Livelihood Recovery Appraisal

of Households Affected by Flooding in 2010 and 2011 in Sindh and Balochistan

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FSC

FOOD SECURITY CLUSTER

Strengthening Humanitarian Response

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ABBREVIATIONS AND ACRONYMS

CFW	Cash for Work
CNIC	Computerized National Identity Card
DLA	Detailed Livelihood Assessment
FAO	Food and Agriculture Organization of the United Nations
FCS	Food Consumption Score
FFW	Food for Work
FSC	Food Security Cluster
IDP	Internally Displaced Person
LIAT	Livelihood Asset Trajectory
LRA	Livelihood Recovery Appraisal
MUAC	Mid-Upper Arm Circumference
NDMA	National Disaster Management Authority
NGO	Non-governmental Organization
PDMA	Provincial Disaster Management Authority
PKR	Pakistani Rupee
UC	Union Council
WFP	World Food Programme

EXECUTIVE SUMMARY

Pakistan's agriculture sector, a key component of the country's economy, has been adversely impacted by severe flooding over the last three monsoon seasons. Climate change has undoubtedly contributed to the increased severity of flooding. As this trend is expected to continue, it is imperative to reconsider policy and programme measures to reduce the impact of flooding on the livelihoods of populations in flood-prone areas. Repeated disasters affect the recovery and resilience of affected communities and can result in permanent changes in livelihood patterns.

The Livelihood Recovery Appraisal (LRA) was conducted by the Food Security Cluster (FSC) in 21 districts in Sindh and Balochistan in September 2012. The LRA had three main objectives:

1. To evaluate the extent to which rural households have recovered in terms of livelihoods and food security from the 2011 and/or 2010 floods.

2. To provide insight on the impact and effectiveness of interventions designed to support livelihood and food security recovery.

3. To understand the problems and issues that remain for livelihood recovery and the implications for future programming and households affected by these flood events.

In order to facilitate this analysis, flood-affected households were divided into three "flood cohorts": (i) households affected only by the 2010 floods; (ii) households affected only by the 2011 floods; and (iii) households affected by floods in both 2010 and 2011.

The LRA indicates that in both provinces (particularly in Sindh) households have been exposed to a number of hazards in the ten years leading up to the floods of 2010. In addition, households experienced a number of shocks within the six months prior to the survey, including high food prices (especially in Balochistan), sickness (particularly in Sindh), drought and conflict. The hazards and shocks that households historically faced before 2010 affected their ability to cope with large floods, while the shocks households faced within the last six months impeded their ability to recover from the floods.

All of this underlines the fact that flood-affected households are living in an environment of complex and multi-faceted vulnerability, which has a negative impact on their ability to withstand and recover from major flood events. This environment must be taken into account when planning effective responses and should also inform future preparedness, mitigation, prevention and resilience-building measures.

Level of livelihood recovery from the 2010 and 2011 floods

The LRA examines the following aspects of post-flood recovery: 2011/12 Rabi season production; 2012 Kharif season planting; livestock ownership; changes in ownership of physical assets; income, expenditure and debt; food security and nutritional status. Overall, the findings indicate that some recovery has taken place and confirms the hypothesis that areas flooded only in 2010 are further along the recovery path than those flooded in 2011. At the same time, it is also clear that the 2010 affected households have not fully recovered and remain worse off than before the floods, particularly in terms of livestock, physical asset ownership, financial capital and (probably) indebtedness. There is some evidence that households flooded only in 2011 may have recovered less than households flooded in both 2010 and 2011. Similarly, there is some evidence that households in Sindh may be lagging behind their counterparts in Balochistan.

Levels of coverage and satisfaction with interventions received

In the **emergency period**, a large portion of households affected by the 2011 floods received at least some assistance. Households in the *2010* and *2011* flood cohort were more likely to receive support than those in the *2011 only* cohort. It is possible that these households were considered more vulnerable and specifically targeted by agencies operating in the area. Households from the lowest wealth quintile in both provinces were consistently less likely to receive any kind of assistance, particularly food aid or agricultural inputs[1].

In the **early recovery** period, assistance coverage decreased significantly and appears to be much lower compared with the early recovery period for the 2010 floods (although the time periods are different). Of all interventions, food aid and Watan card coverage was the highest, although the proportion of households receiving assistance was less than 20 percent of the 2011 flood-affected sample[2]. Only small minorites of households benefitted from any kind of assistance during this period. In particular, support to agricultural livelihood recovery appears to be very limited with 0-6 percent of households benefitting from crop inputs, 0-7.5 percent of households benefitting from livestock support and only several households receiving support for irrigation structure repair.

During the **rehabilitation** period for the *2010 only* flood cohort, 86 percent and 71 percent of households in Sindh and Balochistan, respectively, received some kind of assistance. These levels of assistance are comparable to the early recovery levels recorded in the Detailed Livelihood Assessment (DLA), and may suggest a continuation of support for assisted households. It is important to note that households in the lowest wealth quintile were less likely to receive assistance than other households.

Overall, general food distribution and cash transfers under the Watan card programme had the highest coverage in both provinces and across all three flood cohorts, whereas livestock and irrigation support was uniformly very low.

In general, the likelihood of receiving cash through the Watan card system was broadly similar irrespective of wealth status, owing to the high levels of Computerized National Identity Card (CNIC) ownership (97.2 percent of households in Sindh and 99.7 percent in Balochistan).

Whereas households ideally would receive a range of interventions suited to their livelihood recovery needs, **assistance coverage** has been segmented and on average only **one or two kinds** of support were provided per household.

In terms of **beneficiary satisfaction**, most households thought the assistance they received during all three intervention periods was of “some help”. However, 15-20 percent of households were dissatisfied in each period, with the most common reason being that the amount of assistance provided was insufficient.

1 Food aid and agricultural inputs during the emergency period consisted of general distribution in those communities assessed as most affected by the disaster.

2 After the LRA was conducted, between September and December 2012 additional food aid and cash were distributed by Food Security Cluster agencies to 694 000 beneficiaries in 2011 flood districts – this represents 13 percent of the total population affected by the floods. Total food distributed was over 5 000 tonnes and the amount of cash disbursed was PKR 65.275 million.

In the early recovery period, another important reason was that assistance arrived too late.

Support needs expressed by LRA sample households

The high frequency of food-specific coping strategies reported by households surveyed in Sindh is an indication of food security stress.

The most common recovery activities undertaken by flood-affected households in both provinces included house repair, participation in community activities, cleaning irrigation channels, cleaning/leveling land and improving flood protection. Building materials, cash grants and food assistance were widely perceived as the most pressing needs by surveyed households in both provinces, highlighting the importance of such support for continued household recovery from the 2011 floods. Regarding agriculture-specific needs, seed was by far the most important followed by fertilizer. Looking ahead, fewer households expect to need building material support and cash grants, whilst more households expect to need employment support and health services. The proportion citing food aid as an important priority remains fairly constant.

Programming priorities for 2013 and beyond

In relation to continued livelihood recovery programming for communities affected by the 2010 and 2011 floods, action is recommended in **five** key areas, which are also relevant to current recovery efforts for households affected by the 2012 floods. These five areas are listed below in no particular order of importance. It should be noted that by taking action in these areas, the food security and livelihoods of flood-affected populations will benefit significantly in the short – and longer term. Looking to the future, the sixth priority area for programming recommends additional action to enhance the **resilience** of communities to future flood events.

Priority support area 1: Increase household access to cash to support basic needs, increase employment and reduce reliance on debt

The LRA has confirmed the high demand for cash among households affected by and recovering from floods. Increased needs combined with decreased means leads to further indebtedness and increases the likelihood of a downward spiral into increasing poverty, coping strategies and asset loss. Along with general food distributions, the Watan cash scheme has the broadest coverage of any of the post-flood recovery interventions and should clearly continue and be strengthened if possible. At the same time, there should be an expansion of cash-for-work schemes (CFW), particularly those that rebuild damaged community assets such as irrigation infrastructure. Such schemes allow for the rehabilitation of community infrastructure and provide households with employment or income generating opportunities[3], thereby enhancing access to food and other basic needs (and in some cases helping to improve access to agricultural land[4]).

Priority support area 2: Agriculture sector support to replenish depleted livestock, repair irrigation and increase agricultural production

Key assets remain depleted and are in some cases deteriorating. The following three areas are highlighted:

(i) Livestock support – Livestock is an important asset for affected populations, serving as a bank account as well as providing nutrition (linked to priority area 3) and draught power (in Sindh). In both provinces there has been essentially zero recovery from either the 2010 or 2011 floods. In order to support livestock recovery, four core activities should be upscaled:

- Livestock (including poultry) restocking programmes;
- Provision of and improved access to feed;

3 As shown in Chapter 7, there is clear demand amongst flood-affected populations for increased employment opportunities as a way of generating income.

4 Feedback during provincial consultations revealed that there is a preference for CFW over FFW (as CFW gives beneficiaries more options), and vouchers over cash.

- Improved access to clean water to reduce disease transmission and reduce the spread of foot-and-mouth disease, which is endemic in Sindh and Balochistan;
- Intensified veterinary assistance for large and small ruminants to improve animal health.

(ii) Irrigation repair and land drainage/preparation – The LRA indicates that a full two years after the 2010 floods the irrigation structures of many households in both provinces are still not restored. This is cited by all three flood cohorts as one of the main reasons for decreased Rabi production. Households (particularly those flooded in 2011) also reported that the key reason for lower production is the inability to prepare land which remains flooded and/or covered with debris left by the floods. The repair and rehabilitation of irrigation systems, as well as land drainage and preparation, should be addressed through CFW and food-for-work (FFW) programmes to support the agriculture recovery path. Both skilled and unskilled labourers should be involved in the programmes.

(iii) Provision and increased access to seed and fertilizer – LRA findings indicate constraints in access to seed and fertilizer. Access should be increased through direct distribution, input trade fairs, provision of vouchers and/or Government subsidy support.

Priority support area 3: Targeted food and nutrition interventions for vulnerable population groups

The mid-upper arm circumference (MUAC) measurements taken in the LRA indicate that a high proportion of children under five years old are falling beyond the benchmarks for acute malnutrition. In post-crisis scenarios, acute malnutrition can become a serious public health problem and a leading cause of death, particularly if aggravating factors are present such as poor sanitation and hygiene, inadequate health care and food shortages. Both severe and moderate malnutrition must be addressed, as most of the mortality (in absolute numbers) is linked to moderate malnutrition. The provision of fortified food and targeted food assistance are important tools, especially where food insecurity is a serious problem. Community management of acute malnutrition programmes are useful vehicles in this regard. Nutrition education programmes focusing on infant and young child feeding and care practices also need to be implemented. Due to the cross-cutting nature of malnutrition, it is recommended that the FSC closely collaborates with the Nutrition, Health and Water, Sanitation and Hygiene clusters to address this pressing issue.

The LRA found that dietary diversity in the population is very low. Indeed, combining frequency with type of food intake, it appears that just 20 percent of surveyed households have adequate food consumption and diversity, with a further 70 percent on the borderline. This finding indicates an overall poor quality of diet and a high likelihood of micronutrient deficiencies in flood-affected populations. Furthermore, for most households food is the most cited reason for taking loans. Thus it is important to provide targeted food assistance combined with FFW or CFW, which will provide households with access to a reasonable food basket for their dietary needs. In addition, agriculture-and livestock-based interventions, such as vegetable gardening and provision of small livestock and poultry, will serve to enhance household food security in the medium term.

Priority support area 4: Support house rebuilding to reduce debt and increase food and basic need expenditures

Shelter is a fundamental human need without which other aspects of existence and livelihood recovery cannot proceed properly. The high priority placed on building materials by flood-affected households reinforces the need to provide greater support to families as they rebuild their homes. Many households, however, have been unable to rebuild as their incomes are spent primarily on food and other immediate needs. Rebuilding needs can be met in part by cash-based interventions such as CFW or FFW programmes (priority area 1) and/or targeted food distributions (priority area 3), which help to offset household food expenditures.

Priority support area 5: Improve livelihood recovery programme delivery and targeting

The LRA indicates a number of areas in which programming improvements could be made:

- Increase the level of coverage for households affected only by the 2011 floods (of particular concern is the reported extremely low level of support to agricultural production, livestock and irrigation repairs).
- Improve targeting: it is of some concern that households from the lower wealth quintiles in both provinces appear less likely to have received any kind of assistance in the emergency period. These poorer households were also less likely to have received food aid or agricultural inputs than their better-off counterparts.
- Reduce segmentation in response: it is difficult to reconcile the level of unevenness and segmentation of response with actual livelihood recovery needs.

Improvement in these areas depends upon better coordination among agencies, which should be addressed by the Government of Pakistan at national, provincial and district levels in collaboration with bodies such as the Pakistan FSC, the Pakistan Humanitarian Forum and donors.

Priority support area 6: Preparing for the future – Increasing the resilience of flood-prone communities

Households in Sindh and Balochistan live in an environment of complex vulnerability. Climate change is playing a leading role in increased flood frequency and there is a high incidence of non-flood hazards and shocks. In this context, additional efforts should be directed at increasing the **resilience** of communities and households, enabling them to withstand and recover more easily from future floods and other calamities.

Enhancing **resilience** involves enhancing the ability of communities to prevent shocks and enabling those that are most at-risk to better anticipate, withstand and recover from shocks, as well as enhancing their ability to adapt to a changing environment. Resilience-building measures are therefore considered especially relevant to improving food and nutrition security, protecting livelihoods and reducing vulnerability in fragile and food insecure contexts. Enhancing resilience means undertaking or strengthening actions in the following areas:

- Disaster risk reduction policy, planning, priorities and political commitment;
- Legal and regulatory systems;
- Integration with development policies and planning;
- Integration with emergency response and recovery;
- Institutional mechanisms, capacities and structures: allocation of responsibilities;
- Partnerships;
- Accountability and community participation.

For each of these components, there are two sets of characteristics: one set applies to a **Disaster Resilient Community** and the other to an **Enabling Environment**. This underlines the fact that resilience depends on actions taken at the community level, as well as the agency and inter-agency level.

It is **recommended** that in the first quarter of 2013 a process is promoted to further develop and implement these and other resilience-building and enabling activities, building on existing programmes and policy frameworks. The Pakistan FSC could and should play a catalytic role in this regard, in partnership with the National Disaster Management Authority, the Provincial Disaster Management Authorities and District Disaster Management Authorities in Balochistan and Sindh.

SECTION ONE:

OVERVIEW AND METHODOLOGY

1. INTRODUCTION

1.1 Background

Agriculture is critical to Pakistan's economy, accounting for over 21 percent of its gross domestic product and 45 percent of the country's total labour force. Almost 60 percent of Pakistan's population resides in rural areas and depends on agriculture for their livelihoods.[5]

Over three consecutive years (2010, 2011 and 2012), seasonal flooding has devastated Pakistan's agriculture sector – the country's second largest – contributing to increased food insecurity and vulnerability, and reducing resilience among the affected communities. The Livelihood Recovery Appraisal (LRA) focuses on the flooding of 2010 and 2011. The following sections provide a description of the extent and initial impact of the floods.

1.1.1 2010 floods

The monsoon rains of 2010 caused the worst flooding in Pakistan in 80 years, resulting in one of the most devastating natural disasters in living memory. From July to September, torrential monsoon rains created flash and riverine flooding along the entire Indus River, ultimately damaging an area over 100 000 square kilometres – almost one-fifth the country's total land mass. The flood waters destroyed 1.6 million homes and, of a population of 168 million, more than 20 million people in 78 districts were affected and nearly 2 000 were killed.

In the wake of the floods, the Government of Pakistan, the Asian Development Bank and the World Bank conducted a thorough damage and needs assessment. The resulting findings estimated flood-related damages at PKR 855 billion (USD 10.2 billion), equivalent to 6 percent of the national gross domestic product. The largest losses by value occurred in the agriculture and housing sectors (accounting for 50 and 15 percent of the overall value of losses, respectively).

Damage to the crop and livestock sectors was estimated at PKR 429 billion (USD 5.1 billion). The majority of agricultural losses were caused by full or partial damage of 2.4 million hectares of cropped land and the death of 1.5 million livestock. Livestock losses were significant in areas that experienced flash flooding and amounted to 11 percent of the total agriculture sector damages. Damage to the agriculture sector across provinces was greatest in Sindh (almost half of all damages), followed by Punjab (36 percent), Khyber Pakhtunkhwa and then Balochistan.

1.1.2 2011 floods

Six months after the devastating 2010 monsoon season, February 2011 marked the transition from emergency relief to early recovery efforts, with a continued emphasis on supporting the agricultural and livelihood needs of the most affected and vulnerable populations.

A few months later, with the devastating effects of the 2010 floods still readily apparent, the 2011 monsoon season started with a normal rain pattern. However, the ordinary monsoon rains became torrential rains in early August, triggering severe flooding in various regions of the country, particularly in Sindh and Balochistan where over 70 percent of the population depends on agriculture for their livelihood.

On 10 August 2011, floods started to affect the southeastern areas of Sindh. Heavy rain quickly spread to the northern regions of the province, as well as in some parts of Balochistan. From 14 September 2011, another sustained heavy downpour affected areas across Sindh. In the most affected areas, including areas flooded in 2010, more rain fell in one month than in an entire average monsoon season. Continued rains caused major breaches in the agricultural and saline water canals, exacerbating the flood impact in

5 Pakistan Economic Survey 2011-12 (http://www.finance.gov.pk/survey/chapter_12/02-Agriculture.pdf)

various districts, notably Badin, Mirpurkas and Tharparkar. Over 9.2 million people were initially affected[6], more than 1.5 million homes damaged or destroyed and over 400 people killed in Sindh province alone.

The results from a Joint Rapid Needs Assessment conducted in Sindh on 11 and 12 September 2011 – led by the National Disaster Management Authority (NDMA), World Food Programme (WFP), Office for the Coordination of Humanitarian Affairs and Cluster partners including the Food and Agriculture Organization of the United Nations (FAO) – suggested that an average of 67 percent of food stocks and 73 percent of crops in affected districts had been destroyed or damaged, and more than 36 percent of livestock had perished or been sold, as farming families resorted to the detrimental coping strategy of distress sales as previously witnessed in 2010. Across all affected districts, available food stocks were reported as sufficient to last an average of 25 days and much less in some districts.

Furthermore, the Provincial Disaster Management Authorities (PDMAs) and the Department of Agriculture Extension in Sindh estimated that 0.88 million hectares of standing crops of cotton, rice, sugar cane, sorghum, vegetables and pulses had been destroyed. It is estimated that some 5 million livestock were directly affected, with nearly 90 000 recorded deaths. Stocks of animal feed and fodder were destroyed and large expanses of land, including grazing and pasture, were submerged in standing water, leaving surviving livestock stranded to face debilitating parasite infestation and disease in addition to feed shortages.

Although the Government responded quickly to the disaster, the number of people affected continued to increase. On 7 September 2011, the Government of Pakistan requested assistance from the international community.

6 Pakistan Floods 2011 Early Recovery Framework (January 2012)

1.2 Livelihood Recovery Appraisal: Background and objectives

1.2.1 Background

The LRA, a Pakistan Food Security Cluster initiative co-led by FAO and WFP, builds on the findings and methodology employed in the July 2011 Detailed Livelihood Assessment (DLA), which reviewed the degree of recovery from the 2010 floods in four provinces (Sindh, Balochistan, Khyber Pakhtunkhwa and Punjab). The DLA suggested that some post-flood livelihood recovery had taken place during 2011, particularly in Punjab which benefitted from a higher than normal Rabi harvest. At the same time, the report indicated the continued vulnerability of a majority of households affected by the 2010 floods and noted that recovery was incomplete at best, and fragile or weak at worst. This is an important finding when considering the likely impact of renewed flooding in some parts of Sindh and Balochistan in 2011. Furthermore, the DLA predicted that households likely to be affected by floods in both 2010 and 2011 – particularly in the districts of Dadu, Ghotki, Jamshoro, Qambar Shadadkot, Kashmore, Larkana, Thatta, Jaffarabad and Naseerabad – would be especially vulnerable and in need of assistance.

Building on the analysis provided by the DLA, the LRA was designed to assess the current status of livelihood recovery of those households affected by the 2010 floods, as well as those affected by floods in both 2010 and 2011. Moreover, the LRA will provide a data-based assessment of the vulnerability and unique needs of these different household groups.

1.2.2 Objectives

The LRA was designed around three objectives:

1. To evaluate the recovery of rural households from the 2011 and/or 2010 floods in terms of livelihoods and food security with a focus on Sindh and Balochistan.

2. To provide insights on the impact and effectiveness of interventions designed to support livelihood and food security recovery.

3. To understand the problems and issues remaining for livelihood recovery and the implications for future programming for households affected by these flood events.

In fulfilling these objectives, the LRA aims to inform the programming and funding decisions of all parties concerned with the recovery and resilience of communities affected by flooding. Thus, the target audience for this report includes the government (at national, provincial and district levels), donors, UN agencies and local and international Non-governmental Organizations (NGOs).

1.3 LRA tools and methodology

The LRA was carried out using two complementary tools:

1. Household questionnaire-based surveys;

2. Livelihood Asset Trajectory (LIAT) case studies.

1.3.1 Household surveys

The household survey instrument was designed to collect information regarding the extent to which households had recovered from the 2011 and/or 2010 floods, including their level of satisfaction with the assistance received, the extent of their recovery and any outstanding needs. The survey also collected data to assess the vulnerability of households to future disasters. The DLA questionnaire was adjusted

to the new requirements and scenarios in order to compare the results of the LRA with the DLA. The questionnaire was finalized after the field testing, which took place during the enumerators' training session (see ANNEX II).

Three types of households (referred to as "flood cohorts") were sampled for the questionnaire portion of the LRA: households affected only by the 2010 floods; households affected only by the 2011 floods; and those households affected by both the 2010 and 2011 floods (see province-specific information in Table 1).

Table 1. Households affected by flooding in 2010 and 2011

Province	Only 2010 floods	Only 2011 floods	Both floods
Sindh (%) Sindh (n)	39.8 2 140	45.2 2 430	15.1 810
Balochistan (%) Balochistan (n)	37.5 810	37.5 810	25.0 540

The field work, data codification and data entry activities were outsourced to two survey companies, APEX Consulting in Sindh province and the Sustainable Development Foundation in Balochistan province. The data analysis was performed by FAO, except for the food consumption portion which was completed by WFP.

1.3.2 Sample sizes of household surveys

A key concern of NDMA and other stakeholders is that the assessment produces reliable information which is useful to guide programming at district level and allows a fine tuned targeting. The assessment design and household sample size, therefore, was developed to ensure extremely accurate estimates at the provincial level and highly accurate estimates at the district level.

The actual sample size was calculated to be 270 households per household type within each district (in some districts the adjustments to population size have reduced slightly this number), which provides the following reliability levels:

- For districts affected by flooding in either 2010 or 2011 = 90 percent.
- For districts affected by flooding in both 2010 and 2011 = at least 97 percent.
- For province level = 99 percent.
- For each of the wealth and livelihood groups = 95 percent.
- For the head of household types = at least 90 percent.

The final sample size for each district is shown in Table 2.

Table 2. Sample sizes at province and district levels

District	Year(s) affected by floods	Affected population in 2010	Affected population in 2011	Total sample size
Sindh province				
1. Dadu	2010 + 2011	168 004	316 345	810
2. Ghotki	2010	239 399		270
3. Jacobabad	2010	18 289		260
4. Jamshoro	2010 + 2011	208 462	31 774	540
5. Kashmore	2010	154 735		270
6. Larkana	2010	15 778		260
7. Qambar Shahdadkot	2010	174 258		270
8. Shikapur	2010	325 050		270
9. Thatta	2010 + 2011	459 323	236 120	810
10. Badin	2011		722 901	270
11. Umerkot	2011		646 257	270
12. Mirpurkas	2011		195 422	270
13. Sanghar	2011		318 808	270
14. Tharparkar	2011		890 643	270
15. S. Benazirabad	2011		983 961	270
Province totals		**1 763 298**	**4 342 231**	**5 380**
Balochistan province				
16. Jaffarabad	2010 + 2011	381 253	181 471	540
17. Nasirabad	2010 + 2011	43 483	23 760	540
18. Kalat	2011		90 020	270
19. Killa Abdullah	2011		14 263	260
20. Lasbela	2011		22 213	260
21. Jhal Magsi	2010	n/a		270
Province totals		**424 736**	**331 727**	**2 160**
GRAND TOTAL		**2 188 034**	**4 673 958**	**7 540**

1.3.3 Sampling methodology

All flood-affected districts of Sindh and Balochistan provinces were divided into three strata[7] (i.e. "flood cohorts"):

1. Districts affected only by the floods of 2010 (from which seven districts were sampled – one from Balochistan and six from Sindh);

2. Districts affected only by the floods of 2011 (from which nine districts were sampled – three from Balochistan and six from Sindh);

3. Districts affected by both the floods of 2010 and 2011 (from which five districts were sampled – two from Balochistan and three from Sindh).

