dr. Haris Qayyum	Livelihood Management Coordinator DRU Bagh	FAO/DRU Bagh	Bagh	0300-4384387
8	Mr. Ikram-ul-Haq	Assistant Director (AD)	Social Welfare Department	Bagh	058720-42933
9	Mr. Yousif	Coordinator	Press for Peace	Bagh	0301-5624100
10	Mr. Fahim Farooq	Dist. Eng	NRSP	Bagh	0345-5531030
11	Mr. Iftikhar Khan	Chief Executive (CE)	Humen in Focus (HIN)	Bagh	0300-5110852
12	Mr. S. Amjad Hussain	LHO	AJKRSP	Bagh	0300-5154415
13	Mr. Khurram Farooq		Sungi Dhir Kot	Bagh	0345-5132514
14	Mr. Manzoor Hussain	Project Coordinator	Helpers Foundation	Bagh	0345-5499088
15	Mr. Khalid Rathore	President	Moon Foundation	Haveli	0300-9880399
16	Raja Abid Ashraf	President	Kohsar Welfare Society	Dhir Kot	
17	Mr. Pervez Tabasum	Secretary General	JK Human Rights Moments	Bagh	0334-5068268
18	Mr. Mehtab Ashraf	Coordinator	Human Appeal International (HAI)	Bagh	0301-5602196
19	Mr. Muhammad Hafeez	Field Coordinator	Women Welfare Organization Poonch (WWOP)	Bagh	0345-7932529
20	Mr. Muhammad Shakeel	President	Star foundation	Bagh	0334-5341812
21	Syed Bisharat Gardezi	Area Manager	Muslim Hands	Bagh	0333-5736242
22	Mr. Gulbaadshah	Field Coordinator	Hope Foundation	Bagh	0301-5642538
23	Mr. Wajid Mehmood	Joint Sec	Lead Foundation	Bagh	0345-9725468

S.No	Name	Designation	Organization	Location	Cell/phone
24	Maj. (R) Syed Tasawar Hussain Gardezi	President	Dr. Zafar Iqbal Memorial Foundation	Bagh	0333-4806442
25	Mr. Tayyab Khan	Social Mobilizer	MHI	Bagh	0333-8774026
26	Mr. Afzal Khan	President	Al-Kidmat Foundation	Bagh	0346-5163158
27	Raja Atiq-u-Rehman	LSO	Muslim aid	Bagh	0333-5756065
28	Syed Sarwar Shah	Project Eng.	ARC	Bagh	0344-9012533
29	Mr. Saeed-u-Rehman	SM	AJKCDP	Bagh	03445103572
30	Mr. Safdar	District Program Manager	Relief International (RI)	Bagh	0334-5892937
31	Raja attique-ur-rehman		Muslim aid	Bagh	0333-5756065
32	Raja Masood Khan	Field Officer	EHD foundation	Bagh	0301-5563340
33	Mohammad Akbar	SCDO	Islamic Relief (IR)	Bagh	0333-6404752
34	Khurram jilani	M&E officer	CNFA-ILED	Bagh	0334-5168556
35	M.Farooq Khan	General Secretary	Abdul Aziz Memorial Society	Bagh	058720-42458
36	Syed.Aftab Hussain Bukhari	General Secretary	Himalayan Rural Support Programme (HRSP)	Haveli	05872-33507

C. List of Participants at the Briefing session, District Authorities Bagh AJK

S.No	Name	Department-	Designation	Contact#
1	M.A.Raqeeb		Deputy. Commissioner	0300-5556844
2	Raja M. Siddique Khan		ADC	0355-7300152
3	Ikram-ul-haq	Social Welfare	Assistant Director	03345-5470348
4	Zaffar-ul-Haq Kiani	PWD-Buildings	Sub Divisional Officer	03345819964
5	Khawaja Abdul Latif	PWD-Highways	SDO	0333-5948809
6	Dr.Arshad Mahmood	Health	DHO	0300-4456907
7	Syed Asnad Gillani	Education	DEO	0301-5284699
8	KH.Ghulam Mahmood	Agriculture	Assistant Director	0304-5399614

9	Dr.Syed Mumtaz	Animal Health	AD	0344-5344114
10	Raja Ashraf Khan	Education	DEO	0346-5162220
11	Dr.Liaqat Gardazi	District Ls-Poultry	Development Officer	0335-7203456
12	Khawaja. Ghulam Muhammad	Assistant Director (AD)	Agriculture Dept, Bagh	0334-5399616
13	Dr. S. Mumtaz	Assistant Director (AD)	Livestock Dept, Bagh	0344-5344114
14	Khawaja Muhammad Riaz	District Forest Officer (DFO)	Forest (ILM), Bagh	0301-5582328

D. De-Briefing to district officials on field visits results, District Bagh, AJK

S.No	Name	Department-	Designation	Contact#
1	M.A.Raqeeb	District Govt.	Deputy. Commissioner	0300-5556844
2	Abdul Hameed Mughal	District Govt.	Assistant Commissioner	0301-5330501
3	Syed Qaim Hussain		DFC	0334 -5269615
4	Zohra Yasmin		D.E.O.F.	0333-5104719
5	Ahmad Hussain	LGRD	A.D.	0301-5470275
6	Muhammad Irshad	PHED	SDO	0301-5678178
7	Muhammad Zubair Khan	PWD	SDO	0301-5669868
8	Mahmood Rathore	Highway	Xen	0345-5174165
9	Mehtab Ashraf	HAI	PSO	0301-5602196
10	Syrd Ikram Ali Shah	UNDP-DRU	SPC	0333-2302242
11	Syed Nusrat Gardezi	Revenue	Naib Tehsildar	0300-5001036
12	Dr.Syed Laiqat Hussain Gardazi	Livestock Department	District Ls Officer	0335-7203456
13	Adil Manzoor	DRU	Planning Officer	0346-9614634
14	Malik M.Sadiq	DRU	DPE	0302-4495836
15	Saghir Ahmed Mughal	DRU	-	0334-5428730
16	Shahzad Ashraf	DRU	ENV-Coordinator	0301-4446849
17	Khanzad Shah	DRU		0334-5524732
18	Dr.Harris Qayyum	FAO-DRU		0300-4384387
19	Farhat Ali	FAO-DRU		0334-9596431
20	M.Saboor Saqib	FAO-DRU	Livelihood Officer	0333-5405859
21	Abdul Rehman	AJK RSP	RPO	0301-5863765
22	M.Naeem Arif	Islamic Relief	CDO	0345-5887283

23	Ejaz Hamid	NRSP	Programme Officer	0345-9184241
24	Syed.Aftab Hussain Bukhari	HRSP	Sec. General	05872-33507

E. List of Villages Visited during the field visit to District Bagh

Name of Village	Name of UC	Tehsil
Lower Sudhan Gali	Bhirpani	Bagh
Maldara	Bhirpani	Bagh
Salian Maldialan	Dhary	Bagh
Hudda Bari(urban Slum)	Bagh	Bagh
Dhundar	Thub	Bagh
Sawanj	Sawanj	Bagh
Khursheed Abad (upper)	Khursheed Abad	Haveli
Khurshhed Abad (lower)	Khursheed Abad	Haveli
Dhok Nairan-Hyder Abad	Bhedi	Haveli
Aliabad-Hallan Shumali	Kala Mola	Haveli
Chaprian (Lower)	Rangla	Dhirkot
Chaprian (Upper)	Rangla	Dhirkot
Chalandrot	Malot	Dhirkot
Labor Dholban	Malot	Dhirkot

ANNEX 4: SOCIO-ECONOMIC DATA AT DISTRICT AND TEHSIL LEVEL

Baseline data tables (2008 estimates)

1. Area and Population* (2008 estimates)				
District	**Bagh**	**Dhirkot**	**Haveli**	**All District Bagh**
Area (Sq. Km)	-	-	-	1,368
Number of Households (000)	30	17	18	65
Rural	27	17	17	61
Urban	3	0	0	4
Population density/Sq Km	-	-	-	351
Average HH size	7.4	8.1	7.0	7.3
Average growth rate	2.0	1.4	2.5	2.0
Number of Union Councils	11	8	8	27
Number of Revenue villages	79	41	92	212
Total Population* (000)	221	117	143	480

* The figures are pre-earthquake of 2005 in the district based on 1998 population census. The estimates for post-earthquake may be less (not available).