7 Flood-affected districts that were **not** notified by the Government were excluded from this sample.

In order to obtain a large enough sample size, the total number of households sampled per district varied according to the incidence and geographical coverage of flooding experienced. Thus, in districts which experienced flooding in either 2010 or 2011, the district sample size was 260 or 270. In contrast, in those districts which experienced flooding in both 2010 and 2011, the sample size was either 540 or 810, depending on the number of households affected by flooding and the geographical overlap of the 2010 and 2011 floods.

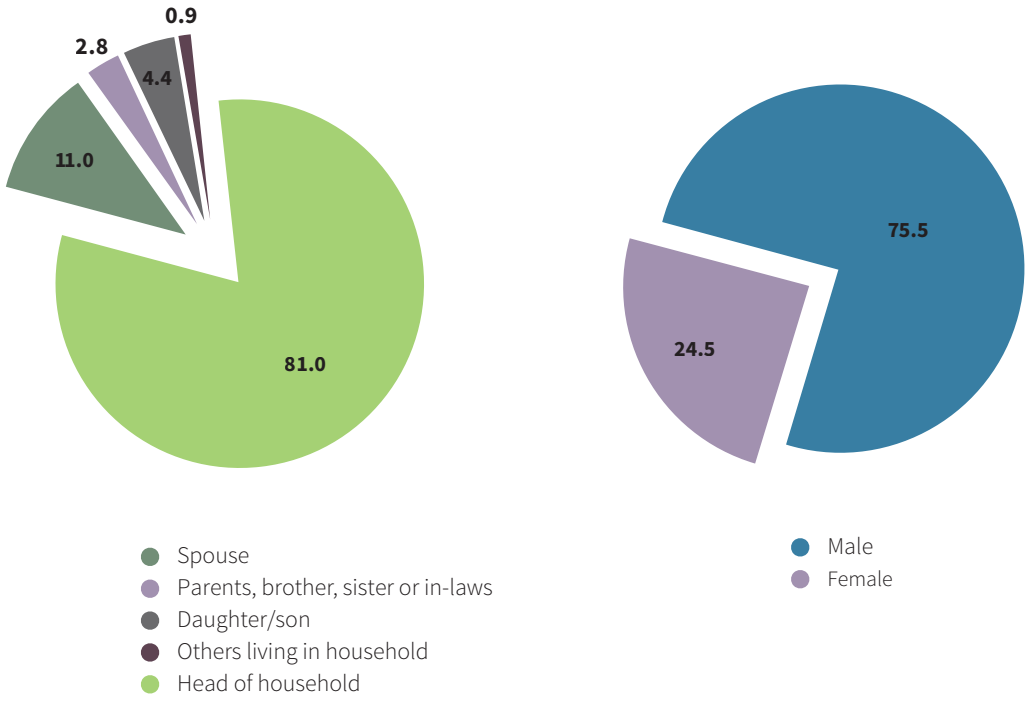
The villages selected in each district were equally distributed across the government-notified and flood-affected union councils or tehsils, and selected using the *proportionate to population size* method.

The sample size per village was 15 households, with at least 2-3 female-headed households selected per village (all other households were randomly selected)[8]. The actual number of villages selected per district varied with the total sample size, ranging from 18 villages (for a district sample size of 270) to 54 villages (for a sample size of 810).

1.3.4 Profile of the respondents

As shown in Figure 1, the primary respondent during interviews was the head of household (81 percent), followed by a spouse (11 percent).

Figure 1. (a) and (b) Type of respondents



Some general characteristics of households that participated in the survey are summarized in Table 3.

8 See Annex V for more details on the sampling methodology.

Table 3. Sample characteristics by province

Household characteristics	Sindh	Balochistan
Average age of household head (years)	45.8	41.5
Education level of household head (years)	2.6	2.5
Education level of household head's wife (years)	1.1	0.3
Child-headed households (%)	0.9	0.6
Elderly-headed households (%)	0.6	0.1
Households with pregnant / lactating women (%)	27.5	21.3
Households with disabled persons (%)	7.4	3.9
Household head with computerized national identity card (CNIC) (%)	97.2	99.7
Households with at least one women with CNIC (%)	92.9	88.7

1.3.5 Livelihood Asset Trajectory village case studies

The Livelihood Asset Trajectory is a simple but precise tool for analysing the trends in losses and recovery of each livelihood asset type (human, natural, financial, physical and social) in emergencies. LIAT data is community-based and collected in a participatory manner: gender-disaggregated representatives of various socio-economic groups are interviewed about their respective livelihood asset portfolio to establish a pre-disaster baseline, and to determine how the portfolio has changed from the onset of floods through the recovery period.

The trend of changes for each livelihood asset type were mapped out on a pentagon graph and discussed with community groups to understand the underlying reasons of observed changes, and to extrapolate the implications for future trends. Table 4 shows the locations where LIAT case studies were conducted and how many groups were interviewed. A more detailed LIAT methodology is contained in Annex III.

Table 4. Locations of LIAT case studies by province

Province	District	Tehsil	Union council name	Village	Asset pentagons	
Only 2010 affected					**M**	**F**
Balochistan	Jafferabad	Jhat Pat	Band Manik	Band Manik	3	3
Sindh	Thatta	Thatta	Makli	Kalamkot	3	3
Only 2011 affected					**M**	**F**
Balochistan	Lasbella	Bela	Bela City	Balochi Goth Kund	9	9
Affected by both 2010 and 2011 floods					**M**	**F**
Balochistan	Jafferabad	Jhat Pat	Rojhan Jamali	Tajpur Jamali	9	9
Sindh	Thatta	Jhati	Gul Muhammad Bharan	Ghot Ali Dino	9	9

1.4 Caveats

Due to time and resource limitations, the LRA was conducted only in areas affected by flooding. In other words, there is no non-flood affected control group against which to compare livelihood and food security findings. As a result, it is not known to what extent certain characteristics of the LRA sample compare with households which were not affected by flooding. Despite this limitation, the findings of the LRA still offer valid guidance on the impact of and recovery from flood events, the efficacy of interventions designed to support recovery, and flood affectees' perceptions of current and future support needs. What the LRA cannot do, however, is indicate the extent to which livelihood and food security status and perceived support needs of flood affectees differ from non-flood-affected populations.

A second shortcoming of the LRA is the district level analysis. The size of the LRA sample is large enough to permit statistically significant inferences to be drawn from the data at district level. However, there is relatively little district level analysis in this report. This is mainly due to time restrictions. Detailed district level tables are presented in Annex VII and the data set can be made available for district level analysis on request.

SECTION TWO:

RESULTS

2. SOCIO-ECONOMIC PROFILE OF THE FLOOD-AFFECTED POPULATION

2.1 Socio-economic profile of the flood-affected population

In order to establish a socio-economic profile of flood-affected households, the following three indicators were analysed: wealth status, livelihood patterns, and gender and status of the head of household. These aspects were examined with respect to the overall LRA sample and also disaggregated into three "flood cohorts": (i) households affected only by the 2010 floods; (ii) households affected only by the 2011 floods; and (iii) households affected by floods in both 2010 and 2011.

Conducting a socio-economic analysis on both an overall and cohort basis improves the interpretation of recovery data, resulting in better understanding and thus targeting of beneficiary needs.

2.1.1 Wealth status

The wealth index is composed of several indicators which are divided into two main groups: (i) income and expenditures; and (ii) productive and non-productive assets (see detailed description of the analysis made in ANNEX Iva). The wealth index was designed to offer a balance between "flow variables" (income and expenditures) and "stock variables" (different kinds of assets; for example, ownership of livestock, ploughs or a sewing machine). Income and expenditure levels are good indicators of a household's ability to ensure an adequate living standard, and the key ingredients of standard poverty line measures. The extent to which a household is above or below the income poverty line is a well-understood measure of wealth status. To complement this data, measures of asset status indicate the "depth" of wealth: households with high asset levels are generally more able to withstand livelihood shocks than those with few assets (i.e. they are more resilient and in a better position to accumulate additional wealth).

As shown in Table 5, approximately the same percentage of households were in the low, middle and upper wealth categories regardless of whether they had experienced flooding in only 2010 or 2011, or in both 2010 and 2011.

Table 5. Wealth distribution across three flood cohorts

Flood cohort	Wealth quintile				
	Bottom 20%	21 – 40%	41 – 60%	61 – 80%	81 – 100%
2010 only	23.4	18.3	16.4	21.4	20.5
2010 and 2011	21.3	15.8	22.6	19.0	21.3
2011 only	24.6	17.3	21.5	19.3	17.3

2.1.2 Livelihood groups

Livelihoods are derived from a number of different activities in rural Sindh and Balochistan. Using the same methodology as employed in the 2011 DLA, households were divided into four different livelihood groups (also see Table 6):

- Agricultural production and labour: This group is involved almost exclusively in agricultural and livestock production and agricultural labour.
- Daily wage labour (agriculture plus): This group makes a living from a combination of daily wage labour in agriculture supplemented with non-agricultural wage labour and informal credit.
- Diversified livelihoods: In addition to agriculture, this group is involved in several different livelihood activities such as business, trade, government services, remittances and rental of private property. Informal credit is also a part of their livelihood portfolio.
- Non-farm and labour: This group derives most of its income from non-farm activities (such as income from handicrafts), although day labour in agriculture can be part of the livelihood portfolio. Some crops are produced mainly for home consumption, but surpluses may be sold by some in the group. Informal credit is frequently cited as a source of cash.

Table 6. Percentages of different livelihood groups[9]

Daily wage labour (agriculture plus)	Diversified livelihoods	Agricultural livelihoods	Non-farm and labour
22.4	19.0	32.9	25.7

The following difference in the composition of livelihood groups versus flood cohorts will be important to consider in section 5, which reviews trends in agricultural production for the three flood cohorts:

The *only 2011* flood cohort relies more on daily wage labour and diversified livelihoods than on agriculture, unlike the *only 2010* and *both 2010 and 2011* cohorts which rely more on agriculture.

2.1.3 Gender

The third socio-economic indicator, gender, was analysed using a household questionnaire with the following questions: (i) gender of household head; and (ii) type of female-headed household. With respect to the type of female-headed household, two major groups were found: (i) females who are not married, divorced or widowed; and (ii) those who are married to an absentee husband (mainly due to the husband having migrated to a city or foreign country in pursuit of employment)[10].

Within the districts covered by the LRA, the survey sample included 86.7 percent male-, 4.3 percent married female – and 8.9 percent widowed female-headed households[11]. Taken together, widowed and married female-headed households account for 97 percent of the total female-headed household population (see Figure 2).

Overall, male-headed households have the largest household size, as well as the highest average number of years of education of the household head. Women, whether as spouses or heads of households, generally have fewer years of education – less than half the number of years as men in Sindh and only one-eighth the number of years in Balochistan province.

Significant differences were not recorded in the proportion of widowed versus married female-headed

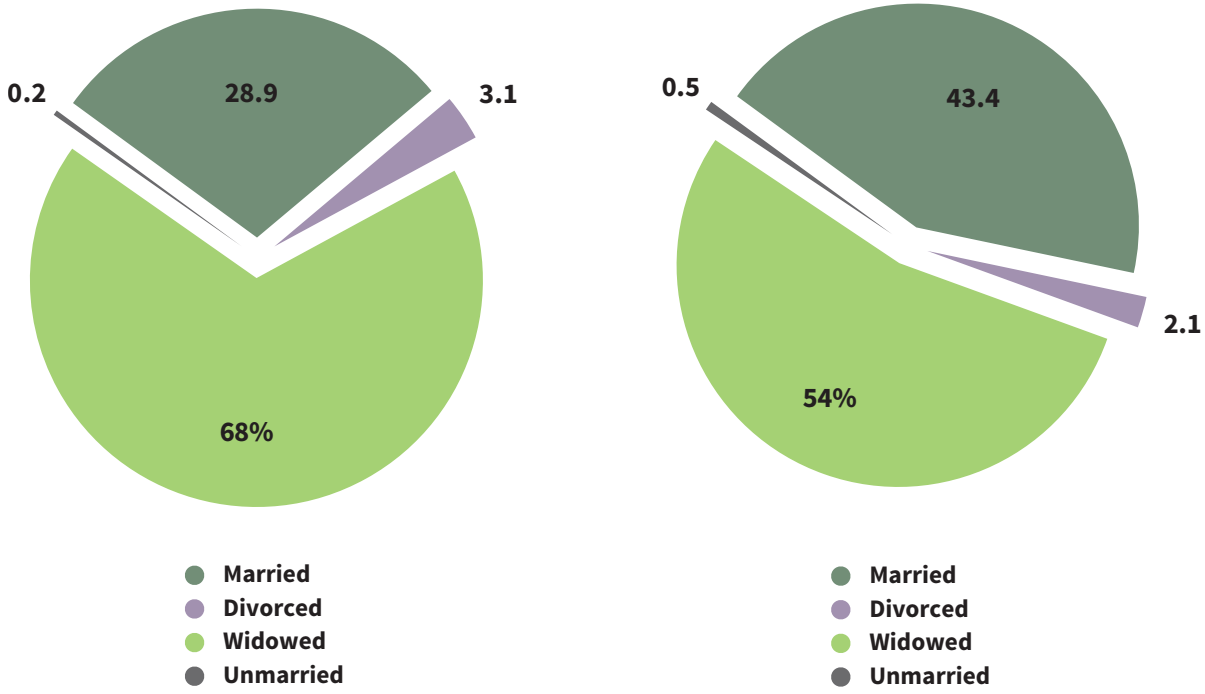
9 The percentages falling into different livelihood groups are quite different from those described in the 2011 DLA, mainly because the DLA covered KP and Punjab as well as Sindh and Punjab.

10 In some cases, the female respondent of a female-headed household is one of two wives.

11 These figures are based on the LRA surveyed sample and are therefore not necessarily reflective of the national and Provincial composition of heads of households.

households for the three flooding cohorts: approximately the same percentages of households were widowed or married regardless of whether they experienced flooding in 2010 only, 2011 only or both years. However, as shown in Figure 2, whereas in Sindh about two-thirds of female-headed households are headed by widows, widows head just over half of the total female-headed households in Balochistan.

Figure 2. Married and widowed female-headed households



2.2 Relationships between socio-economic variables

2.2.1 Relationships between head of household type and wealth status

The LRA survey results indicate that female-headed households are more likely to be in the lowest wealth quintiles compared to male-headed households; the converse is true for the higher wealth quintiles (see Table 7).

Table 7. Frequency of head of household type by wealth status

Relationship between head of household type and wealth quintile (percent of households)	Type of head of household		
	Male	Married female	Widowed female
Bottom 20%	21.6	32.6	28.2
21 – 40%	17.2	18.5	17.0
41 – 60%	19.4	19.4	26.2
61 – 80%	20.7	15.4	16.2
81 – 100%	21.1	14.2	12.4

2.2.2 Relationship between livelihood type and wealth status

The *daily wage labourer* and *diversified livelihoods* groups comprise the largest portion of the two lower wealth quintiles; representing 54.4 percent and 42.8 percent of the first and second lowest quintiles, respectively (see Table 8). Conversely, the *non-farm and labour* group represents the largest proportion of the higher quintiles and by far the smallest portion of the lowest quintile. The *agricultural livelihoods* group is evenly distributed among the quintiles.

Table 8. Frequency of livelihood group by wealth status

Wealth quintile	Type of livelihood			
	Daily wage labourer (agro plus)	Diversified livelihoods	Agricultural livelihoods	Non-farm and labour
Bottom 20%	27.0	27.4	26.7	10.5
21 – 40%	21.1	21.7	12.8	16.4
41 – 60%	20.7	18.4	21.0	19.3
61 – 80%	17.9	18.0	16.7	27.5
81 – 100%	13.3	14.5	22.8	26.3

2.2.3 Relationship between head of household type and livelihood group

Widowed and married female-headed households are significantly more likely to earn a living from *diversified livelihoods* than male-headed households; the *diversified livelihoods* group is disproportionately represented in the lower wealth quintiles.

Conversely, male-headed households are more likely to be engaged in *agricultural livelihoods* and *non-farm and labour* livelihood groups, which are disproportionately represented in the two highest wealth quintiles (see Table 9).

These findings suggest a link between gender of household head, livelihood portfolio and wealth status such that female-headed households are more likely to be involved in livelihoods associated with lower wealth status, whereas male-headed households are more likely to be involved in livelihoods associated with higher wealth.

Table 9. Frequency of head of household type by livelihood group

Livelihood Type	Type of head of household		
	Male	Married female	Widowed female
Daily wage labourer (agro plus)	22.4	20.6	23.5
Diversified livelihoods	16.6	36.0	31.6
Agricultural livelihoods	33.7	26.2	29.1
Non-farm and labour	27.2	17.2	15.8

2.2.4 Conclusions regarding the socio-economic profile of flood-affected households

The following four points summarize conclusions drawn from the LRA's socio-economic profile of flood-affected households:

- The socio-economic composition of all three flood cohorts is similar in terms of wealth distribution.
- The majority of female-headed households are headed by widows (54 percent in Balochistan and 68 percent in Sindh); almost all of the rest are married. Whether widowed or married, female-headed households are over-represented in the lowest wealth quintiles.
- Certain livelihood types are more likely to be associated with lower wealth status than others. The *daily wage labour* and *diversified livelihood* groups, for example, are disproportionately represented in the lower wealth quintiles, whereas the *non-farm and labour* group is much more likely to be in the higher quintiles and much less likely to be in the lowest quintile.
- The data suggests a link between gender of household head, livelihood portfolio and wealth status such that female-headed households are more likely to be involved in livelihoods associated with lower wealth status, and male-headed households are more likely to be involved in livelihoods associated with higher wealth.

3. VULNERABILITY CONTEXT

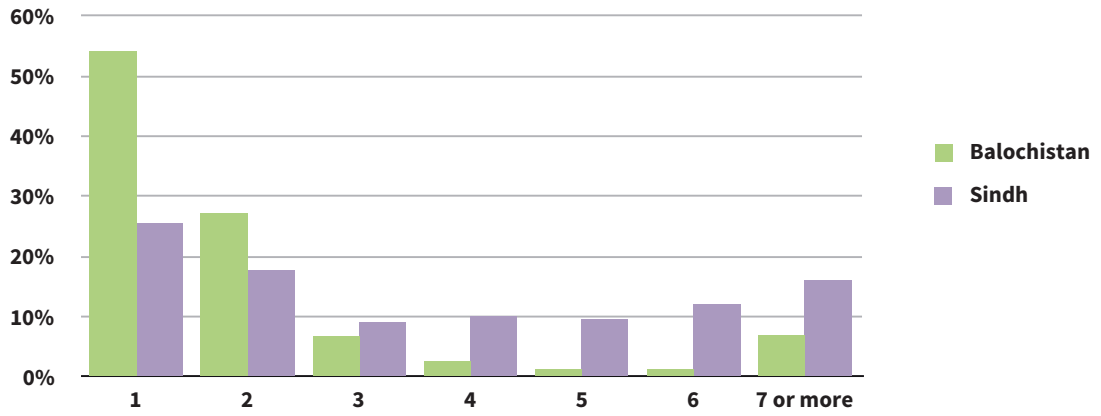
As previously noted in the DLA, recovery from large-scale flooding takes place over years rather than months. Households and rural communities need several seasons to rebuild farm and non-farm production assets, especially in areas where poverty is widespread and hazards and shocks[12] (such as natural disasters or manmade crises) are frequent. This is the case in many parts of Pakistan, a disaster-prone country vulnerable to a variety of natural disasters including monsoons, flooding, cyclones, landslides, earthquakes, hill torrents and avalanches.[13] Combined with the impact of recurring manmade crises such as conflict and high food prices, the increased frequency and scale of these natural disasters due to climate change complicates the vulnerability context in Pakistan.

3.1 Hazards between 2000 and 2010

According to the data collected, between 2000 and 2010 (pre-flood) a higher proportion of households in Sindh have been exposed to significant and disruptive hazards (56.2 percent) than those in Balochistan (39.4 percent)[14]; although other households also experienced hazards, they were more able to cope with the shocks. High food prices were reported as a frequently occurring hazard, particularly in Balochistan[15]; repeated flooding was experienced by households in both provinces, particularly in Sindh; cyclone damage was cited as a recurring problem in Sindh's coastal districts; two major droughts occurred in both provinces; and some households experienced earthquake damage. In addition, outbreaks of conflict or insecurity were noted, which appeared more likely in Sindh.

Figure 3 indicates the total number of hazards experienced by households in Sindh and Balochistan[16], highlighting the greater frequency of hazards in Sindh.

Figure 3. Hazard frequency in Sindh and Balochistan for hazard-affected households from 2000-2010 (pre-flood)



12 For the purpose of the LRA, the household questionnaire defined "hazards" as adverse events historically faced by households over the past ten years, whereas "shocks" are recent adverse events faced by households within the last six months.

13 According to the Pakistan National Disaster Management Authority (NDMA), more than thirty million people have been affected by disasters in Pakistan over the past three years. *Disaster Risk Management Needs Report 2012.*

14 This is mainly due to the fact that the districts sampled in Sindh were located either near the main streams (where riverine flooding is common) or the sea (where cyclones occur more frequently).

15 The higher frequency of high food price episodes in Balochistan is linked to several factors that increase food commodity prices, including long transport routes owing to the remoteness of the region and weak road infrastructure, as well as areas of conflict and insecurity. Furthermore, of the districts within Balochistan which were sampled for the LRA, half are not self-sufficient in cereal production. Thus, households must purchase cereal from neighboring districts or provinces, which makes them especially exposed and vulnerable to volatile and high food prices.

16 These figures relate to the 39.4 percent of households in Balcohistan and the 56.2 percent of households in Sindh which highlighted hazard exposure between 2000 and 2010.

As shown in Table 10, depending on flood cohort and province between 70 and 93 percent of households surveyed reported that the hazards they faced between 2000 and 2010 (regardless of the type or frequency) significantly affected their ability to cope with the floods.

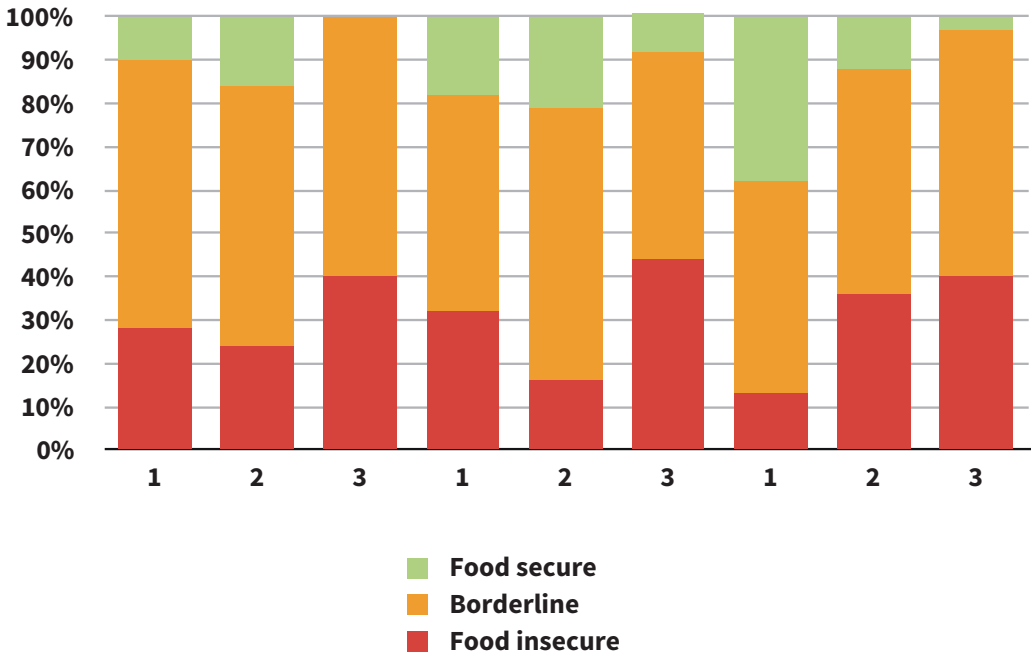
Table 10. Impact of historical hazard exposure to coping ability

Province	Flood cohort	Affected ability to cope with the floods? (% of households)
Sindh	Only 2010 floods	92.5
	Only 2011 floods	80.7
	Both floods	94.5
Balochistan	Only 2010 floods	75.4
	Only 2011 floods	70.4
	Both floods	90.5

Frequency of hazards / shocks and food security

An analysis was performed to understand the association between frequency of hazards and current household food security status. From 2000-2010, three major floods occurred as well as a prolonged drought in the early years; there were also local rains, which had only a minor impact on food security. As shown by Figure 4, those households exposed to three flooding events have a higher proportion of food insecurity than those affected by only one or two floods. Similarly, households affected by two or three droughts show a significantly higher proportion of food insecurity.