2. Population by Sex (000) (2008 estimates)				
District	**Bagh**	**Dirkot**	**Haveli**	**All District Bagh**
Male	108	57	77	241
Female	112	59	66	238
Total	**221**	**117**	**143**	**480***

Source: Projected population based on 1998 census
* About 8000 died in the 2005 EQ in district Bagh that has not been taken into account.

3. Population by Rural-Urban (000) (2008 estimates)				
	Bagh	**Dhirkot**	**Haveli**	**All District Bagh**
Rural	197	117	139	453
Urban	23	0	4	27
Total	**221**	**117**	**143**	**480**

Source: Projected population based on 1998 census

4. Population by Age Group (000) (2008 estimates)				
Age group	Bagh	Dhirkot	Haveli	All District Bagh
Total (000)	220	117	143	480
0- 4 years of age	32	16	22	70
5-14 years of age	68	34	39	141
15 - 64 years of age	114	63	78	254
Above 64 years of age	7	4	4	15
Rural (000)	197	119	136	453
1- 4 years of age	30	17	20	66
5-14 years of age	61	36	36	134
15 - 64 years of age	101	63	76	239
Above 64 years of age	6	4	4	14
Urban (000)	23	0	4	27
1- 4 years of age	3	0	1	3
5-14 years of age	7	0	1	8
15 - 64 years of age	13	0	2	15
Above 64 years of age	1	0	0	1

Source: Projected population based on 1998 census

5. Houses by type (2008 estimates)				
District	Bagh	Dhirkot	Haveli	All District Bagh
Number of Houses(000)*	26	17	16	59
% pacca (cemented)**	38	36	22	33
% semi pacca**	13	13	3	10
% kacha (mud or wood/thech material)**	48	51	75	56

Source: Population Census 1998

* Calculated as: projected population in 2008/average HH size 1998

** (ratio of house type to total Houses in 1998 census) x Total projected houses in 2008 (linear growth has been assumed)

6. Land use (Av. 2006 - 07)*				
Land use Area	Bagh	Dhirkot	Haveli	All District Bagh
Geographical area (Sq. km)	-	-	-	1,368
Total area (000 acres)	111	58	103	272
Uncultivated area (000 acres)	88	43	90	221
Cultivated area (000 acres)	23	15	14	51
Forest area (000 acres))	-	-	-	179.45

Source: Assistant Director (Agriculture Extension), District Bagh

7. Cropped Area in Acres (Average 2005 -08)				
Crops	Bagh	Dhikot	Haveli	Total
Maize	15067	6801	8048	29916
Wheat	5749	3114	42	8905
Rice	325	76	0	401
Red Bean	5	38	773	816
Fodder	132	134	110	377
Vegetable	173	176	138	487
Potatoes	112	17	175	304
Walnut	154	61	205	420
Apple	620	1541	257	2418
Total cropped area	**22337**	**11959**	**9748**	**44044**

Source: Assistant Director (Agriculture Extension), District Bagh

8. Livestock data (2006 Census)	
Number of animals by type	All District Bagh
Cattle	61,532
Buffaloes	61,041
Sheep & Goats	108,484
Poultry Birds	408,226
Total	

Source: District Profile Bagh, ERRA, 2007 (1997-98 data from 1998 district census has been reported)

9. Schools/colleges				
District	Bagh	Dhirkot	Haveli	All District Bagh
Mosque schools	82	55	44	181
Primary schools	127	90	143	360
Middle schools	108	52	35	195
Secondary schools	48	25	20	93
Higher Secondary Schools	4	2	1	7
Colleges	5	5	2	12

Source: District Profile Bagh, ERRA, 2007

10. Hospitals	
District	All District Bagh
DHQ Hospitals	1
THQ Hospitals	3
RHCs	6
BHUs	20
Rural Dispensaries	-
MCH Centers	27
Civil Dispensaries	19