Figure 4. Association between frequency of major hazards experienced between 2000 and 2010 (pre-flood) and current food security status



The impact of flooding was greater in Sindh than Balochistan, as many households in Sindh experienced repeated and larger scale flooding (both riverine and flash floods). Balochistan experienced mainly localized and minor flood damage prior to the 2010 floods, resulting in a lower impact on household food security; however, the province was affected by a prolonged drought from 1997-2002. There were several incidences of drought in both provinces between 2000-2010, and the data analysis shows a close correlation between frequency of drought and food insecurity (additional details on food security analysis are provided in section 4.9).

3.2 Recent shocks

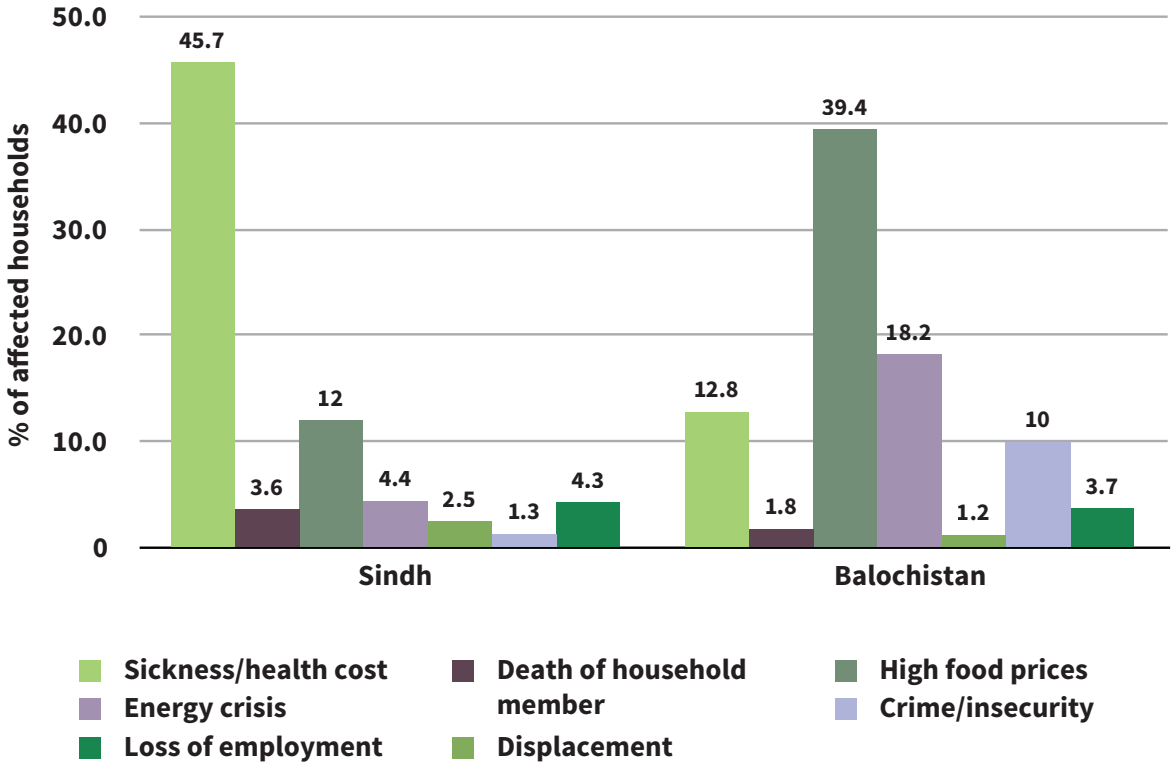
As shown in Table 11, almost every household in each flood cohort of Sindh and Balochistan reported having faced shocks in the past six months.

Table 11. Shocks endured by the households by flood cohort and province

Province	Flood cohort	Households which faced shocks over the past 6 months (%)
Sindh	Only 2010 floods	86.1
	Only 2011 floods	66.7
	Both floods	63.8
Balochistan	Only 2010 floods	80.5
	Only 2011 floods	94.3
	Both floods	85.9

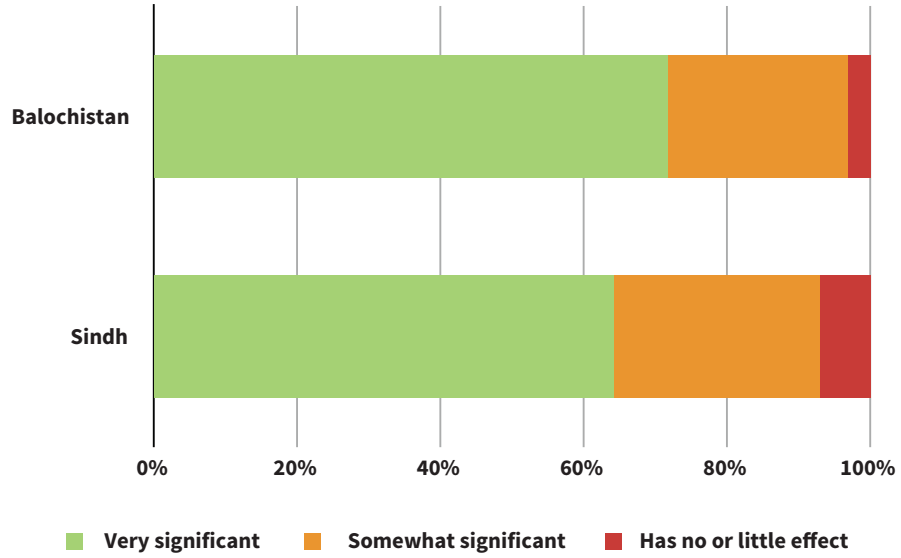
The high price of food was cited as the most common shock experienced in Balochistan, and the second most common in Sindh; illness was reported as the most prevalent shock in Sindh (62 percent). This high prevalence of illness largely results from Sindh's low land level and rice cultivation methods, in which rice is allowed to lay on the ground, risking exposure to malaria and dengue as well as other viruses and bacteria. As shown in Figure 5, additional shocks experienced in Balochistan include crime and insecurity, as well as energy issues such as load shedding and lack of gas.

Figure 5. Type of main shocks experienced in the last 6 months by province



As shown in Figure 6, these shocks significantly affect a household's ability to recover from widespread flooding.

Figure 6. Effects of recent shocks on households' ability to recover by household type and province



The impact of these shocks was perceived to be fairly uniform across wealth groups and head of household types, as shown in Table 12.

Table 12. Effect of shocks on ability to cope and recover from floods by head of household type and wealth quintile

Affected ability to cope and recover?	Head of household type			Wealth quintile				
	Male	Married female	Widowed female	0-20%	21-40%	41-60%	61-80%	81-100%
Very significantly	52.2	56.6	46.2	64.3	62.9	67.1	67.7	70.7
Somewhat significantly	21.4	23.7	21.3	27.4	30.7	27.2	27.1	26.3
Not very affected	2.4	1.8	4.6	4.6	2.8	3.9	3.6	1.7
Very little or not affected	2.0	0.9	1.5	3.7	3.6	1.8	1.6	1.4

3.3 Summary and conclusions

In both provinces and particularly in Sindh, households were exposed to a number of hazards in the ten years leading up to the floods of 2010. In addition, households experienced a number of shocks within the six months prior to the survey, including pre-2010 flooding, high food prices (especially in Balochistan), sickness (particularly in Sindh), drought and conflict.

The hazards and shocks households historically faced before 2010 affected their ability to cope with the floods, while the shocks households faced within the last six months impeded their ability to recover from the floods.

The analysis indicates that with the LRA sample as a whole there is an association between the frequency of major hazards experienced in the past ten years and the likelihood of being currently food insecure at household level.

All of this underlines the fact that flood-affected households are living in an environment of complex and multi-faceted vulnerability which has a negative impact on their ability to withstand and recover from major flooding events. This environment must be taken into account when planning effective responses and should also inform future preparedness, mitigation, prevention and resilience-building measures.

4. POST-FLOOD RECOVERY PATTERNS

4.1 Introduction

The following sections will specify how far households of different wealth, livelihoods and demographic backgrounds in different districts of Sindh and Balochistan have progressed along the recovery path. Identifying the dynamics of the recovery process is important for the purposes of planning responses.

4.2 Displacement and delayed start to recovery

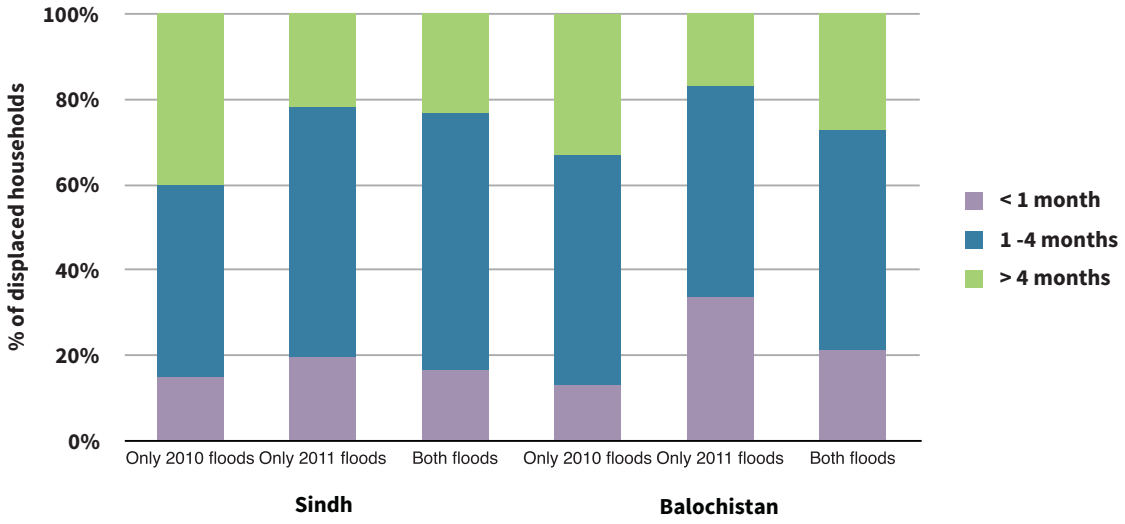
Before reviewing post-flood recovery patterns, it is important to understand the length of displacement (see Figure 7) due to floods, as it influences the degree to which households are able to undertake livelihood activities during the post-flood Rabi and Zaid Rabi seasons. A displacement of four months after the floods would mean that no Rabi season cultivation was possible, thereby postponing recovery.

Table 13 indicates the proportion of surveyed households that have been displaced by floods and the extent to which flooding was a cause in both provinces; the majority of households in the *2010 only* and the *both 2010 and 2011* flooding cohorts reported being displaced over the last two years. The proportion was also high in the case of the *2011 only cohort* in Sindh. However, significantly fewer households in the *2011 only* cohort reported displacement in Balochistan. This is because the 2011 flooding in Balochistan was caused primarily by residual water from the continuous torrential rains, and the people in affected areas were living on higher ground; therefore fewer families were displaced.

Table 13. Proportion of households displaced and importance of flooding in displacement

Displacement	Sindh			Balochistan		
	Only 2010 floods	Only 2011 floods	Both floods	Only 2010 floods	Only 2011 floods	Both floods
Displaced over the past 2 years (percentage of households)	86.5	65.2	88.8	95.7	10.2	92.0
Percentage of displaced households citing flooding as main cause	69.5	78.2	77.4	84.0	37.3	88.5

Figure 7. Duration of displacement



4.3 Livelihood Asset Trajectory case studies

In order to understand the shape of the recovery path, case studies consisting of male and female focus groups were conducted in eight case study villages. The methodology for the case studies measured changes in levels of livelihood assets over time as perceived by men and women in the villages. In the exercise, livelihood capital was defined as follows:

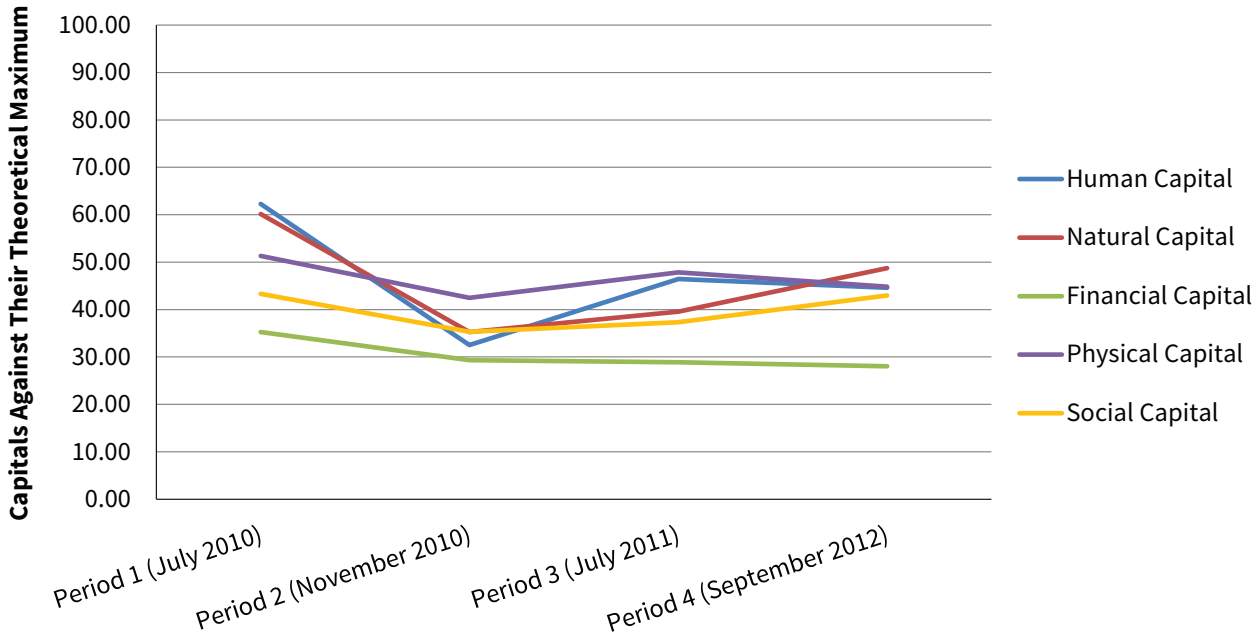
- **Human capital**: Labour capacity (physical ability to work); education; employable skills; local employment opportunities;
- **Natural capital**: Access to land; access to common property resources (rangeland, places of worship, water reservoirs or ponds); access to agricultural inputs (seed, fertilizer and insecticide); access to irrigation infrastructure; livestock holdings; crops (staple crops and cash-crops);
- **Financial capital**: Wages; access to credit; indebtedness; individual or communal savings;
- **Physical capital**: Water supply; housing; communications; roads; bridges; access to markets; livestock shelters; mechanical infrastructure;
- **Social capital**: Social status; social organizations; discrimination against the disabled; links with family and friends; confidence.

Case studies were undertaken in villages which had been affected by flooding in 2010 only, in 2011 only and in 2010 and 2011.

4.3.1 Case study 1: Villages affected only by the 2010 floods

The 2011 DLA hypothesized a notional recovery path for a poor rural household and predicted that the recovery period would take four full seasons, or two years. This is in line with the international literature and experience on the subject of post-flood recovery[17]. Figure 8 shows the current state of asset recovery in a combination of two case study villages: Band Manik in Jafferabad district, Balochistan; and Kalamkot in Thatta district, Sindh.

Figure 8. Livelihood Asset Trajectory Analysis for 2010 flood-affected villages: Band Manik in Jafferabad district, Balochistan and Kalamkot in Thatta district, Sindh



17 See DLA section 1.4 to 1.7 (pp 13 – 15).

The LIAT analysis indicates that some recovery has taken place – particularly in access to *natural* capital (which is mainly due to improvements in the Sindh case study village). *Social* capital has also fully recovered. However, a full 2 years after the 2010 floods, the remaining livelihood capitals are still below their pre-2010 flood levels. Of particular interest is the trajectory of *financial* capital which, unlike other capital assets, has remained at a much lower level than pre-2010 floods. The main reason for this is that the dramatic increase in indebtedness due to the floods has not been reduced (this is confirmed by the household survey data presented later on in the report). Looking at the gender disaggregated picture, in this as in all villages surveyed, women perceive that they have lower stocks of the livelihood capitals than men (which also reflects the pattern observed in the DLA in 2011).

4.3.2 Case study 2: Villages affected only by the 2011 floods

Figure 9. Livelihood Asset Trajectory Analysis for 2011 flood-affected villages: Balochi Goth Kund in Lasbella district Balochistan

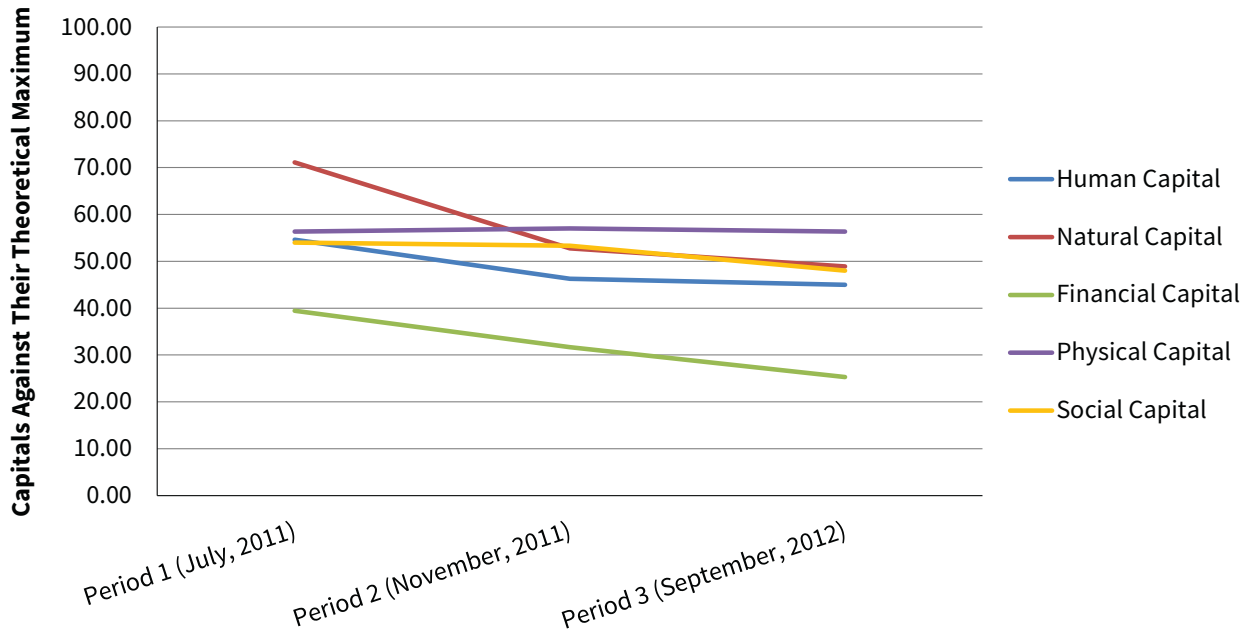


Figure 9 shows that there has been a decline in all capitals except for *physical* capital. In focus group discussions, **women** stated that physical capital has improved due to the installation of hand pumps, which has eased access to water. Similarly, paving the streets and constructing drains has eased the lives of women. **Men** have benefitted from post-flood CFW and physical infrastructure rehabilitation works. Both men and women have therefore benefitted from post-flood interventions. On the other hand, *natural* and *financial* capitals have shown the sharpest decline. *Natural* capital has suffered from post-flood land erosion, resulting in decreased access to land and common property resources. *Financial* capital has declined sharply due to increases in the debt burden, decreases in access to credit facilities and limited access to social safety networks (though this is more of a problem for men than women). Livestock, which are considered an important source of individual / household savings, were also lost either during or after the emergency. The *financial* capital showed the lowest recovery due to increased spending on health, migration and repatriation costs.

4.3.3 Case study 3: Villages affected by floods in both 2010 and 2011

Another interesting example is provided by villages that were affected by both 2010 and 2011 flood emergencies. Two villages were sampled for this case study: Ghot Ali Dino in the Thatta district of Sindh and Tajpu Jamali in the Jafferabad district of Balochistan.

Figure 10. Livelihood Asset Trajectory Analysis for both 2010 and 2011 flood-affected villages: Ghot Ali Dino in Thatta district of Sindh and Tajpu Jamali in Jafferabad district of Balochistan

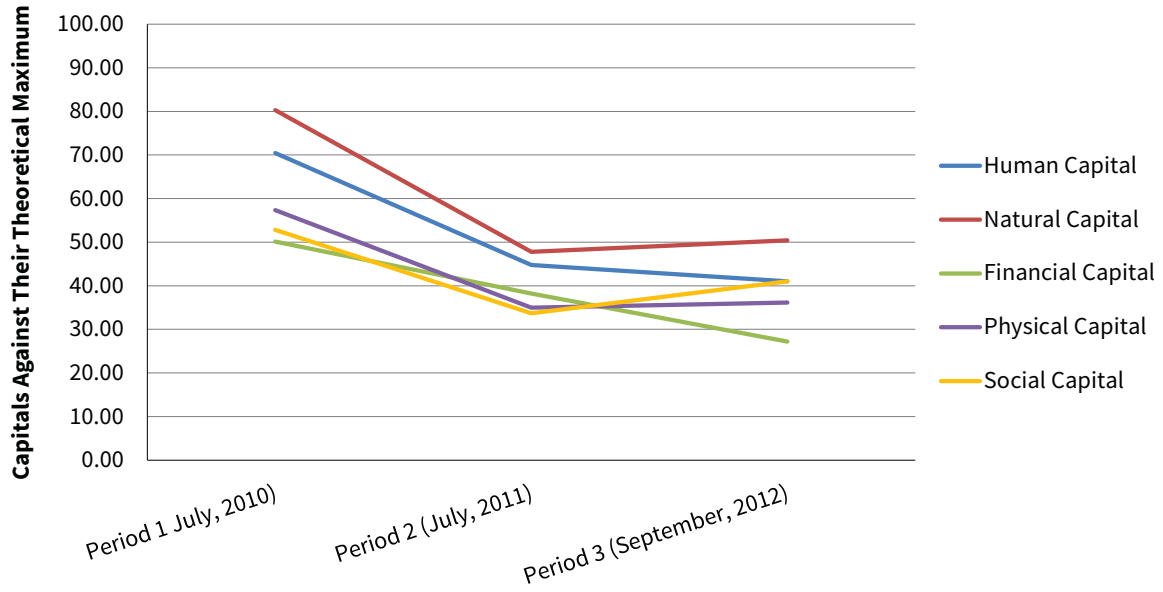


Figure 10 shows that *financial* and *physical* capitals are at the lowest levels. Repeated emergencies have significantly increased indebtedness and lowered the access of communities to credit facilities. *Natural* capital showed some recovery. There has been significant recovery in *social capital* mainly due to women, as they are more socially organized than men and repeated emergencies have brought them closer to each other. In contrast, repeated emergencies have decreased the confidence of men in particular, increasing competition for resources and consequently weakening their relations with family and friends. This has resulted in a decrease in social capital as compared with women.

4.3.4 Conclusions

As expected, the case studies confirm that recovery is more advanced in *2010-only* affected villages and least advanced in those villages affected by floods in two consecutive years. However, even in the *2010 only* villages, recovery is by no means complete, particularly with respect to *financial* capital. At the same time, there are some indications that post-flood interventions to restore *physical* capital have had a positive effect. In every village, women generally perceived that they had lower stocks of different assets at each time period, with the exception of *social* capital and in some cases *financial* capital. This latter finding is interesting, as it suggests that women may be more resilient than men in finding mutual support and are more likely to value the role of existing social safety nets (such as Watan cards). Finally, one very clear message from all the case study villages is that financial capital has been most affected and has recovered least. In all cases, financial capital is well below the pre-flood levels.

To what extent are these general indications from the case studies indicative of the findings of the larger data set? The following sections will investigate this by looking at various aspects of post-flood recovery for the three flood cohorts. First, recovery in terms of agricultural production is examined. This is followed by a look at livestock holdings of affected communities. Next is a review of changes in ownership of physical assets, income, expenditures and debt, followed by the overall state of household food security.

4.4 Agricultural production

4.4.1 Rabi season 2011-2012 and effects of the floods

An analysis of agricultural production in the Rabi 2011-2012 season resulted in the following findings.

As expected, Rabi season production was lower than normal and the reduction in Balochistan province was less severe than in Sindh. However, as shown in Figure 11, even households not affected by the 2011 floods experienced a lower than normal Rabi harvest. This is partly due to the fact that many irrigation structures have not been repaired after the 2010 floods, and partly because 2011-2012 was a below average year in general.

Furthermore, it is striking that the only 2011 flood cohort reported significantly lower Rabi crop production in comparison with the both 2010 and 2011 flood cohort (see Table 14) – particularly in terms of wheat cultivation. This was due to a combination of (i) reduced presence of agencies able to offer support in areas affected only in 2011; (ii) agricultural production is generally less important to these households than households in the other flood cohort; and (iii) the duration of flooding / dispersion of flood debris was a larger problem for this flood cohort (see Figure 13 and ANNEX VIII for more details).

In addition, the proportion of households in Balochistan cultivating vegetables is much higher for the only 2011 flood cohort in Sindh. This is due to households attempting to generate cash through vegetable sales in the Zaid Rabi season in order to compenstate for lost income from the reduced main Rabi crop.

Table 14. Agricultural parameters of the 2011-2012 Rabi season by flood cohort and province

Displacement	Sindh			Balochistan		
	Only 2010 floods	Only 2011 floods	Both floods	Only 2010 floods	Only 2011 floods	Both floods
Households cultivating Rabi 2011-2012 season (% of households)	60.5	36.7	56.2	57.4	33.5	56.8
Average area cultivated (acres / household)	10.5	7.5	10.3	13.5	3.6	12.6
Households cultivating wheat (% of households)	53.3	30.9	48.8	51.0	31.9	51.8
Average area cultivated with wheat (acres / household)	8.5	5.8	7.1	12.0	3.2	12.5
Households cultivating oil crops (% of households)	17.5	15.6	19.1	18.2	2.9	5.5
Average area cultivated with oil crops (acres / household)	7.2	7.3	7.1	15.3	3.0	7.1
Households cultivating vegetables (% of households)	4.3	11.0	11.4	8.1	32.6	7.7

Figure 11. Rabi harvest from 2011-2012 season versus normal year by cohort

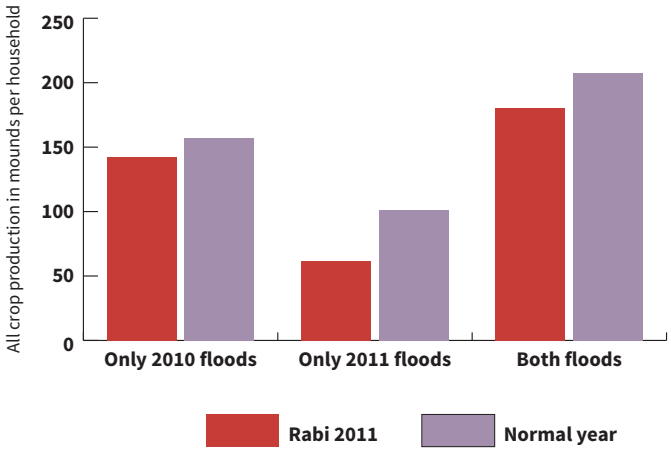


Figure 12 shows that crop production losses were reported across each wealth quintile and head of household type[18]; however, male-headed households and wealthier households started at a much higher production level relative to other groups, as previously noted in the 2011 DLA.

Figure 12. Comparing actual overall crop production vs. normal year, by head of household type and wealth quintile

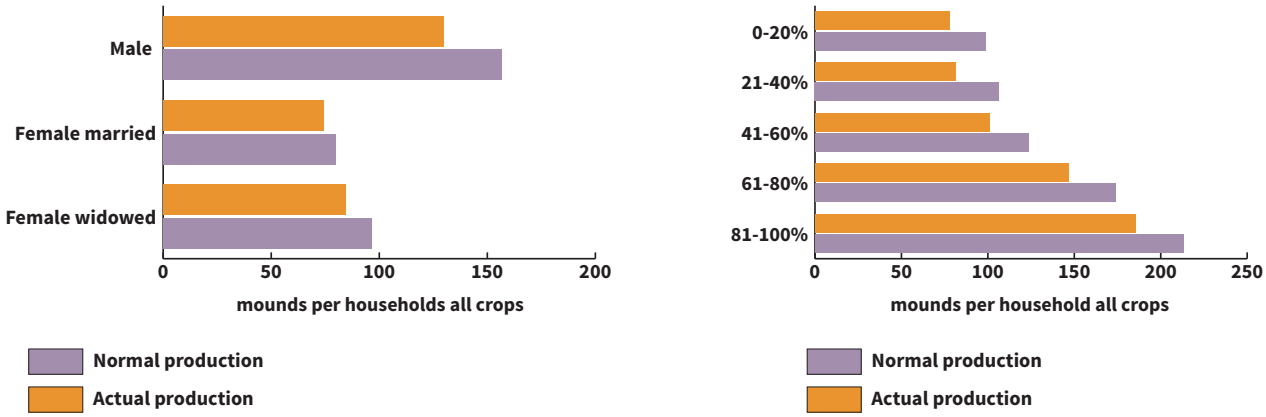
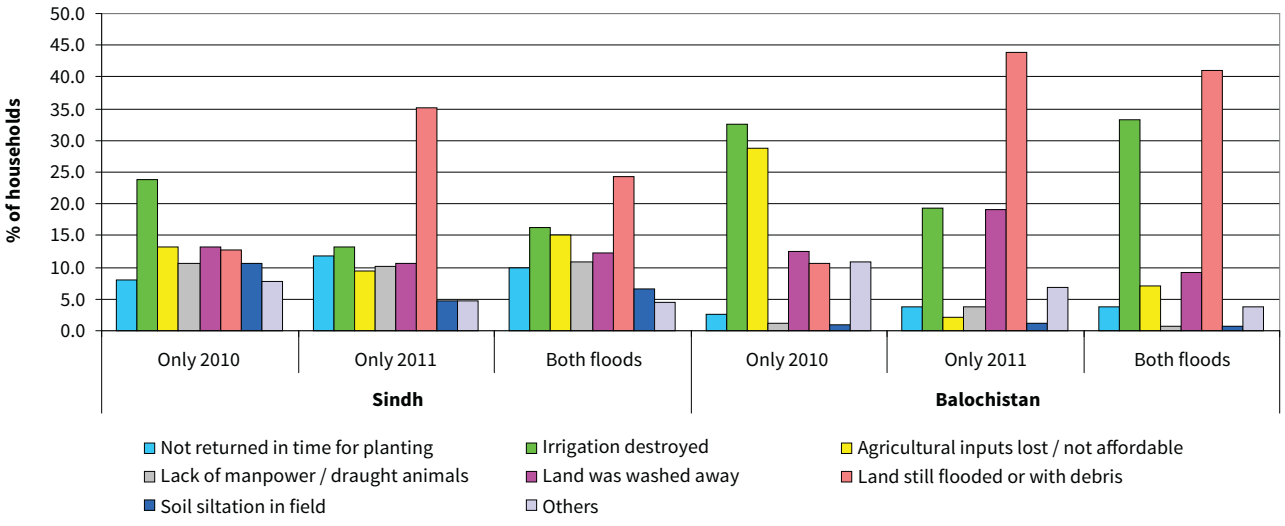


Figure 13. Reasons for production decrease by flood cohort and province



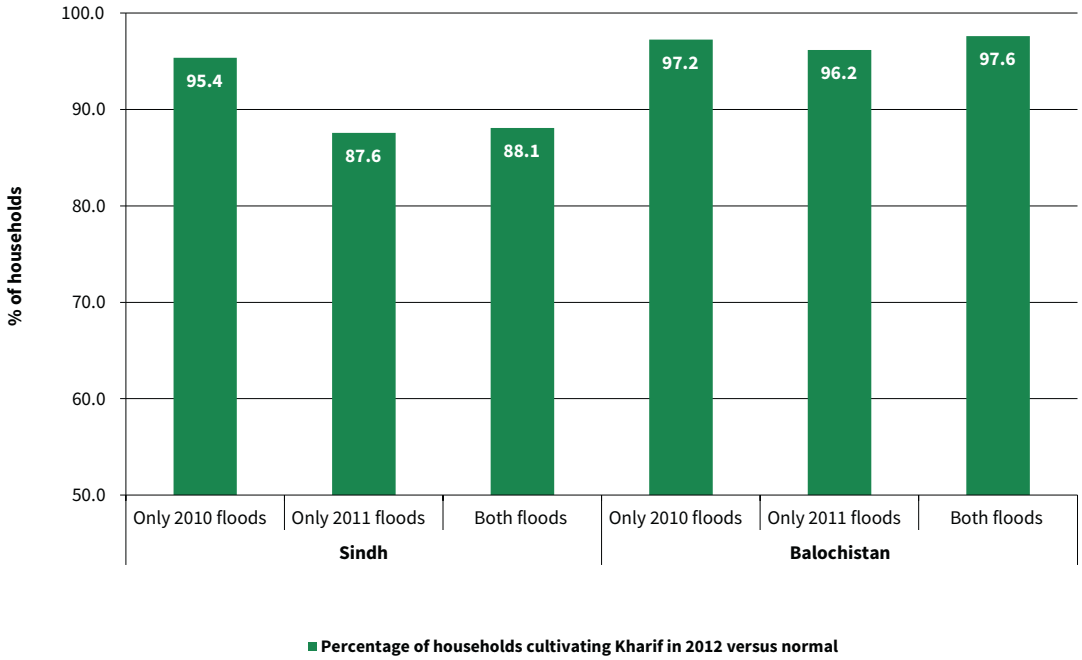
18 While the overall trend shown in Figure 12 was was the same for both Sindh and Balochistan, the total amounts differed as the area cultivated by each of the different type of cohorts varied by province.

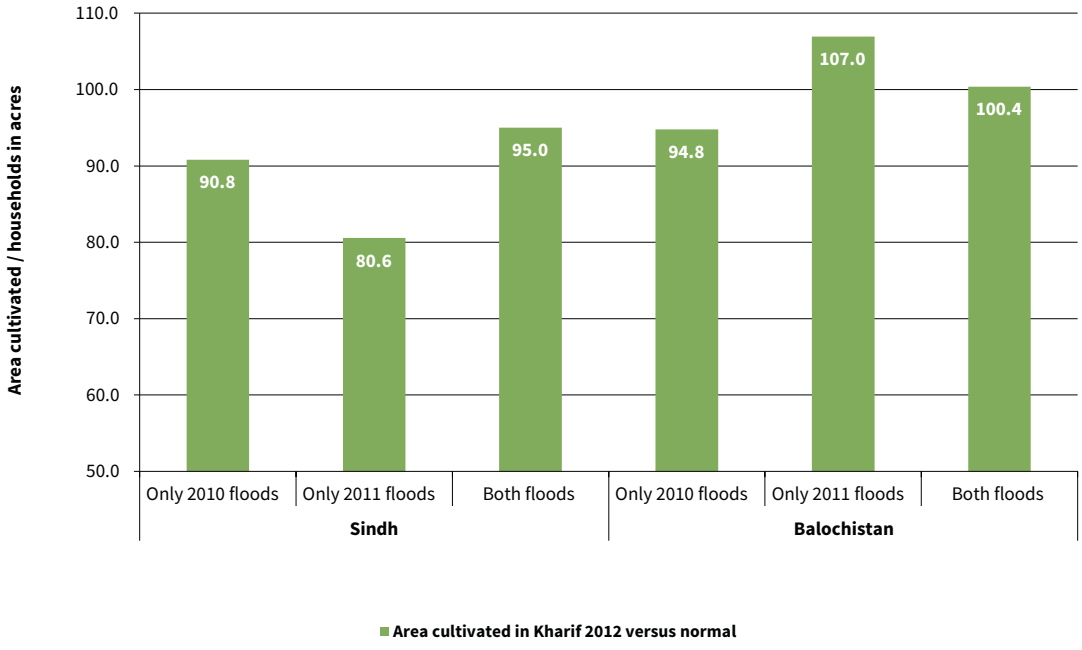
Figure 13 indicates that a full two years after the 2010 floods the irrigation structures of many households in both provinces are not yet restored; in addition (and particularly in Balochistan) the *2010 only* cohort does not have access to sufficient agricultural inputs. In relation to households flooded in 2011, a key reason for lower production was that their land was still flooded for the 2011-2012 Rabi season, or they could not prepare the land due to the debris left by the floods. Limited functioning of the irrigation system was also noted, especially by the *both 2010 and 2011* cohort, particularly in Balochistan.

4.4.2 Kharif season 2012 and effects of the floods

The frequencies and cultivated areas of the 2012 Kharif season are below normal compared with the normal Kharif pattern, although there are variations. The 2011 DLA found that in Sindh the area of Kharif land planted per household after the 2010 floods was about 80-85 percent of normal levels, whereas in Balochistan it was close to or above 100 percent. Figure 14 below shows a similar pattern.

Figure 14. (a) and (b). Proportion of households cultivating and average area cultivated in the 2012 Kharif season compared to a normal year, by flood cohort and province





Disaggregating by gender and status of household head and wealth quintile reveals that for all sub-categories the number of households cultivating in the Kharif season was slightly below normal, whereas the area cultivated was within + / – 10 percent of normal.

4.4.3 Summary

Rabi season: 2011-2012 output was lower than normal for all flood cohorts, but more pronounced for households flooded in 2011 and particulalry the *2011 only* cohort. In the case of *2011 only* flooded households, the causes of reduced output include: land was still flooded; debris remained on agricultural land; and irrigation was destroyed. Moreover, non-functional irrigation systems continued to limit production for households flooded only in 2010, which is cause for concern.

There is some evidence that *2011 only* households were attempting to compensate for low Rabi production by increasing vegetable production in the Zaid Rabi season.

Kharif season: *2011 only* households have a significantly lower proportion of area planted in relation to a normal year than *2010 and 2011* households, suggesting that they may be struggling more to recover from the 2011 floods in terms of agricultural production.

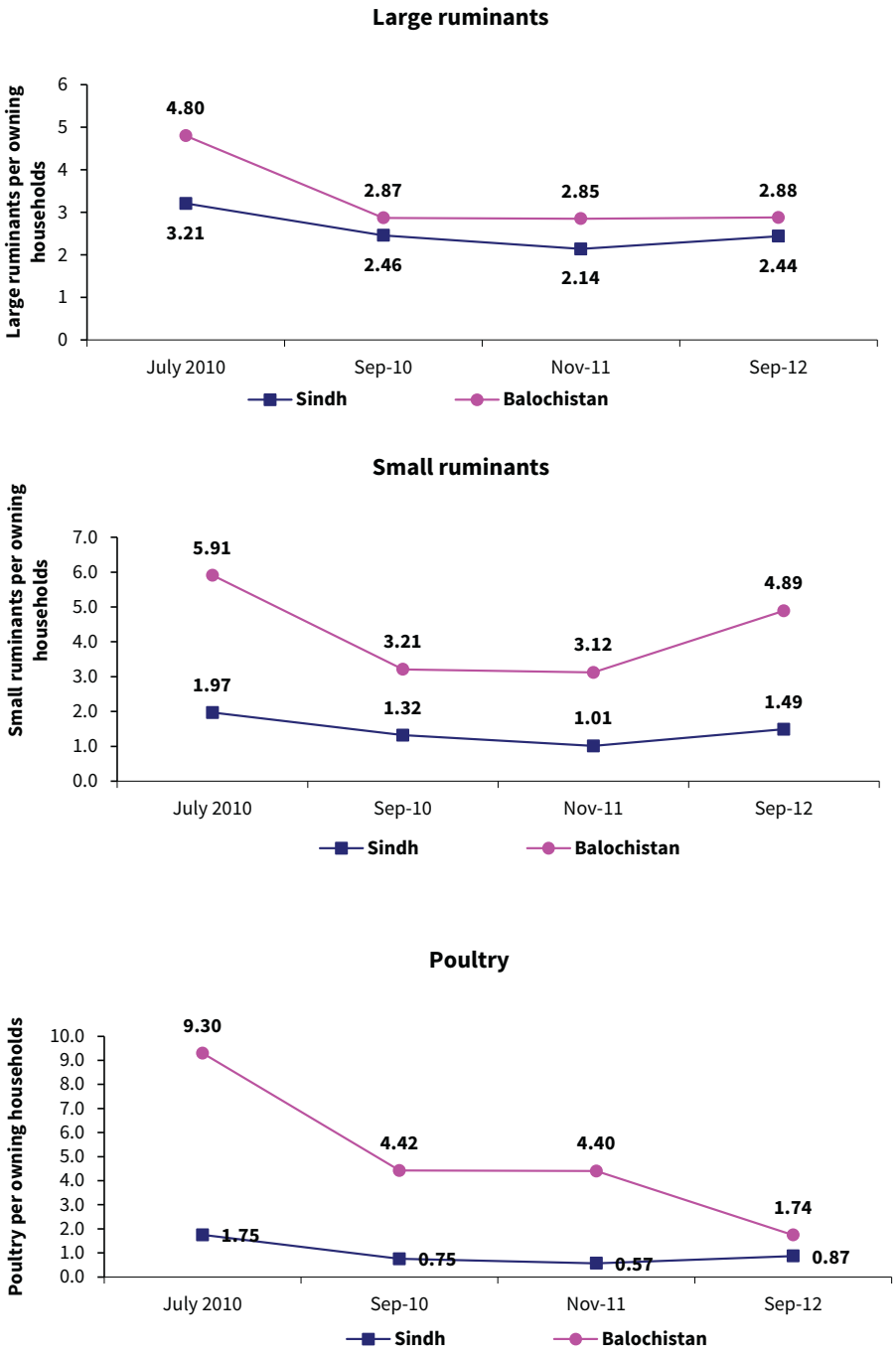
4.5 Recovery path for ownership of livestock and poultry

Livestock is a major food source for rural households in Pakistan and vital to sustaining food security. In addition, livestock is an important production asset as well as a form of savings or bank account; large ruminants can be considered as the deposit account and small ruminants and poultry as the current or cash account. Selling livestock is thus an important mechanism to help households cushion the impact of shocks. Understanding the degree to which livestock numbers have recovered since the floods is a useful barometer of overall recovery and an indication of current vulnerability. The following section looks at the degree of recovery in livestock ownership for the three flood cohorts.

4.5.1 2010 only flood cohort

Figure 15 provides detailed information for the three types of animals (i.e. large ruminants, small ruminants and poultry) along the assessed time periods.

Figure 15. (a), (b) and (c) Livestock numbers at different time periods for the 2010 only flood cohort



Many cattle have not recovered from pre-flood levels and in some cases destocking – due to a need for cash and lack of fodder and/or the means to take care of the cattle – is still taking place.

A higher recovery rate was recorded for goats and sheep: they cost less; produce offspring more rapidly; and households are more likely able to purchase them, or receive them as support from family members or through humanitarian assistance. Higher recovery rates were recorded in Balochistan than in Sindh, which was expected due to the tradition of agropastoralist-based livelihoods in Balochistan.

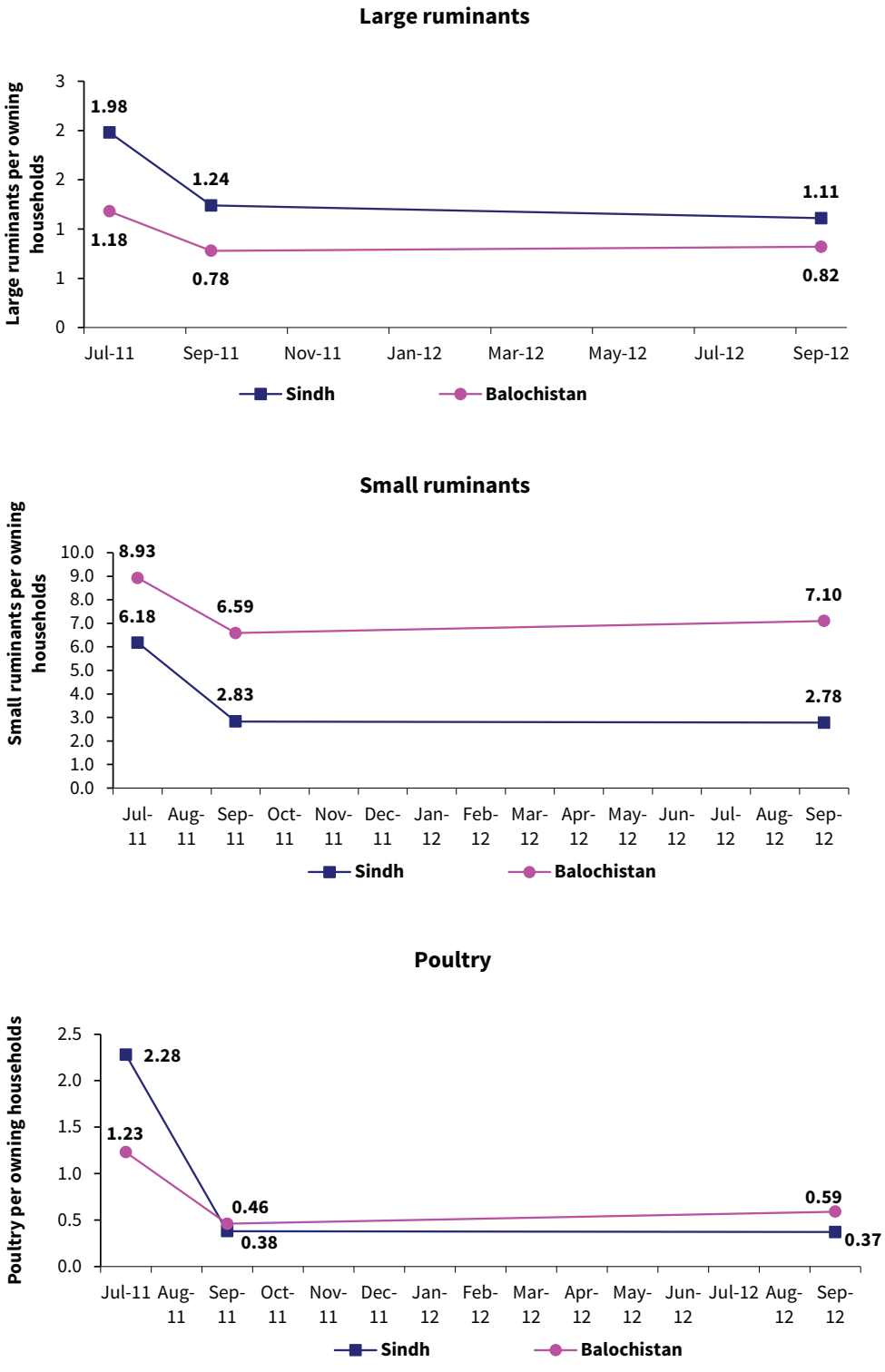
Although poultry began to recover in Sindh, the reduction trend continues in Balochistan province.