Source: District Profile Bagh, ERRA, 2007

11. Employment status by groups in District Bagh (1998)			
	Total	Rural	Urban
Total population (000)	480	453	27
Population between 15 to 64 years of age (000)	254	239	15
Total number employed (000)	223	195	28
Employed population as % of population between 15 to 64 years of age	88	82	188
Employed population by occupation			
Self employed (mainly agriculture)%	74	76	60
Service govt/auto bodies %	5	3	18
Service private %	8	6	18
Employer %	2	2	2
Unpaid family helpers %	11	12	2
Employed by groups			
Employees (%)	4	3	14
Service workers & shopkeepers (%)	5	3	17
Skilled agriculture/fisheries workers (%)	74	81	26
Other skilled Non agriculture workers (%)	2	1	5
Wage labours (%)	15	12	38

Source: Population Census 1998

12. Disabled Population by age group in District Bagh					
Age group	Both sexes	Male	Female	Rural	Urban
Total disabled (#)	9,995	5,798	4,197	8,663	1,332
0 -14 years (%)	34	31	39	35	32
15 - 29 years (%)	17	18	16	17	18
30 -39 years (%)	8	9	8	9	7
40 - 64 years (%)	20	22	19	20	24
Above 64 years (%)	20	20	19	20	19
Total	100	100	100	100	100

Source: Population Census 1998

13. Widows/Divorced Population age of 15 years and above in District Bagh				
	Bagh	Dhirkot	Haveli	All Bagh District
All	11,406	10,097	5,012	26,515
Male	3,518	3,152	1,608	8,278
Female	7,888	6,945	3,404	18,237
Rural	9,508	7,849	4,579	21,936
Male	2,990	2,516	1,485	6,991
Female	6,518	5,333	3,094	14,945
Urban	1,898	2,248	433	4,579
Male	528	636	123	1,287
Female	1,370	1,612	310	3,292

Source: Population Census 1998

ANNEX-5:PROJECTED POPULATION DATA AT VILLAGE/UNION COUNCIL LEVEL.

Name of UC	Population			Literacy Ratio	Religion			Number of Housing units by type				
	Both sexes	Male	Female	%	Muslims	others	18 years & above	Total	Pacca	Semi-pacca	Kacha	Area in Acres
Bagh												
Bagh UC	10242	5056	5192	58	10213	29	4899	1441	598	298	545	7893
Bagh Partly	381	177	204	52	381	0	190	48	45	2	0	1238
Bagloor	687	348	339	62	687	0	365	132	29	2	100	492
Chaka Garola	57	28	29	52	57	0	24	10	0	0	10	54
Koteri Najam	2897	1434	1463	59	2892	5	1407	381	108	55	219	1025
Nandrai partly	1670	837	833	52	1670	0	794	209	12	195	1	450
Noor Gala												2601
Sewar Kalo	1389	694	694	66	1367	22	628	171	60	9	103	444
Sewar Matwali	1185	578	606	63	1185	0	591	177	35	31	110	590
Chowki	1977	960	1023	60	1974	2	899	314	309	2	2	999
Bir Pani UC	18061	8131	9930	55	28254	62	12623	4117	1635	935	1548	9201
Bani Mahldara	3120	1379	1741	52	3119	1	1302	439	350	49	40	1383
Bani Manhasan	2769	1190	1579	50	2750	31	1223	385	146	52	186	1788
Bir Pani	3872	1780	2091	63	3870	1	1738	569	182	163	225	1664
Khawaja	2606	1184	1423	43	2606	0	1112	427	256	84	87	2186
Kotla	563	256	306	58	563	0	217	82	21	0	61	
Ratnoi	3512	1603	1908	51	3512	0	1484	524	46	222	256	1565
Sudhan Gali	1620	739	881	68	1620	0	649	249	34	68	147	615
Bani Pasari UC	18184	8928	9256	62	18148	37	8651	2497	752	153	1593	8186
Awetra Partly	1650	781	869	69	1647	2	746	206	206	0	0	664
Bani Pasari	3049	1437	1612	60	3048	1	1397	407	64	2	340	2014
Chak Dhaal	221	123	98	61	218	2	112	38	1	23	14	202
Chattar-1	3114	1584	1530	71	3113	1	1487	389	136	29	224	894
Badhal	1772	857	915	71	1766	6	876	227	77	37	114	368
Kotheri Qandeel	904	415	489	57	904	0	409	126	122	4	0	609
Lambi Kassi	159	85	73	46	159	0	77	22	22	0	0	113
Panyali	5198	2672	2526	67	5175	23	2610	675	52	49	574	1874
Surul	2118	974	1145	58	2118	0	937	407	71	9	328	1448
Dharay UC	26363	13815	12548	49	23856	17	10932	3275	1665	276	1334	9961
Chattar -2	4795	2490	2490	43	4795	0	2187	695	567	17	111	1440
Dhara	8890	4155	4736	56	8882	9	3989	1218	616	73	529	2909
Koteri Tughlo	1592	802	791	60	1591	1	727	212	93	2	116	419
Sahlian Maldianlan	4877	2385	2492	45	4873	4	2370	633	351	154	128	2834
Samini	3718	1678	2040	41	3714	4	1659	516	37	29	450	2359
Jaglari UC	22488	11434	11054	73	22428	60	11172	3071	1539	207	1326	7503
Hari Ghel	316	157	159	78	316	0	145	46	15	9	23	137
Jaglari	8943	4521	4422	71	8942	1	4501	1296	525	75	695	2286
Kafal Garh	5272	2608	2665	73	5272	0	2603	712	281	43	389	1926
Loon Hotter	1486	776	710	67	1486	0	766	165	164	1	0	415
Mong Bajri	545	301	244	64	545	0	276	76	26	15	35	357
Paddar Mohd Ali	1317	674	643	79	1258	59	626	176	49	51	76	651
Pamnoti	157	79	78	71	157	0	84	27	16	1	10	32

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Patrata	952	437	515	67	952	0	465	130	37	0	94	707
Kotheri Mast Khan (Partly)	3500	1882	1618	88	3500	0	1706	443	427	12	4	992
Nar Sher Ali Khan UC	12799	6080	6718	40	12785	13	6022	1688	886	20	782	4334
Azad Bara	222	104	118	37	222	0	99	34	4	0	31	1411
Nar Sher Ali Khan	10224	4828	5396	46	10211	13	4790	1363	668	13	682	1159
Seri Mang	2353	1148	1204	36	2353	0	1132	290	214	6	70	1764
Rawali UC	16166	7891	8275	66	16133	33	7882	2092	910	261	920	6721
Bhorka	1707	800	907	62	1703	4	782	216	33	10	173	710
Mera	1339	645	693	71	1339	0	605	176	172	2	1	570
Naryola	5067	2518	2549	53	5042	26	2466	667	382	113	172	1710
Rawali	7466	3657	3809	72	7463	4	3745	933	300	122	511	3445
Sir Sayiadan	587	270	317	72	587	0	284	99	23	13	63	286
Sawanj UC	16724	8070	8605	54	16654	21	7902	2239	410	307	1488	12407
Bari Kot	3066	1472	1595	50	3059	7	1370	409	56	10	309	6227
Dhuli	4875	2320	2506	51	4826	0	2368	641	49	211	381	3297
Kathi	1717	843	874	56	1713	4	767	226	85	15	126	590
Sawanj	2777	1343	1434	60	2773	4	1302	391	71	32	288	845
Seri	4289	2093	2196	52	4283	6	2094	572	148	39	384	1448
Thub UC	25658	13066	12592	66	25630	28	12683	3265	823	394	2048	9863
Bangran	5314	2671	2643	67	5311	2	2745	738	99	65	574	1717
Pier Ban	7698	3955	3744	69	7697	1	3720	906	422	132	351	2162
Thub	12646	6440	6206	61	12622	24	6217	1621	301	197	1123	5984
Topi UC	16800	8300	8500	58	16764	35	8784	2148	647	601	900	7233
Kothian	3930	1819	2111	60	3929	1	1851	538	77	232	230	2229
Topi Janubi	6151	3015	3136	54	6128	23	3501	854	217	326	311	2431
Topi Shumali	6718	3465	3253	59	6707	11	3432	755	353	43	359	2573
Dhir Kot												
Chamyati UC	16687	8221	8466	62	16617	70	8788	2506	816	242	1448	6893
Bathara	2521	1226	1294	60	2507	14	1374	388	29	80	279	1592
Chamyati	6299	3041	3258	63	6291	8	3152	900	385	87	427	2518
Kotli	5385	2664	2722	61	5344	42	2952	759	233	53	472	1780
Sangar	2482	1290	1192	65	2475	7	1309	460	169	22	269	1003
Chirala UC	9929	4696	5233	65	9901	28	7124	1545	842	144	559	5795
Chirala	5094	2422	2672	66	5079	15	4805	809	338	119	351	1500
Fateh Pur	883	440	443	64	883	0	421	128	128	0	0	1107
Suhawa	3953	1834	2118	67	3940	13	1898	608	376	24	208	3188
Choor UC	19154	9509	9645	67	19127	27	9237	2609	731	252	1626	8686
Arja	186	100	85	77	186	0	89	28	23	0	5	64
Chachari	861	467	393	62	861	0	428	109	101	8	0	304
Chalandrot	2163	1056	1108	70	2163	0	1053	296	60	27	210	760
Chanat	3086	1553	1533	63	3084	2	1448	386	28	52	306	1132
Choor	6041	3037	3004	69	6033	8	2998	785	212	57	515	2813
Dhak	2554	1252	1303	60	2553	1	1241	370	45	23	302	100
Malot	2724	1286	1438	70	2724	0	1279	419	52	80	287	951