4.5.2 2011 only flood cohort

The areas affected only by the 2011 floods have lower numbers of large ruminants but higher numbers of small ruminants per household compared with the *only 2010* or *both 2010 and 2011* flood cohorts. This is because small ruminants are more adapted to the arid areas where the *only 2011* affected districts are located, whereas the number of cattle per household is reduced as there is less need for animal traction.

As shown in Figure 16, there has been essentially no recovery in livestock (apart from a very small increase for small ruminants in Balochistan).

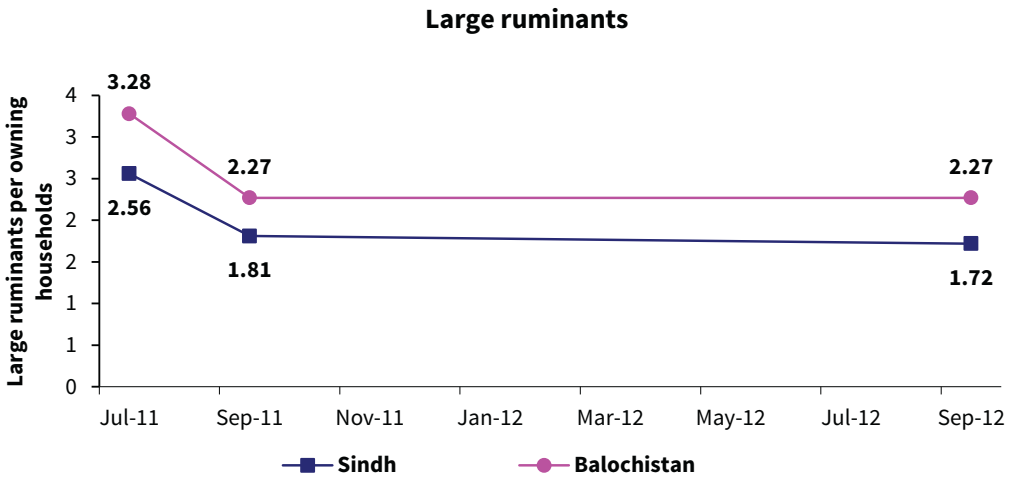
Figure 16. (a), (b) and (c) Livestock numbers at different time periods for 2011 only affected households

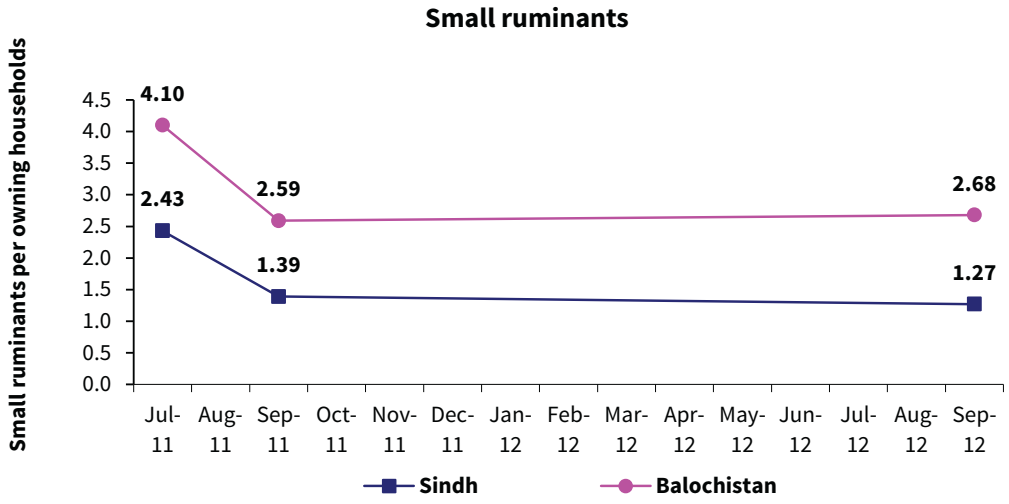


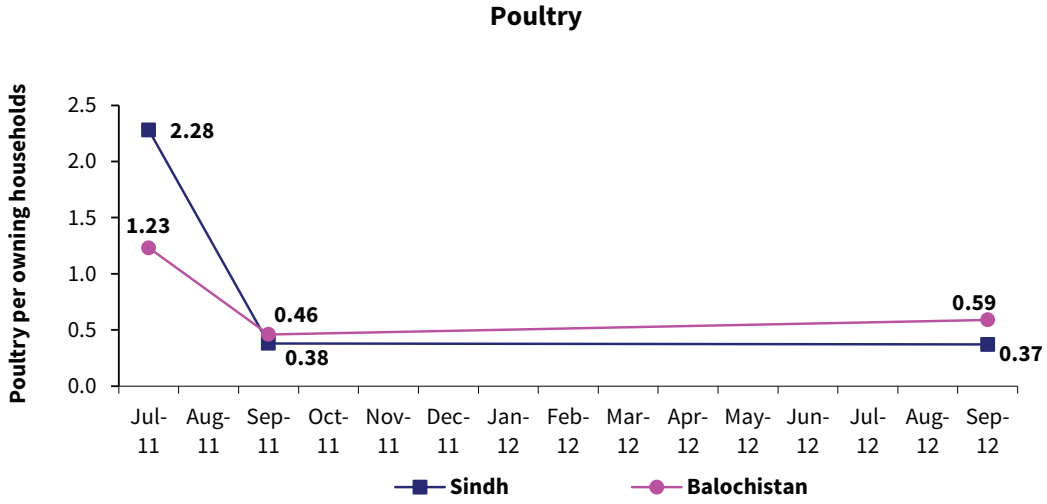
4.5.3 2010 and 2011 flood cohort

The trends in livestock ownership for the *2010 and 2011* flood cohort are similar to those households affected in 2011 only: a significant drop in livestock numbers immediately following the floods, followed by negligible changes in average livestock ownership in the past year (see Figure 17).

Figure 17. (a), (b) and (c) Livestock numbers during different time periods for 2010 and 2011 flood-affected households



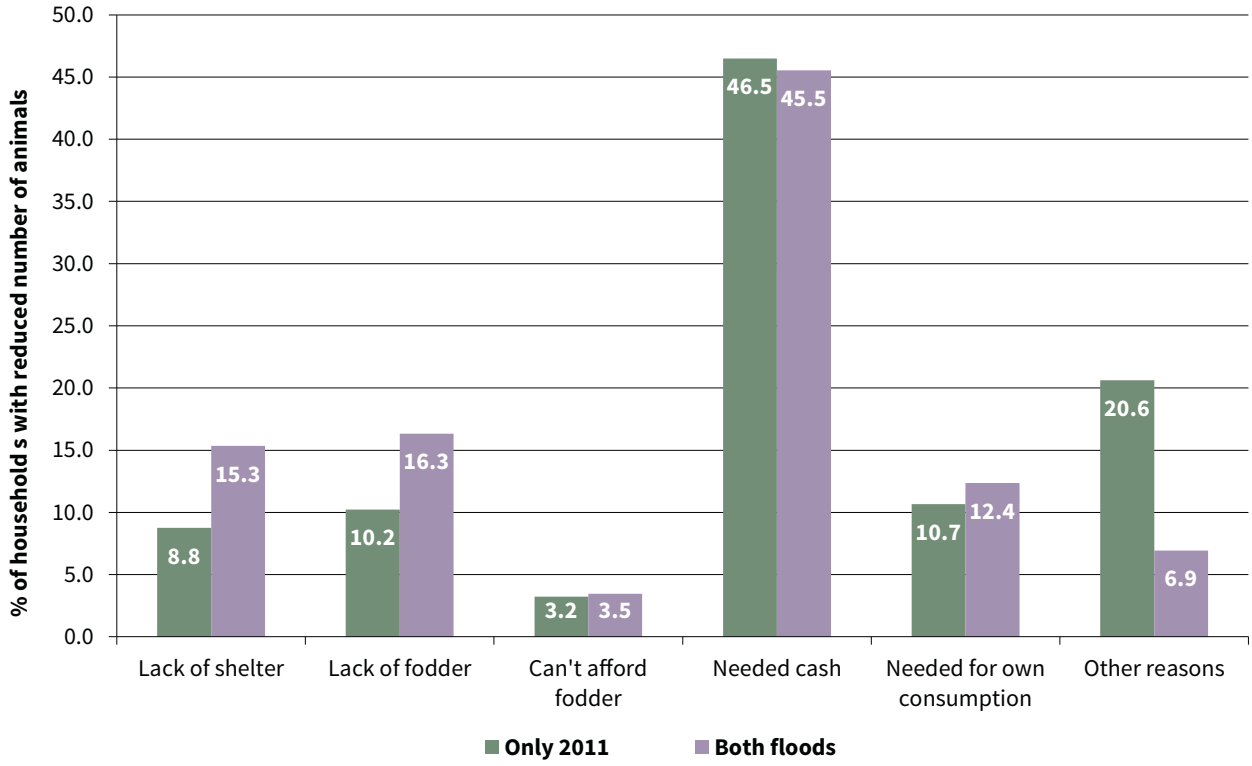




4.5.4 Reasons for livestock reduction in the post-2011 flood recovery period

Figure 18 shows the reasons for livestock reductions which took place *after* the initial impact of the floods (i.e from about November 2011 onward). The main purpose of reductions was to generate cash to meet immediate household needs after the crisis due to lack of other income sources. This further highlights the important role of livestock as a type of bank account or savings. In addition, the lack of shelter or fodder (or the means to purchase it) was cited as a primary reason for emergency destocking. Some animals were also slaughtered for own consumption. No significant differences were recorded in the reasons for livestock reductions mentioned by the two flood cohorts.

Figure 18. Reasons for livestock reduction by flood cohort



4.5.5 Conclusions

As discussed in this section, there have been large losses and very little recovery for the three types of livestock in all three flooding cohorts. Reduction of cattle ownership is less frequent in Sindh than Balochistan due to the need for animal traction. Conversely, a higher recovery rate of small ruminants has been recorded in Balochistan than in Sindh. The current livestock situation suggests that households have depleted current and deposit bank accounts, and are therefore less able to withstand further shocks of any kind. Moreover, the reduction or stagnation of small ruminants and poultry indicates a reduction in an important source of protein (meat, milk and eggs) for many households.

4.6 Changes in physical assets

The main physical assets in the rural economy of Pakistan include animals, land, houses and valuables such as jewellery, which are managed by women. Productive assets are defined as either means of transport or machinery and tools used for agricultural activities. Therefore, any change in the quantity of physical assets directly affects the ability of households to re-establish their livelihoods.

All three flood cohorts reported a decrease in ownership of most assets (especially in Balochistan), with the exception of cell phones which increased significantly in Sindh. The data on asset changes is shown in Table 15.

Table 15. Change in household assets from pre-flood to current levels by flood cohort and province

Asset change	Sindh			Balochistan		
	Only 2010 floods	Only 2011 floods	Both floods	Only 2010 floods	Only 2011 floods	Both floods
	Rating of assets pre-flood to actual status					
Animal shelter						
Heater						
Sewing machine						
Cooking facility						
Motorbike						
Television						
Handloom						
Radio						
Cell phone						

Important Reduction >15% | Same

Reduction less than 15% | Increase

The differences in asset losses among the three flood cohorts are mainly related to the type and severity of the endured floods. The 2010 floods had both riverine and flash flooding elements and were more widespread and severe than the 2011 floods. A higher than average level of asset losses was recorded in Nasirabad, Jafarabad, Killa Abdullah, Kashmoro and Jacobabad districts.

The remarkable increase in cell phone ownership is due to their role as both a communications device and status symbol. This trend increases the option for interventions related to cell phone transfer modalities.

4.7 Income and expenditures

Large-scale floods can cause accelerated and long-term structural changes to the livelihoods of affected communities. Income, expenditures and debt patterns are fundamental clues to understanding what changes in livelihood and consumption patterns take place due to the effects of the floods.

It is expected that the floods of 2010 and 2011 have changed or reduced available income sources, impacting the ability of most flood-affected households to meet their basic expenditures (food, healthcare and clothing). Consequently, as observed in the DLA, debt levels are expected to increase as households turn to loans and other forms of financial assistance to supplement their lower incomes.

The following sections of the LRA examine changes in income, expenditures and debt of flood-affected households. This will show how livelihoods were affected among provinces and socio-economic groups.

4.7.1 Changes in income sources

As shown in Table 16, households' main sources of income changed following the floods. One point that stands out is the shift from productive activities and earned income (including the sale of agricultural products, agricultural labour and trade) to unearned income (such as zakat, remittances and loans). This is consistent with a situation of constrained agricultural production, reduced spending power and increased competition for labour opportunities. In this post-flood context, households are being forced to rely on transfers and loans to meet their needs. This increased reliance has led to increased indebtedness among all flood-affected cohorts, wealth quintiles and head of household types.

Table 16. Changes in income source since the floods by wealth quintile

Change in income source	0-20%	21-40%	41-60%	61-80%	81-100%
Agricultural labour					
Sell own produced crops or animal products					
Labour in construction					
Government salary					
Factory labour					
Trade / business					
Workshop labour					
Transport business					
Women's handicrafts					
Factory business					
Rent of private property					
Foreign remittances					
Local remittances					
Loan from relatives / friends					
Income support / Zakat					
Loan from money lender					

Reduction
Same, no change
Increase by <50%
Increase by >50%

4.7.2 Income pattern changes of flood-affected households

As shown in Figure 19, around one-third of the households across all flood cohorts in Sindh province expect to keep the new portfolio of income sources permanently, whereas in Balochistan the proportions expecting a permanent change range from 50 percent for the *2010 only* and *2010 and 2011* flood cohort, to less than 15 percent for the *2011 only* cohort. Significant proportions of households expected to have a new blend of income sources combining transfers with a return to more productive activities.

Figure 19. Expected duration of income source change by flood cohort and province

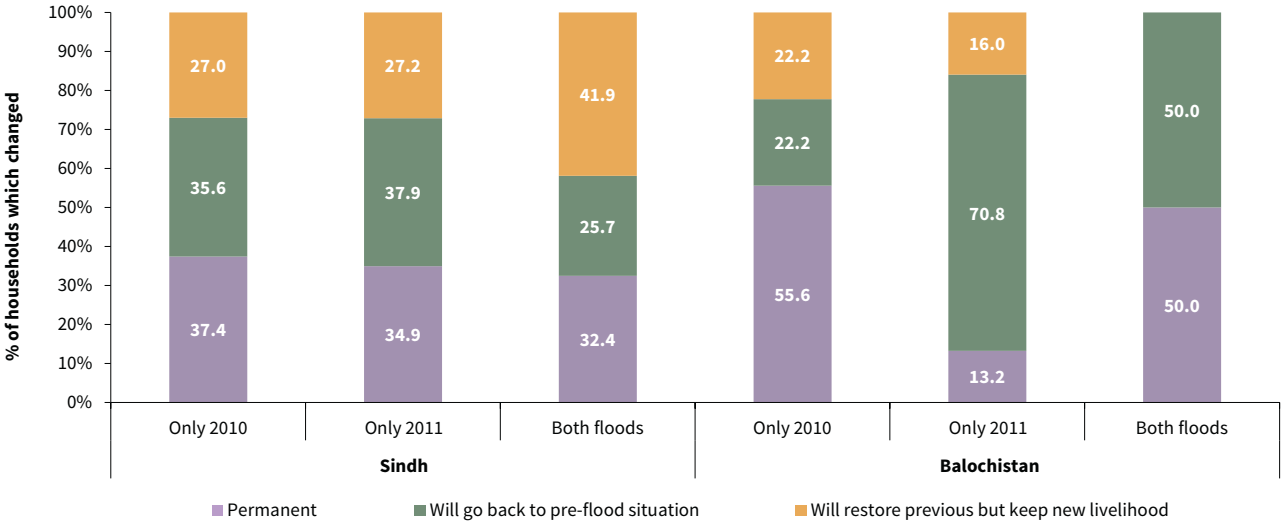


Table 17 provides a breakdown of income source expectations by household head type and wealth quintile. Male-headed households are less likely to regard the change as permanent compared with female-headed households; similarly, the wealthier are less likely to regard the change as permanent in comparison with those in the lower wealth quintiles. In all cases, however, the majority of households do not expect to return to the type of livelihood and incomes sources they were pursuing before the floods. In essence, they expect to have a higher share of transfers than earned income in their future livelihood portfolio. While this may reflect a degree of pessimism influenced by the current situation, it may also indicate a shift toward increased reliance on loans, gifts and remittances. Ultimately, households now feel less able to meet their needs through their own productive efforts than before the floods. This is a worrying trend, particularly to the extent it involves increased indebtedness.

Table 17. Expected duration of income source change by household head type and wealth quintile

Duration of income source change (% of households)	Head of household type			Wealth quintile				
	Male	Female married	Female widowed	0-20%	21-40%	41-60%	61-80%	81-100%
Permanent	30.7	37.5	42.7	42.9	32.4	31.3	34.7	23.5
Will return to pre-flood situation	41.8	33.3	40.4	36.0	42.2	35.3	39.8	49.6
Will restore previous but keep new livelihood	27.6	29.2	16.9	21.1	25.4	33.3	25.6	27.0

4.7.3 Expenditures

Reinforcing income expectations, Table 18 shows that the average household had a considerable income-expenditure deficit (calculations are based on one month of income vs. one month of expenditures in August 2012). This deficit varied from 6-12 percent in Balochistan to 12-47 percent in Sindh.

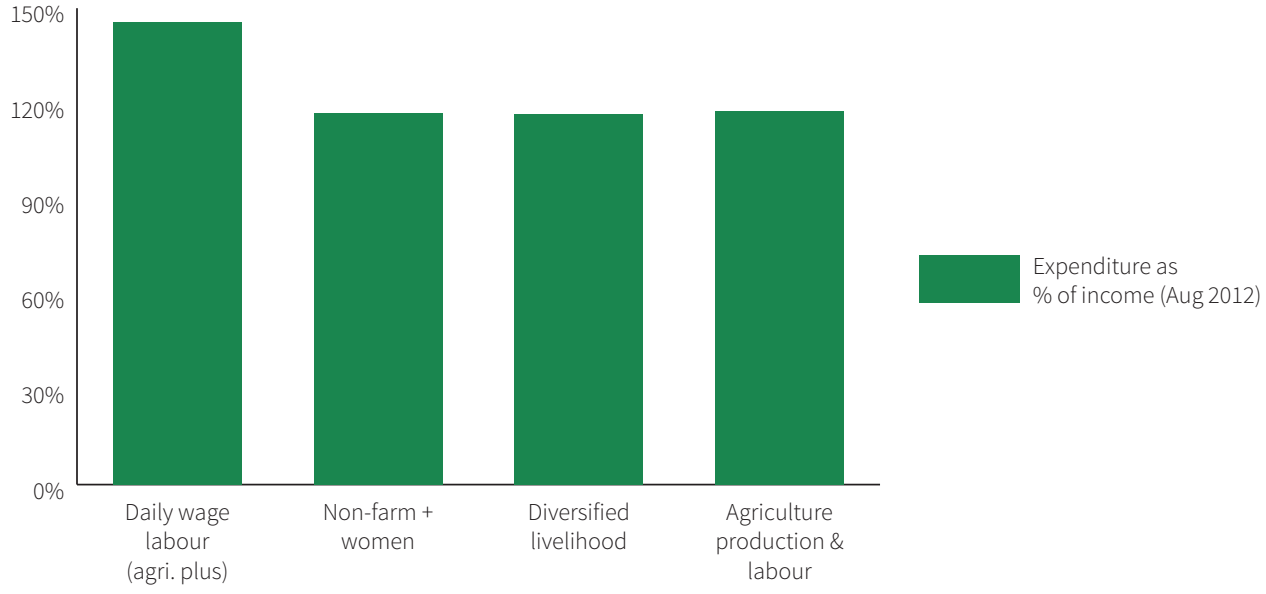
Table 18. Income and expenditure balance per household by province and flood cohort

Income and expenditures in August 2012 (PKR / buying household)	Sindh			Balochistan		
	Only 2010 floods	Only 2011 floods	Both floods	Only 2010 floods	Only 2011 floods	Both floods
Total income	12 997	10 971	15 200	12 961	14 530	13 509
Total expenditures	14 526	16 175	19 006	13 709	15 319	15 127
Deficit (income – expenditures)	**-1 529**	**-5 205**	**-3 806**	**-748**	**-789**	**-1 617**
Deficit as a percentage of income	12	47	25	6	5	12

A specific pattern was not observed in relation to the income-expenditure deficit for different wealth groups (which varied in the range of 19-26 percent); however, female-headed households appeared to have significantly lower income deficits than male-headed households (10 percent vs. 24 percent).

Also, it is important to note that the *daily wage labour* livelihood group, which is predominantly in the poorer wealth quintles, has about twice the deficit of other livelihood groups. In terms of deficit burden, this is by far the most marginalized portion of the flood-affected population.

Figure 20. Reported household expenditures as a percentage of reported income for the month of August 2012 by livelihood group



The main categories of expenditures include food, health, clothing, transportation and other non-food items. Health expenditure are higher in Sindh than in Balochistan, and non-food items and transport are more important in Balochistan than in Sindh. This data is shown in Table 19.

Table 19. (a) Categories of expenditures by flood cohort

Expenditures in August 2012 (percent of total expenditures)	Sindh			Balochistan		
	Only 2010 floods	Only 2011 floods	Both floods	Only 2010 floods	Only 2011 floods	Both floods
Food	60.2	57.0	51.6	59.2	56.7	54.0
Health	18.7	19.0	18.7	4.5	7.6	3.8
Clothing, shoes	7.1	9.2	10.9	10.0	7.0	13.5
Transportation	3.1	3.5	2.5	5.0	4.6	6.5
Other non-food items	2.9	1.9	1.7	8.4	9.1	9.5
Livestock	1.4	0.8	2.6	1.2	0.4	0.8
Agricultural inputs	1.4	1.3	4.8	3.3	0.6	2.0
Other	5.3	7.3	7.2	8.2	13.8	9.9

(b) Categories of expenditures by head of household type

Expenditures in August 2012 (percent of total expenditures)	Head of household type		
	Male	Female married	Female widowed
Food	43.7	45.6	48.4
Health	13.7	12.0	17.4
Clothing, shoes	11.4	9.8	7.5
Agricultural inputs	6.8	6.0	4.1
Other non-food items	5.1	5.2	5.7
Livestock	3.3	3.1	3.5
Other	15.9	18.3	13.3

4.8 Debt burden

The 2011 DLA noted that a significant increase in indebtedness was one of the main effects of the floods, as families were forced to borrow money in order to meet their immediate basic food and non-food needs. This section discusses the levels of debt recorded in the LRA sample.

Households in Sindh are more indebted than those in Balochistan and were twice as likely to have taken on new debt in the last 6 months (see Table 20). The levels of indebtedness range from 1.9 to 6 times monthly August income depending on household type. A specific pattern was not observed among the three flood cohorts.

Table 20. Debt status by flood cohort and province

Debt status (percentage of households)	Sindh			Balochistan		
	Only 2010 floods	Only 2011 floods	Both floods	Only 2010 floods	Only 2011 floods	Both floods
Debt to total income ratio	4.3	6.0	3.0	2.4	1.9	2.6
Households that contracted new debt in the last 6 months	73.2	69.1	69.4	21.5	34.4	22.0

Shopkeepers are the primary providers of loans in both Sindh and Balochistan. Relatives and friends are the second most common source of in-kind debts (e.g. a bag of flower, rice, oil, fertilizer, seeds or cash). Finally, landowners are the third most common source of cash or in-kind items, especially for land preparation purposes or agricultural inputs.

4.8.1 Reasons for debt

As noted in the DLA, respondents from all flood cohorts in both provinces cited the need to purchase food – their largest expenditure – as the main reason for taking on new debt. Also in line with a trend noted in the DLA, many respondents, particularly in Sindh, mentioned health expenses as the second main reason for taking on debt. This was followed by the need for agricultural inputs and tools, paying for house repairs and, to a lesser extent, purchasing animals, animal fodder and clothing. Also in Sindh province, there was an expense related to buying or leasing land; however, this was not observed in Balochistan province.