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Pail	1539	758	781	62	1524	15	699	217	210	5	2	2562
Dhir kot UC	14075	7141	6934	67	14060	15	7491	1934	533	649	752	6129
Danah	1369	718	652	77	1368	1	736	157	51	20	87	399
Dhirkot	2937	1501	1436	75	2936	1	1627	426	171	99	156	1407
Kalas	2955	1456	1499	64	2951	3	1429	365	80	71	214	1064
Narwal	4031	2034	1997	67	4025	6	2224	620	81	258	282	1343
Sessar	2783	1433	1350	55	2779	3	1474	366	151	202	14	1916
Hill Surang UC	11607	3478	5822	59	11592	15	6000	1707	538	86	1083	6941
Chamankot	3323	1604	1719	64	3321	1	1692	593	128	44	421	1509
Hill Surang	5308	325	2675	56	5305	3	2674	689	233	26	431	3229
Malal Bagla	866	449	418	52	857	9	505	127	37	10	80	1135
Minhasa	2110	1101	1009	62	2109	1	1128	297	141	6	150	1068
Makhyala UC	14300	6787	7513	68	14268	32	6990	2113	1085	285	743	6430
Khunital Riala	2358	1048	1311	73	2355	3	1172	347	344	1	1	1009
Makhyala	7462	3630	3833	72	7461	1	3669	1097	392	191	514	2857
Nara Kot	4480	2110	2370	59	4452	28	2149	669	348	93	228	2564
Rangla UC	21033	10346	10689	67	20968	65	10676	2894	920	417	1557	8501
Bhagsar	2679	1354	1324	61	2674	5	1439	348	146	106	96	911
Chaprian	1977	960	1018	65	1965	13	914	279	55	5	219	925
Ghoriker	1428	695	736	62	1426	2	733	188	50	24	114	842
Kayati Khurd	309	152	157	79	309	0	149	37	25	5	7	83
Paddar Masto	1994	885	1109	71	1990	3	911	311	58	58	195	1179
Rangla	8205	4061	4144	59	8184	21	4184	1094	330	167	596	2821
Rangoli	3820	1909	1911	62	3799	21	2033	562	246	40	275	1404
Sabu Kot	287	150	137	67	287	0	137	36	2	7	27	153
Thul	333	180	153	75	333	0	177	39	7	5	28	183
Sahlian Dhoundan UC	9731	4656	5075	57	9684	47	4831	1471	609	73	790	7517
Dheer	774	375	399	50	773	1	360	121	118	1	2	609
Mandari Gharbi	1450	744	706	56	1447	3	794	188	33	13	142	595
Mandari Sharqi	2302	1104	1198	62	2299	2	1207	349	182	15	151	2276
Sahlian Dhoundan	5205	2433	2772	63	5165	40	2470	813	276	44	494	4037
Haveli												
Bhedi UC	24746	12714	12032	50	22163	97	10974	3175	656	161	2357	28536
Agiwas	1621	822	799	30	1455	3	800	228	3	8	218	1392
Dilowali	508	272	236	23	457	0	230	59	0	0	59	415
Mohri Maidan	990	496	494	21	890	1	428	127	0	1	126	1017
Sarjiwar	260	128	132	518	234	0	121	33	0	0	33	318
Doba Bedi	1489	758	731	28	1337	2	636	222	216	5	1	3494
Hyderabad	768	428	340	3	686	5	405	120	111	6	3	1164
Subahi Bala	652	349	303	3	584	2	301	76	71	5	0	4714
Subahi Paeen	363	190	173	14	326	0	257	35	3	0	32	515
Biaran	1158	580	578	22	1030	12	489	147	0	3	144	890
Kayan	466	227	239	48	419	0	202	74	0	43	31	1522
Khawaja Bandi	796	407	390	36	711	6	345	92	0	19	72	336
Lari Lardhara	871	439	432	20	783	0	336	116	3	10	103	390

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Motan wali	537	267	271	21	465	18	215	76	0	3	73	1783
Bai Dhara	1742	912	830	21	1556	10	756	229	1	4	224	565
Basti Phulban	711	371	340	24	632	7	336	108	6	4	97	898
Bhata kot	1928	988	940	21	1733	1	895	250	63	17	171	3792
Badhal	1351	675	676	33	1214	1	550	171	18	1	152	714
Chamber	526	262	264	36	473	0	253	69	13	4	53	697
Gugdar	2082	1106	976	44	1871	1	854	239	72	6	161	1245
Jhanwala	1026	543	484	47	916	7	461	130	13	3	114	760
Loian	1870	950	920	58	1669	13	825	217	49	9	160	1210
Paddar	3032	1547	1485	38	2720	7	1281	357	17	10	330	705
Chhanjal UC	18642	9377	9265	45	16723	47	8274	2240	764	82	1394	13340
Chhanjal	4601	2361	2239	44	4128	12	2065	590	558	12	21	2926
Haji Bel	816	383	432	66	708	25	389	106	1	1	103	1149
Hotar	2100	1041	1058	32	1881	8	977	247	13	28	206	1575
Kairni	4992	2565	2427	31	4489	1	2237	624	158	31	435	2131
Kangran	743	360	382	51	668	0	297	108	3	5	100	477
Mandhar	4023	1969	2055	37	3618	1	1667	391	4	3	384	4522
Thola Nagar	1369	696	672	56	1231	0	643	175	28	3	144	560
Dewgar UC	12140	6153	5987	45	10852	68	5472	1466	784	62	620	6523
Akhori	637	330	308	25	573	0	291	72	0	32	40	22
Dewgar Teerwan Janubi	2693	1352	1342	40	2417	6	1173	350	342	6	1	2056
Dewgar Teerwan Shumali	1892	927	965	52	1691	10	811	225	141	1	83	1223
Fateh Pur	2550	1298	1252	42	2294	0	1217	290	62	4	224	1491
Hundi Piran	813	413	400	48	722	9	382	115	90	6	18	438
Renkari Chohan	503	267	236	46	451	1	218	61	12	4	45	196
Renkari Khas	1739	889	850	56	1561	3	804	217	1	8	208	792
Renkari Paeen	1312	677	635	52	1142	38	576	137	137	0	0	305
Kalali UC	13899	7027	6859	44	12492	10	5927	1658	360	10	1288	5470
Kalali	2615	1229	1386	49	2351	1	1119	349	43	1	304	1433
Kalsan	2002	1061	941	54	1800	1	876	233	9	3	221	527
Mohri Melwan	641	309	319	29	577	0	303	94	61	3	31	914
Mohri Saeed Ali Khan	1021	517	504	21	918	0	418	128	0	0	128	648
Kaiendhara	412	205	206	36	370	0	195	59	9	0	50	126
Naban Phulwari	1041	517	525	53	936	1	443	130	23	0	107	430
Pallan (Gakhran)	2277	1185	1091	47	2048	0	967	163	77	0	86	342
Pallan (Choudrian)	1487	717	770	50	1331	6	609	173	49	1	123	287
Tachan	1172	631	541	54	1053	1	481	138	56	0	82	377
Tungeri	1231	657	575	44	1108	0	516	192	32	3	158	386
Kala Moola UC	23692	12013	11679	45	21248	61	10921	2935	256	103	2575	23666
Bashan	3290	1715	1575	42	2951	8	1504	401	25	9	368	2629
Halan Janubi	2861	1440	1421	45	2573	1	1375	345	5	17	323	856
Halan Shumali	3117	1549	1567	44	2788	13	1375	390	45	13	332	5186
Bhangar Bani (Bhangari)954	1224	608	616	49	1084	16	518	139	9	24	106	351
Brang Ban	2115	1022	1093	46	1896	7	930	249	13	6	229	3156