In Balochistan, the second most common reason for incurring debt was to purchase agricultural inputs and tools, followed by health expenditures and house repairs. As shown in Table 21, the ratio of debt for immediate consumption to debt for productive inputs changes with recovery. Thus, *2010 only* affected households spend more on inputs and less on health and food than the other two groups.

Table 21. Reason for taking a loan by flood cohort and province

Reasons for taking a loan (percentage of households)	Sindh			Balochistan		
	Only 2010 floods	Only 2011 floods	Both floods	Only 2010 floods	Only 2011 floods	Both floods
Food	58.5	58.1	66.5	42.0	75.3	47.6
Health	11.5	18.1	15.9	8.8	8.2	8.1
Agricultural inputs / tools	11.0	6.1	6.2	28.0	2.1	17.7
Animals	4.8	3.9	2.1	1.6	0.3	0.8
Repair house	4.3	5.9	3.5	8.8	5.2	6.5
Other	9.7	7.9	5.7	10.9	8.9	19.4

As expected, households from lower wealth quintiles are more likely to cite purchasing food as a reason for taking on debt than those in higher quintiles. Even in higher wealth quintiles, however, purchasing food was easily the most important reason[19].

19 Close to 70 percent of households in the lowest wealth quintile cited food purchase as the main reason for taking on debt, compared with less than 50 percent of households in the highest quintile.

4.9 Food consumption, food expenditures and food security

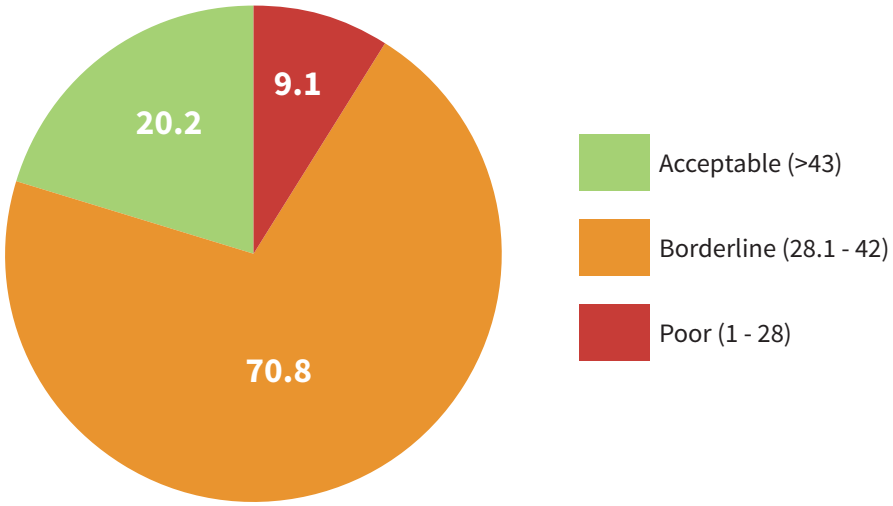
4.9.1 Introduction

The ability of households to meet their food and nutrition needs is a basic prerequisite for the well-being of any community. As disasters adversely impact food security and nutrition intake, the LRA included a module to understand the current status of flood-affected households. The indicators used to understand food security include food consumption, food expenditures, shocks and coping strategies. The main indicators used to analyse food security in this report are based on **food consumption** and **food expenditures**.

Food consumption, a major indicator of food security at the household level, is calculated by measuring the intake frequency of various food groups over a seven day recall period. Food items are grouped into nine different categories, and a food consumption score (FCS) is calculated by multiplying the frequency of intake by some standard weight for each food group and summing the total. The following three categories of food consumption are determined based on this method: poor food consumption (FCS up to 28), borderline (>28-42) and acceptable (>42). Additional details are provided in Annex IVc.

Results from the LRA indicate that only 20.2 percent of households have acceptable food consumption, while 9.1 percent have poor food consumption and the majority (71 percent) fall just under borderline. These findings indicate that the majority of households need substantial improvement in food consumption, as shown in Figure 21.

Figure 21. Food consumption groups



The DLA conducted in June and July 2011 recorded 16 percent of households with poor food consumption, while 58 percent were under the borderline category. Compared with the DLA, the proportion of the poor group decreased from 16 percent to 9 percent, while those under the borderline group increased significantly from 58 to 71 percent. The proportion under the acceptable group decreased from 25 percent in the DLA to 20 percent in the LRA. As a result of multiple shocks, it appears that many of households with an acceptable FCS moved down to the borderline with a high risk of vulnerability.

Table 22 shows food diversity by food consumption group. The current pattern suggests that cereal is still very important and an essential part of the daily diet. However, consumption of pulses by the poor group and even by the borderline group is very low and has declined considerably in the last few years. This can largely be attributed to a rise in prices, making it difficult to afford the desired quantities for all but the well-off families. This lack of food diversity is of great concern and can lead to acute malnutrition, as explained further in section 4.9.3. Food diversity should thus be a high priority in order to ensure the food security of vulnerable households.

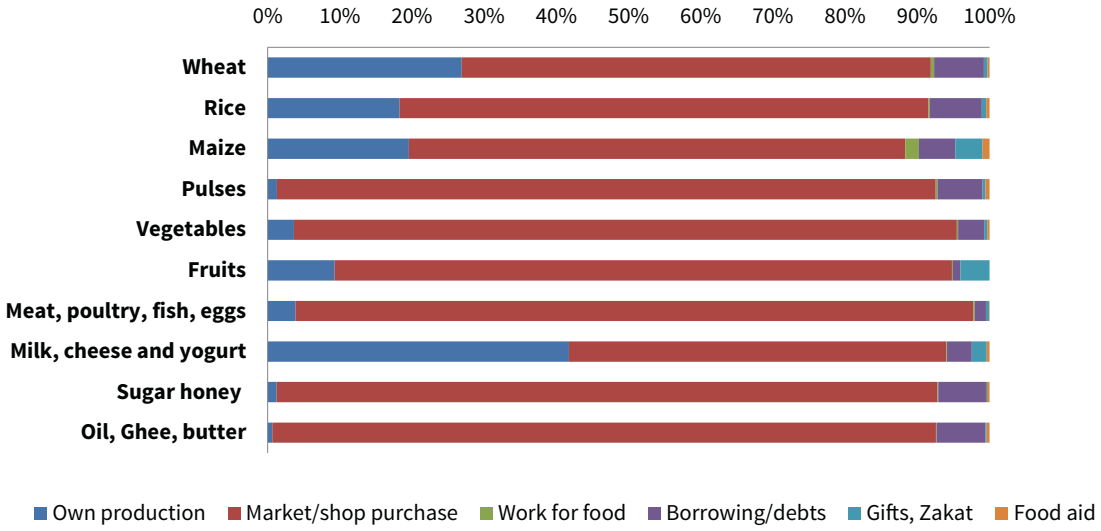
Table 22. Food diversity by food consumption group

Food consumption group	Wheat, bread, rice, maize	Dahl, beans, lentils, peas, nuts	Vegetables	Fruits	Meat, poultry, fish, eggs	Milk, cheese, yogurt	Sugar, honey	Oil, ghee, butter
	Number of days eaten in the past seven days							
Poor	6.1	.9	3.4	.4	.1	4.0	6	6.0
Borderline	7.0	2.6	4.5	.4	.5	4.7	7	6.9
Acceptable	7.0	4.5	5.5	1.4	2.5	5.4	7	6.9
Total	6.9	2.8	4.6	.6	.9	4.7	7	6.8

Food expenditures are another important indicator of food security, and are often considered a powerful indicator of economic access to food. It has been established that for poor and vulnerable households expenditures on food constitute a major share of total expenditures. Therefore, any shocks such as a rise in food prices or loss of food stocks or crops during disasters adds to their vulnerability; after such losses, vulnerable households have little or no disposable income to spend on other necessities such as health and education. For the purpose of this analysis, households are considered in the poor category if more than 60 percent of their expenditures are on food. Similarly, households with 40-60 percent expenditures on food are considered to be borderline, while those with food expenditures below 40 percent are considered to have reasonable access to food. Based on these thresholds, findings from the LRA show that about 35 percent of households have poor access to food, 36 percent are borderline and 29 percent are acceptable. Thus, expenditures on food account for a large proportion of total expenditures, as shown in Table 21 above. This data explains why food is the most common reason that households take loans.

The LRA also included questions on the sources of food consumed by households. These findings clearly show that households depend on markets to meet most of their food needs.

Figure 22. Source of food at the household level for different food items



While only 26 percent of households reported own production as their main source of wheat, 65 percent had to depend on markets; other sources included borrowing/debt (7 percent), food-for-work (FFW), gifts and food aid. Similarly, 73 percent of households depend on markets as their main source of rice and 69 percent for maize. Dependence on markets is even higher for pulses, vegetables, fruits, meat, sugar and oil. Such a high level of dependence, even for cereal grains, explains the vulnerability of these households to price increases. These finding should be considered in designing cash and/or food interventions to address the food security needs of flood-affected populations.

4.9.2 Food security

For the purpose of this report, food security is analysed by considering both food consumption and access to food (based on food expenditures). Households with better food consumption and reasonable spending on food are considered food secure. The food insecure households have no food diversity in daily intake. In addition, they spend a higher proportion of expenditures on food, leaving limited options to address other domestic needs. The relationship between the two parameters is shown in Figure 23. The details of the methodology used for interepreting various food security categories is explained in Annex IVc.

Figure 23. Food security related to food consumption and expenditures

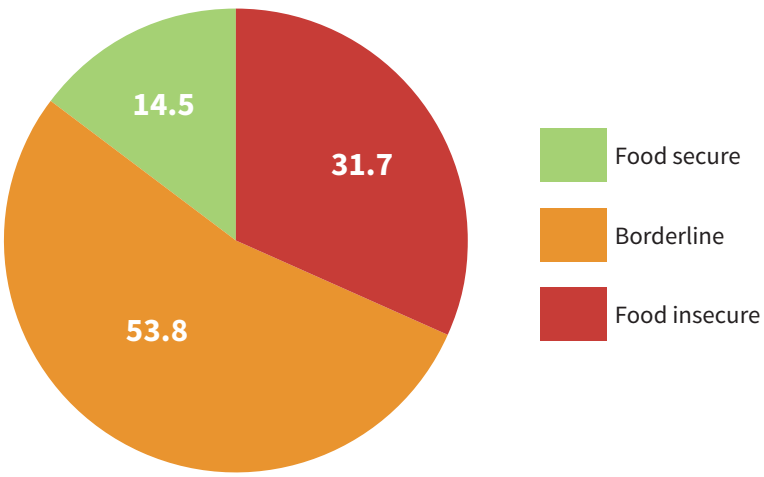
Food security group scores		Categories of food expenditures		
		>60% expenditure	40 to 60% food expenditure	<40% food expenditure
Food consumption groups	Poor (1-28)	poor	poor	borderline
	Borderline (28.1-42)	poor	borderline	borderline
	Acceptable (>42)	borderline	reasonable	reasonable

Overall situation

Based on the above thresholds for food consumption and access to food (based on food expenditures), on average 15 percent of households in the areas assessed by the LRA were found to be food secure. About 32 percent of the households were found to be food insecure and 54 percent are in the borderline category, with low caloric intake due to poor food consumption, inadequate food diversity and poor quality of food. Households in the borderline category are very vulnerable to changes which could push them towards food insecurity. The current vulnerability to food insecurity can also be understood by observing the various coping mechanisms households used to address their food problems, as explained in section 6.2.

As this classification is based on only two indicators (food consumption and expenditures), these results should not be used to estimate the overall proportion of food insecurity by area or country. Furthermore, these figures cannot be used in comparison with the proportion of food insecure households as reported by the National Nutrition Survey (2011-12) or the WFP-Sustainable Development Policy Institute report, Food Insecurity in Pakistan 2009.

Figure 24. Food security groups

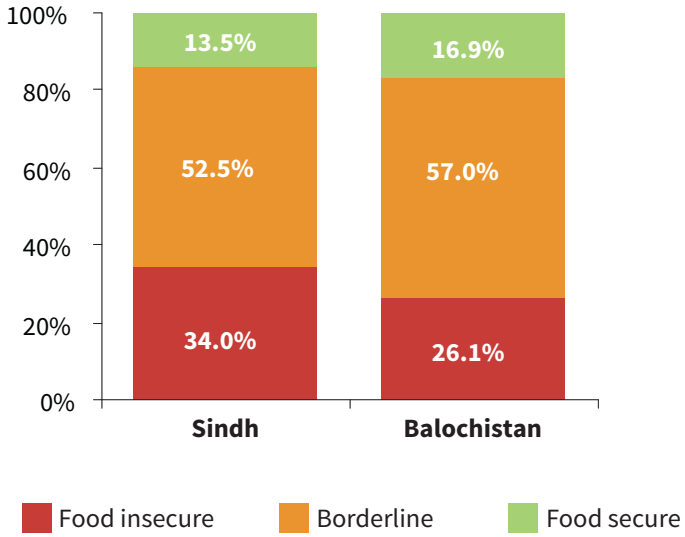


Situation by province

The 2010 flood severely affected each province, while the 2011 flood impacted districts in Sindh and Balochistan provinces. Both floods significantly affected the livelihoods of many, particularly the highly vulnerable groups. The results show that most of those affected from the shock have not recovered and remain vulnerable.

A provincial analysis shows that food insecurity is significantly higher in the affected areas of Sindh than in Balochistan. Similarly, the percentage of food secure households is lower in Sindh compared with Balochistan. This may reflect a better recovery from the floods in Balochistan. In Sindh, however, it appears that due to the larger affected population and low level or interrupted assistance, the majority of affected households did not fully recover.

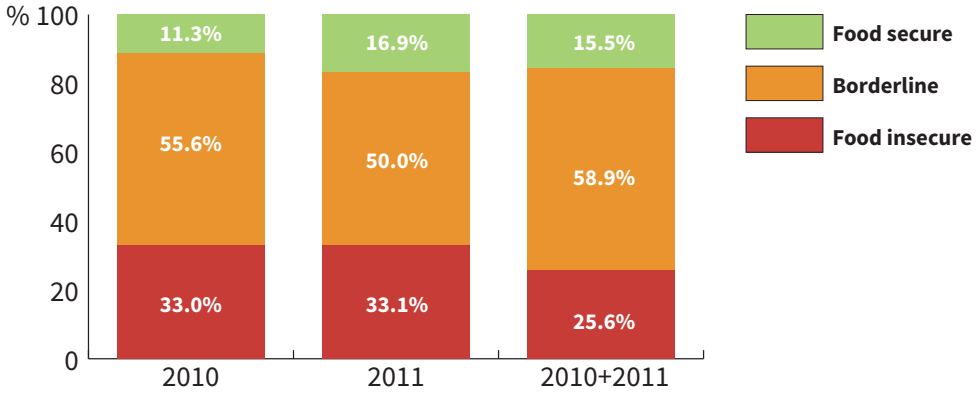
Figure 25. Food security by province



Situation by household type

Interestingly, the results show that cohorts affected by both floods are less food insecure compared with the *2010 only* and *2011 only* flood cohorts. This suggests that households affected by both disasters received more attention during the relief and recovery assistance period. The level of food insecurity is almost the same in households affected by only the 2010 or 2011 floods. However, when the food insecure and borderline categories are combined this proportion is higher for the *2010 only* flood cohort than the other two cohorts.

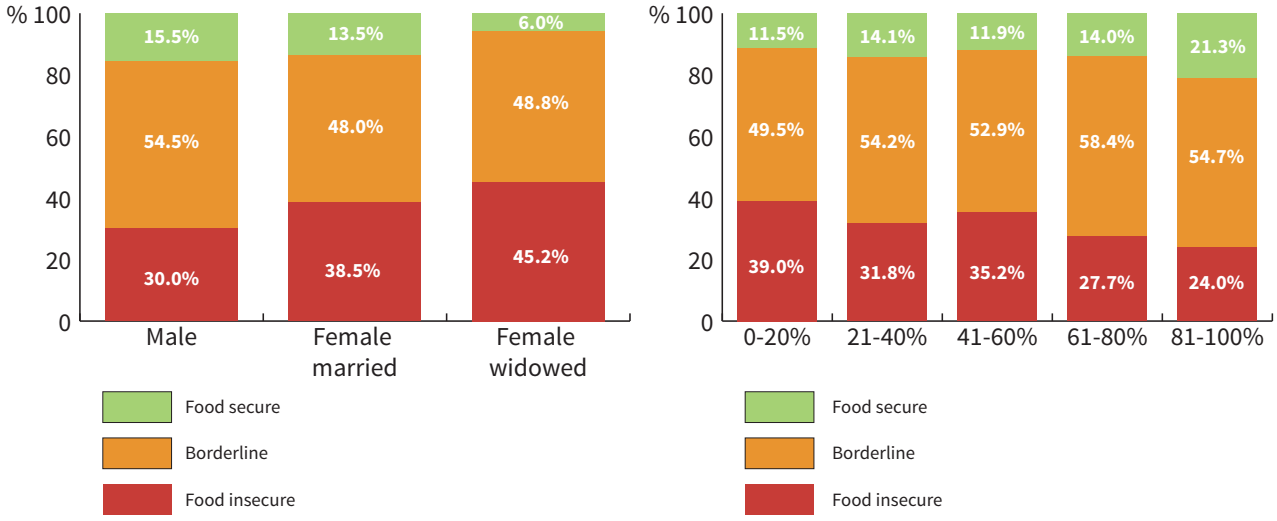
Figure 26. Food security by household type



Situation by head of household type and wealth quintile

Significant variations were found in food security among different types of heads of households. Overall, female-headed households were found to be more food insecure than male-headed households. Among the female-headed families, households headed by female widows had even higher food insecurity than those headed by married females. The lower income and poor employment situation of female-headed households, particularly widowed female-headed families, makes economic access more difficult, thus making them vulnerable to food insecurity.

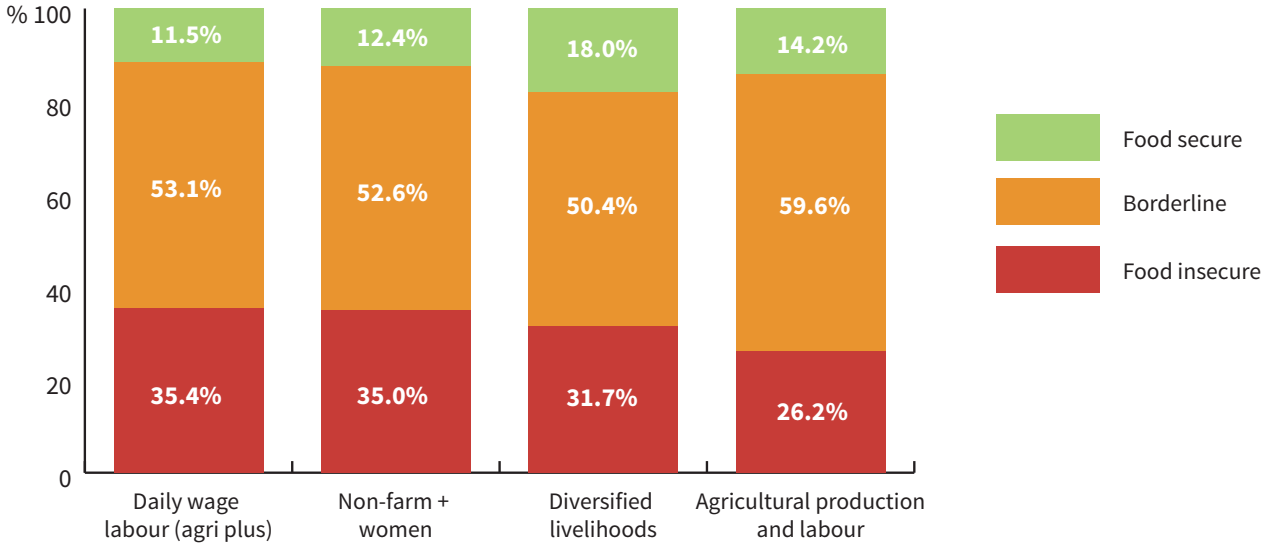
Figure 27. Food security by head of household type and wealth quintile



Livelihood and food security

The food security condition of various livelihood groups was also examined. The highest percentage of food insecurity (35 percent) was found in households dependent on daily wage labour agriculture and non-farm labour including women. The lowest rate (26 percent) was recorded in agricultural production and labour. Daily-wage labourers are highly vulnerable, as their income is not sustainable and depends on daily market demand which fluctuates throughout the year. Similarly, non-farm livelihoods, especially small-scale activities such as handicrafts and other female-related activities, are vulnerable and participating households are often underemployed.

Figure 28. Food security by livelihood group



4.9.3 Acute malnutrition

Acute malnutrition is a serious concern in communities affected by disaster. Understanding an affected community's nutritional status is useful in assessing the recovery and identifying what is needed to manage malnutrition. In order to ascertain the nutritional status of children aged 6-59 months and pregnant and lactating mothers, measurement of mid-upper arm circumference (MUAC) was included in the appraisal. MUAC is the circumference of the left upper arm, measured at the mid-point between the tip of the shoulder and the tip of the elbow (olecranon process and the acromium). Further details are provided in Annex IVc.

Table 23 shows the actual shares of the three acute malnutrition rates specified by province. The acute malnutrition rates in Balochistan are higher than in Sindh. Overall, nearly 6.4 percent of children were severely acutely malnourished and 12.3 percent of children were moderately acutely malnourished.

Table 23. Acute malnutrition in children aged 6-59 months

Province	Number of children	MUAC <11.5cm (%) (Severe acute malnourishment)	MUAC 11.5-12.4cm (%) (Moderate acute malnourishment)	<MUAC 12.5cm (%)
Sindh	6 645	6.0	11.1	17.1
Balochistan	1 881	7.7	15.8	23.5
Overall	8 526	6.4	12.3	18.7

An analysis of the acute malnutrition rates by the sex of the child showed that rates of acute malnutrition (both severe and moderate acute malnourishment) were slightly higher for males compared with females, as shown in Table 24.

Table 24. Acute malnutrition in children 6-59 months by gender

	Male	Female
MUAC < 11.5 cm (%) (Severe acute malnourishment)	6.6	5.7
MUAC 11.5-12.5 cm (%) (Moderate acute malnourishment)	13.6	11.1
MUAC < 12.5 cm (%)	20.2	16.8

Areas affected either by 2011 or 2010 floods had higher proportions of children with MUAC < 12.5 cm – moderate or severe acute malnourishment – than areas affected by both 2010 and 2011 floods (see Table 25). This is possibly due to increased relief and recovery efforts in areas affected by both floods.

Table 25. Acute malnutrition in children 6-59 months by flood categories

Cohort	Number of children	MUAC <11.5cm (%)	MUAC 11.5-12.4cm (%)	<MUAC 12.5cm (%)
Only 2010	3 284	6.7	12.4	19.1
Only 2011	3 784	7.7	12.6	20.2
Both floods	1 458	2.5	11.4	13.9
Overall	8 526	6.4	12.3	18.7

An analysis of child acute malnutrition by head of household showed no significant difference between male – and female-headed households. However, households headed by female widows were found to have a lower acute malnutrition rate of 14.6 percent compared with an average rate of 18.7 percent for all households. No significant variation was found in the prevalence of child malnutrition by livelihood type.

A MUAC measurement was taken to assess the risk of malnutrition in 2 239 pregnant and lactating women. Using the recommended threshold of 21.5 cm, 10.55 percent of the women were found to be malnourished, indicating that acute malnutrition in pregnant and lactating women is relatively less serious compared with children under five.