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Jabian	1295	643	653	67	1162	3	593	175	75	4	96	173
Jokan	768	401	367	53	690	1	345	108	24	0	84	300
Sheikh Soli	1225	636	589	38	1102	0	596	173	5	8	160	355
Akhori	224	115	109	22	202	0	98	26	0	0	26	108
Kala Moola Janubi	2178	1093	1085	33	1956	3	1065	259	6	5	248	4255
Kala Moola Shumali	3160	1648	1512	40	2843	0	1531	416	5	12	399	5627
Malik Soli	330	162	168	54	297	0	162	36	0	3	33	142
Soli Khas	1905	980	925	60	1705	8	828	219	44	3	173	528
Khurshidabad UC	17550	8985	8565	34	15756	30	7958	2128	204	107	1818	24788
Hillan	1900	1006	894	38	1698	10	835	188	0	1	187	9333
Hundi Khatana	2413	1209	1203	36	2170	0	697	294	5	4	285	2187
Jarlan	1494	790	704	28	1344	0	727	192	1	4	186	731
Kacharban	1362	694	668	30	1224	1	727	155	1	4	150	5345
Orah	1362	703	659	20	1217	8	707	182	3	27	152	2912
Raiji	1369	712	657	36	1231	0	683	156	4	10	141	669
Kailar (Khurshidabad)	4353	2170	2183	33	3909	7	1927	544	49	17	478	1310
Kotli	818	418	400	24	736	0	412	106	0	0	106	1435
Maili	476	255	221	48	428	0	255	54	1	37	15	230
Noorpur	952	494	458	28	856	0	468	116	0	3	113	291
Sherpur	1052	534	518	50	943	3	520	142	140	0	3	345
Sangal UC	21210	10790	10420	45	19045	33	8856	2736	582	27	2121	11501
Chakyas	1408	717	691	42	1263	3	401	176	46	0	130	453
Charikot	1408	717	691	42	1263	3	592	198	46	0	152	119
Nakar	1326	666	661	47	1181	12	553	179	3	1	175	880
Nakarkot	1047	541	505	62	941	0	437	123	3	1	119	109
Sea-Ban (Sher Ban)	827	427	400	50	736	8	347	95	32	0	63	722
Seiryian	2105	1067	1038	44	1890	3	902	314	46	8	261	727
Bandi	1176	581	595	59	1057	1	456	142	36	0	106	452
Choie	889	428	460	42	800	0	354	113	10	1	101	390
Dhara Khas	965	480	485	73	868	0	444	142	77	3	62	145
Dhara Paeen	997	518	478	54	896	0	425	119	40	0	79	260
Miani Basti	419	214	205	60	376	1	186	51	18	0	33	97
Charroon	1379	709	670	50	1240	0	600	172	3	3	167	1002
Karron Dhara	530	273	257	28	476	0	216	74	1	3	70	414
Karsan Dhara	944	477	467	49	849	0	403	133	5	3	125	969
Khuri	1013	530	484	31	911	0	493	114	113	0	1	446
Naga Nari	1420	762	658	24	1277	0	638	165	59	4	102	3001
Pathra	602	308	294	40	541	0	253	85	0	0	78	180
Salara	1474	739	735	25	1324	1	615	194	34	0	159	445
Sangal	1283	636	646	40	1154	0	542	147	10	1	136	690