4.10 Summary of the post-flood rural livelihood recovery

This chapter has discussed the following aspects of post-flood recovery: 2011-2012 Rabi season production; 2012 Kharif season planting; livestock ownership; changes in ownership of physical assets; income, expenditure and debt; food security and nutritional status. Overall, the findings indicate that some recovery has taken place and confirm the hypothesis that areas flooded only in 2010 are further along the recovery path than those flooded in 2011. At the same time, it is also clear that the 2010 flood-affected households have still not fully recovered and are worse off than before the floods – particularly in terms of livestock, physical asset ownership, financial capital and (probably) indebtedness. There is some evidence that households flooded only once in 2011 are less well recovered than households flooded in both 2010 and 2011, though this is not completely clear. Similarly, there is some evidence that households in Sindh districts may be lagging behind their counterparts in Balochistan. Further details on these points are as follows:

Displacement – Displacement due to flooding in the last two years has been widespread in both Sindh and Balochistan. Depending on flood cohort and province, between 17 and 40 percent of displaced households reported being away from their fields for four months or more, with higher percentages reporting absences of between 1 and 4 months. This phenomenon will negatively impact Rabi season cultivation and effectively delays the start of livelihood recovery.

Livelihood assets – As expected, the case studies confirm that recovery is more advanced in *2010 only* affected villages and least advanced in the villages affected by floods in two consecutive years. However, even in the 2010 villages recovery is by no means complete, particularly with respect to financial capital.

Physical assets – There was an overall decrease and almost no recovery in the ownership of most physical assets. Poorer households experienced a substantial decrease in most of their assets and showed the slowest rate of recovery. While the lack of recovery in assets increases vulnerability to future shocks, the overall increase in ownership of mobile phones presents an opportunity for their use as a cash transfer instrument in future interventions.

Rabi season agriculture – 2011-2012 output was lower than normal for all flood cohorts, but more pronounced for households flooded in 2011, and particularly for households flooded *only* in 2011. In the case of 2011 flooded households, the slow recovery was due to standing water and uncleared debris, as well as destroyed irrigation systems. For households flooded only in 2010, non-functional irrigation systems were the limiting factor in production.

There is some evidence that *2011 only* households were attempting to compensate for low Rabi production by increasing vegetable production in the Zaid Rabi season.

Kharif season – *2011 only* households have a significantly lower proportion of area planted in relation to a normal year than *2010 and 2011* flood-affected households, suggesting that they may be struggling more to recover from the 2011 floods in terms of agricultural production.

Livestock – There have been large losses and very little recovery for the three types of livestock in all three flood cohorts. Reduction of cattle ownership is less frequent in Sindh than Balochistan due to their need for animal traction. Conversely, a higher recovery rate of small ruminants has been recorded in Balochistan than in Sindh. The current livestock situation means that households have depleted current and deposit bank accounts, and are therefore less able to withstand further shocks of any kind.

Income, expenditures and debt patterns – Most households reported an increase in the proportion of **unearned income** to total income. This shift suggests that livelihoods are under strain: as households struggle to find enough income to support their primary basic expenditures, they end up with an income deficit, which in turn forces them to seek unearned income sources and incur debt. Moreover, most households expect this increase to be permanent. While this pessimism may change with a continued recovery, it may also signal the awareness of a changed reality of increased reliance on loans, gifts and remittances.

Food is the single largest category of **expenditure** followed by health. Income-expenditure deficits were reported across the board, suggesting that additional debt was incurred to finance household needs. Household **debt** as a proportion of total income is high in Sindh – at or slightly above levels recorded in the DLA. It appears to be lower in Balochistan.

Food security and malnutrition status – By considering food consumption and food expenditures, 15 percent of households in the areas assessed by the LRA were found to be food secure. About 32 percent were found to be food insecure, while 54 percent were in a borderline situation.

Food insecurity is found to be significantly higher in the affected areas of Sindh compared with Balochistan, which may indicate a better recovery from floods in Balochistan. The results show that households affected by both floods are less food insecure compared with those affected by only one of the floods; part of the reason for this *might be* that those affected by both disasters received more attention during the relief and recovery assistance period.

Female-headed households were found to be more food insecure than those headed by males. Among the livelihood groups, the highest proportion of food insecurity was found in households dependent on daily wage labour (agricultural and others), followed by those engaged in small non-farm activities.

An analysis of acute malnutrition based on MUAC measurements showed that the area covered by the appraisal has an acute malnutrition rate of 18.7 percent, which is of serious concern. Moreover, the acute malnutrition rate in Balochistan was found to be higher than in Sindh. Areas affected by the 2011 floods had the highest acute malnutrition rate (20.2 percent), while those affected by both floods had a slightly better than moderate rate of 13.9 percent, possibly due to the increased relief and recovery assistance received by these households.

5. COVERAGE AND PERCEPTIONS OF POST-FLOOD INTERVENTIONS

5.1 Introduction

In response to the floods of 2010 and 2011, the Government of Pakistan together with the United Nations and the NGO community has provided assistance to affected populations. Assistance provided has been wide ranging, including general food distribution; CFW and FFW; agricultural inputs (seed, fertilizer and tools); livestock support (mainly fodder and veterinary services); school feeding programmes and supplementary feeding programmes for infants and pregnant women. In addition, the Government provided Watan card cash disbursements, and informal and traditional mechanisms have ensured that some needy households have received Zakat/Khairat charity.

To date, there has been no overall assessment of the coverage or beneficiary perceptions of assistance provided in the post-2011 flood period. In order to fill this knowledge gap and contribute to lessons learned, the LRA investigated the degree of **coverage** and **beneficiary satisfaction** with respect to assistance received.

For households affected by **2011 flooding** (i.e. the *2011 only* and the *both floods* cohorts) the LRA looked at perception of assistance in two distinct periods:

- The *emergency period* post-2011 floods (from September 2011 to March 2012).
- The *early recovery period* post-2011 floods (from March 2012 to September 2012).

For households affected by **flooding in 2010 only** (i.e. the *2010 only* cohort), the LRA examined the perception of assistance in the second year of recovery or *rehabilitation* period (from August 2011 to September 2012).

The following sections present the results of this analysis.

5.2 Overall coverage of post-flood interventions

Table 25 indicates the proportion of households in different flood cohorts that reported receiving assistance in any time period. The question asked in the LRA was "Have you received any kind of assistance in period x?". From the table the following points are clear:

- Depending on the flood cohort, between 72 percent and 94 percent of surveyed households received at least one type of support at least once during the emergency period.
- Households that were affected by both floods received the highest proportion of emergency assistance. This is at least partly due to the fact that they were already in an area where the humanitarian community was present due to the 2010 flood response. It is possible that many of these households were considered more vulnerable and specifically targeted by agencies operating in the area.
- In the early recovery period, the probability of receiving any form of assistance drops off sharply – only 10 to 40 percent of households at the provincial level received assistance, depending on location and flood cohort. It is worth noting that these levels are much lower than what was found in the 2011 DLA. This indicates that the level of early recovery assistance for the 2011 floods could have been much less than the corresponding period for 2010 flood affectees[20].
- For the *2010 only* flood cohort, 86 percent of households in Sindh and 71 percent in Balochistan

20 As a caveat, whilst the DLA recorded average rates of 80%, the period defined as early recovery was different: January – July (DLA) vs March – September (LRA) and this will have accounted for some of the differences in coverage rates.

received some kind of assistance. This is comparable to the levels recorded in the DLA and may suggest a continuation of the early recovery levels of support into the rehabilitation period (though this requires further data for corroboration).

Table 26. Households receiving at least one form of assistance at least once by flood cohort and time period

Period	Sindh			Balochistan		
	Only 2010	Only 2011	Both floods	Only 2010	Only 2011	Both floods
Emergency (September 2011 to March 2012)	Na	71.9	93.5	Na	81.6	82.8
Early recovery (March to September 2012)	Na	33.7	11.1	Na	32.5	40.8
Rehabilitation (August 2011 to September 2012)	86.3	Na	Na	70.7	Na	Na

Table 27 shows coverage according to the gender and status of the household head. The differences between categories of households are generally small, with the exception of the early recovery period in Balochistan in which a considerably higher proportion of married female-headed households received at least one kind of assistance compared with the other household types.

Table 27. Households receiving at least one form of assistance at least once by gender and status of household head and time period

Period	Sindh			Balochistan		
	Male	Female married	Female widowed	Male	Female married	Female widowed
Emergency (September 2011 to March 2012)	80.5	82.7	79.3	81.9	75.4	84.7
Early recovery (March to September 2012)	24.8	23.1	24.1	35.0	50.7	25.8
Rehabilitation (August 2011 to September 2012)	70.4	67.3	63.4	86.4	83.3	86.4

Table 28 shows the coverage according to wealth quintile. In the **emergency** period, households in the lowest wealth quintile were consistently less likely to have received any kind of assistance in both provinces. In Sindh, the same pattern is observed in the **rehabilitation** period – though not in Balochistan, where assistance coverage was even for households across all wealth quintiles. In the **early recovery** period, differences between wealth quintiles were much lower, as was the overall coverage rate.

Table 28. Households assisted by wealth quintile and province

Period	Sindh					Balochistan				
	0-20%	21-40%	41-60%	61-80%	81-100%	0-20%	21-40%	41-60%	61-80%	81-100%
Emergency (September 2011 to March 2012)	72.1	81.0	87.4	86.6	85.9	69.8	74.5	86.8	84.6	80.0
Early recovery (March to September 2012)	35.1	42.3	30.5	32.6	31.8	24.6	26.4	25.8	23.2	24.4
Rehabilitation (August 2011 to September 2012)	60.8	68.0	76.7	72.2	80.4	87.0	90.2	89.8	83.3	86.0

5.3 Focus on emergency period for households flooded in 2011 (September 2011 to March 2012)

5.3.1 Likelihood of receiving a particular type of assistance

Table 29. Emergency response assistance for 2011 flood-affected households

Type of assistance	Sindh		Balochistan	
	Only 2011 floods	Both floods	Only 2011 floods	Both floods
Period of assistance received in % of households	**From floods 2011 until March 2012**			
General food distribution	57.4	40.3	59.3	92.8
Cash through Watan card	51.3	66.6	48.5	70.5
Government compensation	15.9	10.0	4.9	3.0
On site school feeding	11.8	26.3	8.8	1.1
Direct agricultural inputs	10.0	27.2	13.3	8.2
Complementary feeding for children < 2 years, pregnant / lactating women	9.2	14.1	9.5	7.6
All types of cash assistance	8.3	24.8	4.4	7.8
FFW or food vouchers	7.3	4.5	2.1	0.2
Livestock support	3.4	8.3	0.7	0.0
Received some training	2.5	14.6	0.6	0.0
Irrigation structure repair	2.3	1.5	0.4	0.0
Zakat / Khairat / remittances	2.1	2.7	4.9	2.0

As shown in Table 29, households were asked to report whether they had received particular types of interventions. General food distribution was the type of assistance with the highest coverage across both provinces and for both flood cohorts (*only 2011* or *2010 and 2011* flood-affected households). A similar coverage level was observed for the cash transfers under the Watan card program. In Balochistan, coverage of both general food distribution and Watan card payments is much higher for the *2010 and 2011* flood cohort. The presence of agencies and systems on the ground from the 2010 floods may be responsible for this. Similarly, in Sindh, the proportion of households receiving other kinds of assistance is appreciably higher for the *2010 and 2011 cohort*: on-site school feedings, agricultural inputs and non-Watan cash assistance (such as Government compensation for lost property, machinery or livestock) each have significantly greater coverage than in the case of the *2011 only* cohort. In all cases, livestock and irrigation support levels are extremely low.

When disaggregated by gender and status of household head, the data does not reveal any major differences (i.e. male, married female – and widowed female-headed households were equally likely to have received a particular kind of assistance). With respect to **wealth**, the poorest quintiles were generally **less likely** to have received food aid or agricultural inputs than the richer quintiles. However, the likelihood of receiving cash through the Watan card system was broadly similar irrespective of wealth status. This is not surprising given the very high levels of CNIC card ownership (97.2 percent of households in Sindh and 99.7 percent in Balochistan).

An interesting aspect of the coverage of interventions is how many types of interventions were received per household. Ideally, households would receive a range of different interventions suited to their livelihood recovery needs. In practice, however, 70 percent of all households that received any kind of support received just **one or two kinds** of support, with a further 17 percent receiving three kinds of support (a similar pattern is repeated with respect to the early recovery and rehabilitation interventions, as discussed below).

5.3.2 Rating of assistance provided

Households were asked to indicate if the assistance they received was helpful in dealing with the impact of the flood. A range of responses was possible ranging form “a great help” to “no help” and “made the situation worse”. In addition, in those cases where assistance was judged to be of little or no help, LRA respondents were asked to indicate why this was the case. Figure 29 shows the overall ratings and reasons for dissatisfaction.

Figure 29. (a) and (b) Overall rating of assistance given in emergency phase and reasons for dissatisfaction

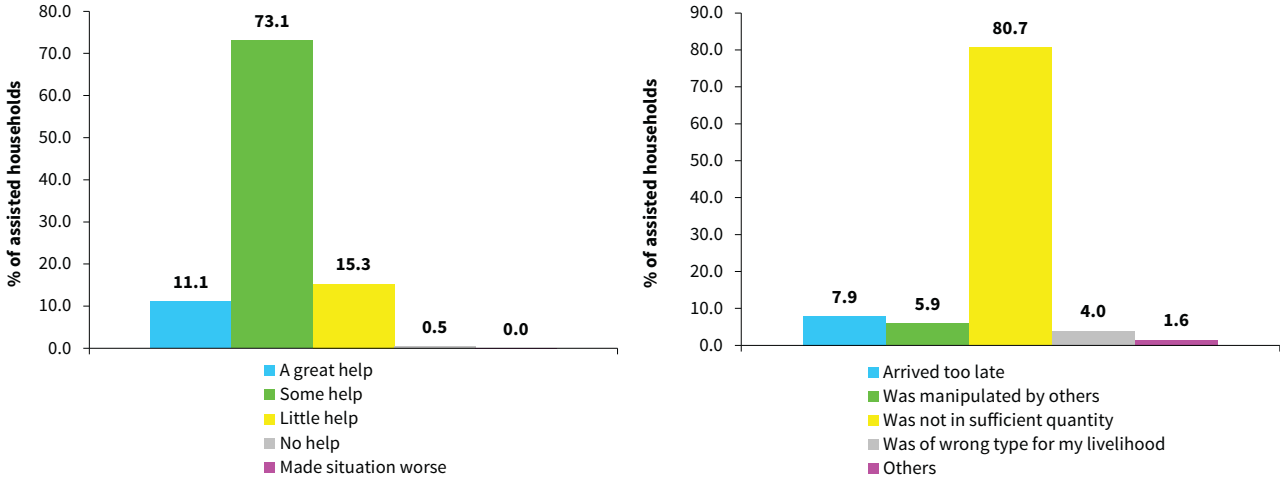


Figure 29 (a) shows that most households thought the assistance was of some help, whereas 11 percent said it was a great help and 15 percent said it was of little help. Within this 15 percent, about four-fifths of households stated that the assistance was of little help because it was an insufficient quantity, as shown in Figure 29 (b).

As shown in Table 30, disaggregating by type of assistance given is in line with the data in Figure 29. Likewise, the main reason for dissatisfaction with any particular intervention was that it was not received in sufficient quantity.

Table 30. Emergency response assistance disaggregated by type of assistance given

Type of assistance	Rating of assistance received			
	A great help	Some help	Little help	No help or made situation worse
Period of assistance	**Emergency (September 2011 to March 2012)**			
Agricultural inputs	8.1	81.0	10.9	0.0
Livestock support	16.4	61.9	21.7	0.0
Cash through Watan card	16.9	65.6	17.2	0.3
Government compensation	13.6	62.8	20.5	3.2
CFW, FFW	9.2	78.1	12.1	0.6
General food distribution	7.4	74.9	17.4	0.3
Feeding for children < 2 years, pregnant / lactating women	16.3	70.9	11.6	1.2
Irrigation structure repair	13.6	86.4	0.0	0.0

5.4 Focus on early recovery period for households flooded in 2011 (March to September 2012)

5.4.1 Likelihood of receiving a particular type of assistance

In comparison with the emergency period, there was a significant drop in coverage in the early recovery stage. Additional details are shown below in Table 31, indicating that only small minorities of households benefitted from any kind of assistance in the post-March 2012 period. Indeed, the largest proportion of households benefitting from any type of assistance was the *2011 only* flood cohort in Balochistan (26.4 percent of households benefitted from food aid), and the *both floods* cohort in Sindh (27.1 households benefitted from cash through Watan cards). As noted earlier, these rates of coverage are probably significantly lower than the corresponding period for households affected by flooding in 2010. Support to agricultural livelihood recovery appeared to be very limited: between zero and 6 percent of households benefitted from crop inputs; between zero and 7.5 percent of households benefitted from livestock support; and only a handful of households received support for irrigation structure repair.

Table 31. Early recovery assistance for 2011 flood-affected households

Type of assistance	Sindh		Balochistan	
	Only 2011 floods	Both floods	Only 2011 floods	Both floods
Period of assistance received in % of households	**From March 2012 until September 2012**			
General food distribution	12.1	5.4	26.4	9.8
Cash through Watan card	6.6	27.1	0.5	0.2
Government compensation	9.5	6.4	3.0	1.9
On site school feeding	6.8	8.9	0.5	0.0
Direct agricultural inputs	3.1	5.8	0.1	0.0
Complementary feeding for children < 2 years, pregnant / lactating women	2.5	2.1	1.1	0.0
All types of cash assistance	5.7	6.2	0.0	0.9
FFW or food vouchers	3.6	1.1	2.2	0.0
Livestock support	0.9	7.5	0.0	0.0
Received some training	1.2	5.2	0.0	0.0
Irrigation structure repair	0.7	0.5	0.0	0.0
Zakat / Khairat / remittances	1.2	0.5	1.7	0.2

According to the data disaggregated by gender and status of household head, for the two most important interventions (General food distribution and cash through Watan cards) widow-headed households are consistently more likely to have received assistance, although the absolute percentages are small. Similarly, in relation to wealth quintile, the bottom 40 percent are more likely to have received cash through Watan cards and government compensation than the upper quintiles, although this does not apply to general food distribution. Once again, however, the absolute percentages are small (below 20 percent).

As was the case in the emergency phase, those households assisted in the early recovery phase were highly unlikely to have received more than two types of support, and almost 70 percent received just one type of support.

5.4.2 Rating of assistance provided

The opinions of households regarding their satisfaction with the assistance received were similar to the opinions on emergency phase assistance; however, there were some differences regarding the reasons for dissatisfaction as shown in Figure 30.

Figure 30. (a) and (b) Rating of assistance provided in early recovery phase and reasons for dissatisfaction

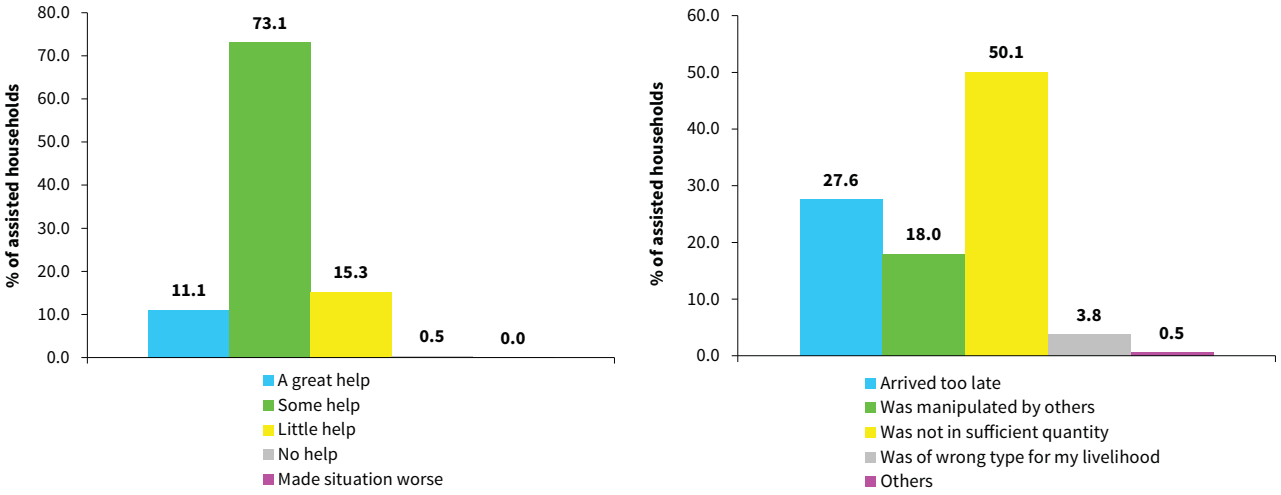


Figure 30 shows that a large majority thought the assistance received had been of some help, while about 11 percent said it was a great help and about 15 percent thought it was of little help. Of this 15 percent, about half said the main reason for dissatisfaction was that the quantities provided were insufficient, whilst almost half said that either the assistance arrived too late or it had been manipulated by others.

When looking at particular types of interventions, the satisfaction ratings and reasons for dissatisfaction are in line with the overall picure presented in the above figures (i.e. by far the most common response was “some help” and in cases of dissatisfaction the insufficient quantities were consistently mentioned). For certain intervention types, such as agricultural inputs and CFW, large percentages of households said the assistance arrived too late. Manipulation of assistance appeared to be an issue with respect to FFW and general food distribution.

5.5 Focus on rehabilitation period for the 2010 only flood cohort (August 2011 to September 2012)

5.5.1 Likelihood of receiving a particular type of assistance

Table 26 indicates that a considerably higher percentage of households recovering from the 2010 floods received some kind of support compared with households in the early recovery phase of the 2011 floods. The difference in these figures to some extent reflects that the rehabilitaiton period is 12 months rather than the six month period used in this report to define early recovery. Thus, households recovering from the 2010 floods had twice as long to receive assistance as those in the early recovery period. Nevertheless, it is striking that in comparison with the early recovery period, double or triple the number of households received some assistance during the 12 month period between September 2011 and September 2012.

As shown in Table 32, general food distribution and cash through Watan cards were by far the most commonly received types of assistance, with particularly high percentages in Balochistan. Livestock support was again very low – zero, in fact, in Balochistan. Irrigation support was also very low.

Table 32. Rehabilitation assistance for 2010 flood-affected households

Type of assistance	Sindh	Balochistan
General food distribution	38.5	75.4
Cash through Watan card	50.4	63.2
Government compensation	7.5	0.6
On site school feeding	17.9	2.2
Direct agricultural inputs	16.7	7.8
Complementary feeding for children under two years, and pregnant or lactating women	8.5	4.3
All types of cash assistance	14.1	3.1
FFW or food vouchers	10.8	3.9
Livestock support	3.6	0
Received some training	5.1	0
Irrigation structure repair	7	0
Zakat / Khairat / remittances	4.9	1

The likelihood of receiving general food distribution or cash through Watan cards was not influenced by gender or the status of household heads, with between 40 and 53 percent of male-headed, married and widowed female-headed households having received such assistance at least once in the rehabilitation period. In contrast, there is an inverse relationship between poverty status and the likelihood of receiving this type of support, as well as the likelihood of receiving agricultural input support. In other words, households in the poorer wealth quintiles appear to be considerably less likely to have received such assistance than their better-off counterparts.

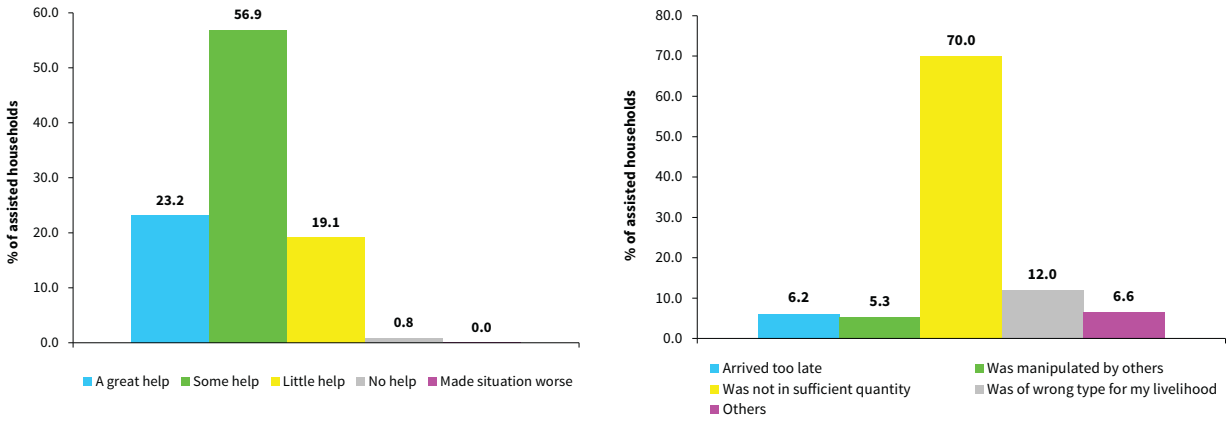
Similar to the periods examined in previous sections, the majority of households received one or two types of support. Of those households which received any assistance over the 12 month period, about 70 percent received one or two kinds of support and only 17 percent received three kinds of support.

5.5.2 Rating of assistance provided

The household ratings of support provided are similar to the periods examined in the previous sections. One notable difference is that a higher proportion of households receiving some form of assistance said that the support had been of ”great help” (25 percent of households). However, for the 20 percent of

households that expressed dissatisfaction with the support provided, the main reason once again was insufficient quantities provided (see Figure 31 below).

Figure 31. (a) and (b) Overall rating of assistance provided in the rehabilitation phase and reasons for dissatisfaction



Disaggregating the data to look at particular types of interventions reveals that distribution of agricultural inputs had the highest satisfaction ratings, with 43 percent of households stating that it had been of great help – though it should be noted that the overall percentage of households receiving inputs was quite low (17 percent in Sindh and only 8 percent in Balochistan). In relation to the two most widespread interventions (general food distribution and Watan cash cards), about 25 percent of recipients said that Watan cards had been of great help, and 16 percent had the same opinion on general food distributions. With the exception of agricultural inputs, the most common response across all intervention types was that they had been of some help. For the 19 percent of households expressing dissatisfaction, the most common reason was insufficient quantities.

5.6 Summary

- In the **emergency period**, a large portion of households affected by the 2011 floods received at least some assistance. Households in the *2010 and 2011* flood cohort were more likely to receive support than those in the *2011 only* cohort. It is possible that these households were considered more vulnerable and specifically targeted by the agencies operating in the area.
- Households from the lowest wealth quintile in both provinces were consistently less likely to have received any kind of assistance, particularly food aid or agricultural inputs. This finding warrants further reflection on targeting methods.
- In the **early recovery period**, assistance coverage decreased sharply and appears to be much lower than the early recovery period for the 2010 floods (although the time periods are different). Only small minorites of households benefitted from any kind of assistance during this period, and support to agricultural livelihood recovery appeared to be very limited: between zero and 6 percent of households benefitted from crop inputs; between zero and 7.5 percent of households benefitted from livestock support; and only a few households received support for irrigation structure repair.
- During the **rehabilitation period** for the *2010 only* flood cohort, 86 percent and 71 percent of households in Sindh and Balochistan, respectively, received some kind of assistance, which is comparable to the early recovery levels recorded in the DLA and may suggest a continuation of support for these households. It is important to note that households in the lowest wealth quintile were less likely to receive assistance than other households.
- Overall, general food distribution and cash transfers under the Watan card programme had the highest coverage in both provinces and across all three flood cohorts, whereas livestock and irrigation support was uniformly very low.
- The likelihood of receiving cash through the Watan card system was similar irrespective of wealth status due to the high levels of CNIC card ownership (97.2 percent of households in Sindh and 99.7 percent in Balochistan).

- Ideally, households would receive a range of different types of interventions suited to their livelihood recovery needs; however, **assistance coverage** has been segmented in the number of types of interventions received per household – generally **one or two kinds** of support.
- In terms of **beneficiary satisfaction**, most households thought the assistance they received during all three intervention periods was of "some help". Between 15 and 20 percent of households were dissatisfied in each period, the most usual reason being that the quantity of assistance provided was insufficient. In the early recovery period, another important reason was that it arrived too late.

6. CURRENT AND PROJECTED SUPPORT NEEDS FOR FLOOD-AFFECTED POPULATIONS

6.1 Introduction

As previously noted, the third objective of the LRA was to understand which outstanding problems and issues remain for the three flood-affected household cohorts, and to determine their respective needs and priorities for livelihood recovery. Similar to the DLA, the household survey asked respondents to list and prioritize their current and future needs for the next 6 months, as well as specific agriculture-related needs. The findings presented in this section have meaningful implications for planning recovery measures for households affected by floods in 2010 and/or 2011, as well as future preparedness and resilience-building programming.

As part of the context for understanding current and future needs, households were asked whether they were currently facing problems accessing food and income, and what they were doing to cope with this situation. This research was performed to understand the level of strain that households faced at the time of the survey.

6.2 Current household food security stress levels and coping mechanisms

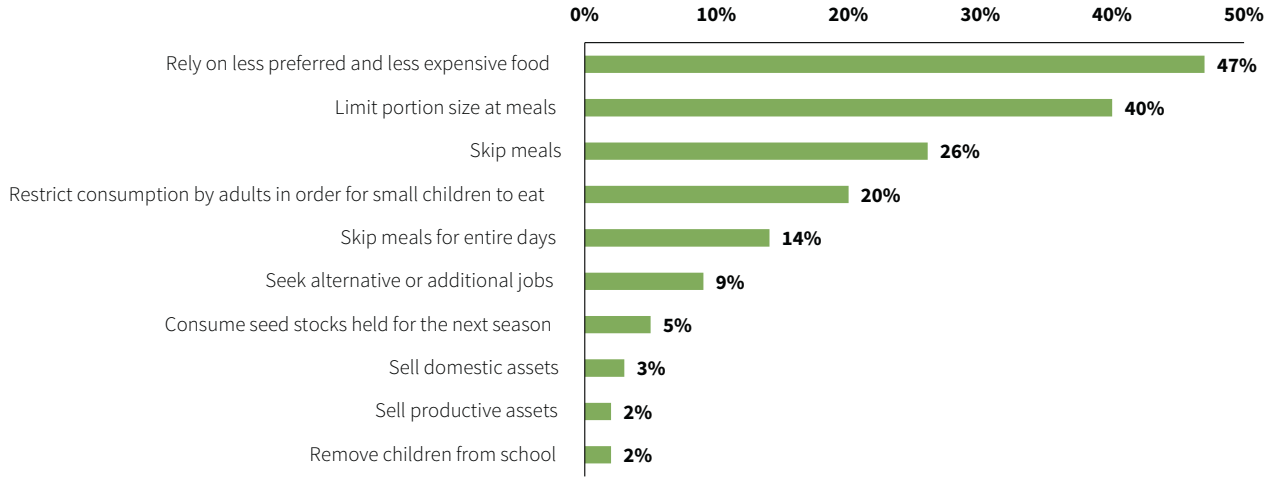
Households across all household types in Sindh experienced more difficulty in trying to meet family food consumption needs than households in Balochistan. As a direct consequence, a greater portion of households reported using various coping mechanisms, as shown in Table 33.

Table 33. Difficulties meeting food needs and use of coping mechanisms by household type and province

Use of coping mechanisms over the last 30 days (percent of households)	Sindh			Balochistan		
	Only 2010 floods	Only 2011 floods	Both floods	Only 2010 floods	Only 2011 floods	Both floods
Households with problems meeting food needs	72.6	67.5	81.4	29.4	33.7	31.7
Households which used coping mechanisms	73.0	66.4	78.3	9.6	20.0	22.6

Figure 32 shows the ten most common mechanisms used to cope with household food insecurity, which were particularly prevalent in Sindh at the time of the survey.

Figure 32. Frequency of coping mechanisms implemented



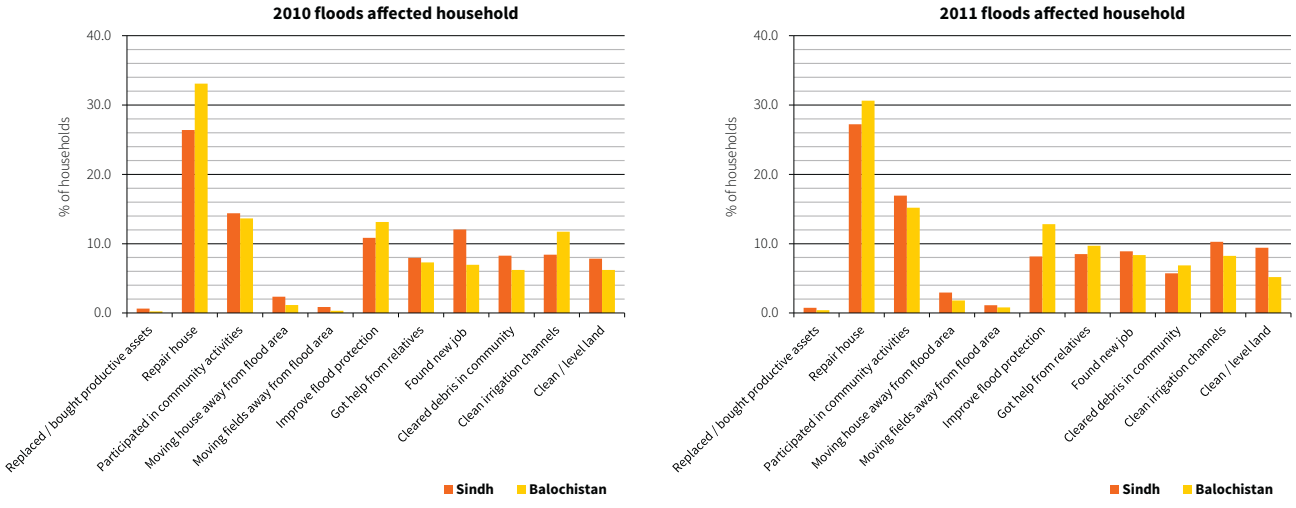
Most districts in Sindh have a higher frequency of households using coping mechanisms over the last few months, except for Mirpurkas, Sanghar and Kashmoro which are below average; all districts in Balochistan province used significantly fewer coping mechanisms than those in Sindh. While some coping strategies are usual mechanisms used by households due to insufficient food, Figure 32 shows that 14 percent of households skipped meals for one or more days. This is an indication of severe food insecurity in those households.

6.3 Self-help since the floods

As a precursor to identifying priorities and needs for recovery, households were asked to identify what they had done over the past six months to improve their situation in addition to the support they received from external sources. These findings give an indication of which activities flood-affected populations value to help them recover, as shown in Figure 33.

The LRA observed the same trend as the 2011 DLA, whereby all three flood cohorts across both provinces reported a similar pattern in the type and frequency of self-help activities. Once again, the most common activities in decreasing order of frequency were house repair, participation in community activities, clearing irrigation channels, clearing/leveling land and improving flood protection.

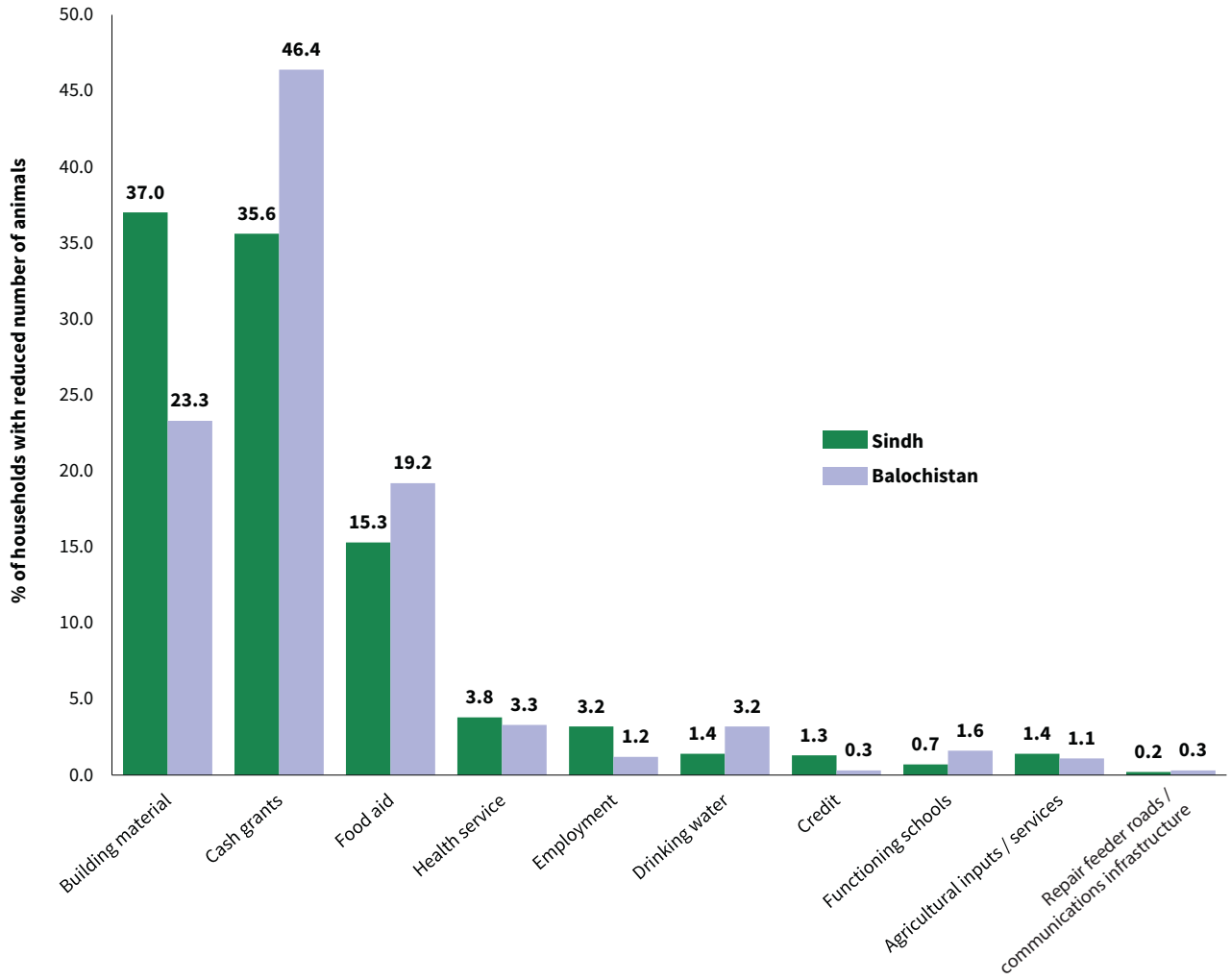
Figure 33. Self-help activities for 2010 only and 2011 only flood-affected households by province



6.4 Immediate needs (September 2012)

LRA survey respondents reported the same three basic needs as households previously reported in the DLA. Cash grants were prioritized as the primary need by the largest portion of households from both provinces (especially Balochistan, by 46.4 percent of surveyed households). Building material was the second most reported need (especially in Sindh, by 37 percent of households), and food aid was the third. Other primary needs reported by households to a lesser extent include health services, employment, drinking water, credit and functioning schools, as shown in Figure 34.

Figure 34. Immediate support needs by province



Socio-economic analysis revealed that these patterns were broadly similar across wealth groups and livelihood types, irrespective of the gender and status of household heads[21]. However, the needs vary slightly across flood cohorts, particularly in terms of cash grants being reported as the top need by all three cohorts in Balochistan (see Table 34).

21 Cash grants, building material and food aid were also expressed as the top three needs (in descending order) across all household head types and wealth groups.

Table 34. Immediate support needs by flood cohort

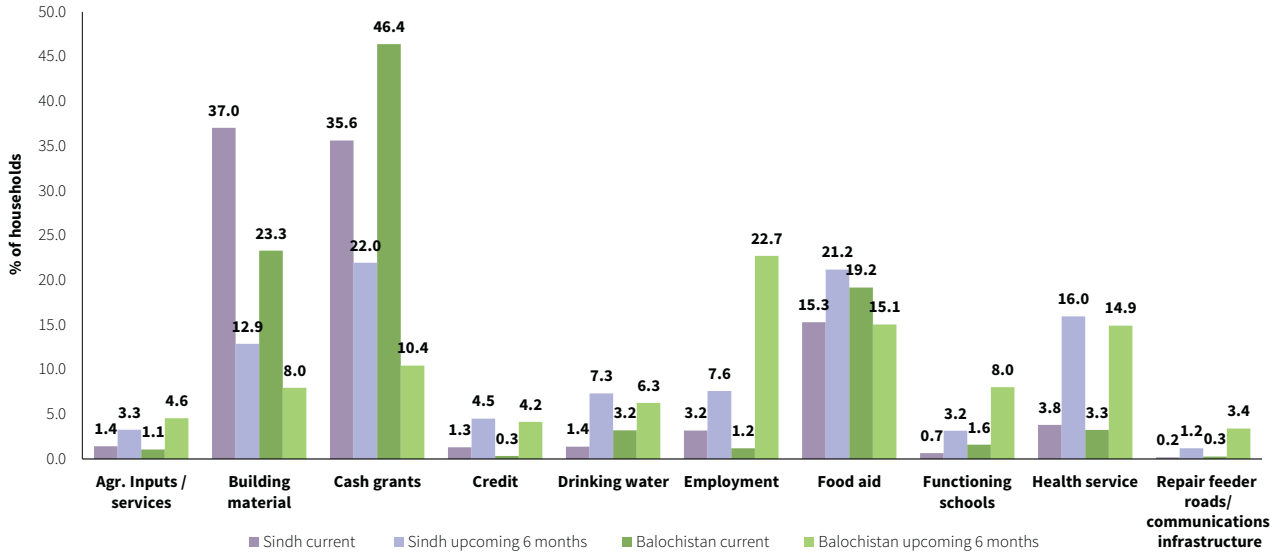
Current needs	Sindh			Balochistan		
	Only 2010 floods	Only 2011 floods	Both floods	Only 2010 floods	Only 2011 floods	Both floods
Cash grants	36.1	34.8	36.0	47.6	44.7	46.9
Building material	32.8	37.6	40.7	19.5	21.6	28.8
Food aid	19.3	14.9	11.7	26.6	13.7	17.3
Drinking water	1.1	1.1	2.0	3.2	3.1	3.3
Credit	2.0	0.7	1.2	0.1	0.7	0.2
Health service	3.7	4.4	3.3	1.7	5.1	3.0
Functioning schools	0.6	0.9	0.5	0.2	4.6	0.0
Agricultural inputs or services	0.6	1.8	1.9	0.5	2.3	0.4
Employment	3.7	3.4	2.5	0.4	3.1	0.2
Help for debris removal	0.0	0.1	0.0	0.0	0.0	0.0
Repair feeder roads or communications infrastructure	0.3	0.1	0.1	0.1	0.7	0.0
Other	0.0	0.0	0.0	0.0	0.4	0.0

6.5 Projected needs – next six months ending March 2013

As the recovery progresses, it is expected that the scope and requirements of households' longer term needs will change from their original short-term immediate needs. Based on the findings of the DLA, and provided that the following monsoon season is normal, we would expect to see a gradual shift away from emergency support (food aid) and house reconstruction to support for economically productive activities, such as productive livelihood support.

In order to gain an understanding of what these changes would actually be, the LRA asked households to indicate their preference for support needs for the longer term recovery and rehabilitation process. Figure 35 indicates that households foresee a gradual shift away from the need for emergency support, and an increase in need for recovery-related interventions, including health services, drinking water, credit, functioning schools, agricultural inputs and services and repair of feeder roads and infrastructure. The greatest increase in needs for the upcoming six months was reported by households in Balochistan, which projected a 21.5 percent increase in the need for employment.

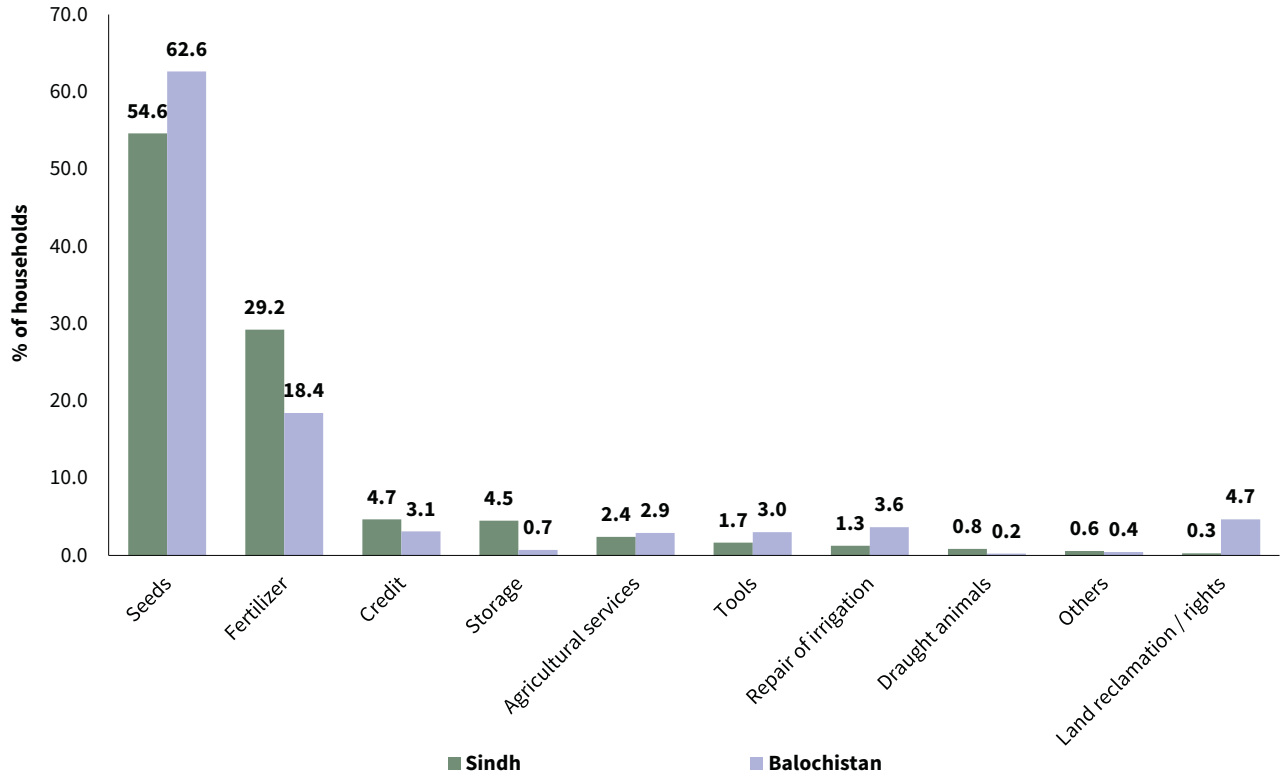
Figure 35. Comparison of current and projected support needs for the next 6 months by province[22]



In examining the agricultural needs of households for the next six months, the LRA found that **seeds** and **fertilizer** were by far the most urgent for all flood cohorts in both provinces. Seeds were overwhelmingly cited as the primary need, especially in Balochistan, while fertilizer was the second most reported need.

Other main needs reported in both provinces include land reclamation (specifically in Balochistan), credit, storage (particularly in Sindh), irrigation repair, tools and agriculture services, as shown in Figure 36.

Figure 36. Main needs in agriculture sector by province



22 Referring to Figure 35, projected needs disaggregated by wealth, gender of household head and livelihood group does not reveal any significant departure from the overall picture presented in the diagram, with two exceptions. First, the agriculture production and labour livelihood group were significantly more likely to prioritize cash grants and agricultural inputs and services than other livelihood groups; and second, significantly greater proportions of households in the lower wealth categories prioritized a continued need for food aid than other better-off households.

Cohort-specific needs are shown in Table 35 below.

Table 35. Projected support needs by flood cohort

Needs in the upcoming six months	Sindh			Balochistan		
	Only 2010 floods	Only 2011 floods	Both floods	Only 2010 floods	Only 2011 floods	Both floods
Building materials	15.0	18.7	9.0	6.3	9.3	6.4
Cash grants	16.8	17.6	22.7	12.2	9.9	9.9
Food aid	22.8	22.7	34.5	12.8	13.0	19.6
Drinking water	2.7	4.0	3.7	4.2	3.8	6.9
Credit	7.5	3.0	3.1	6.3	3.3	3.8
Health services	18.2	17.2	13.8	18.0	21.1	16.4
Functioning schools	2.3	2.1	2.4	3.9	3.6	3.9
Agricultural inputs / services	3.6	4.0	3.5	4.7	6.5	5.9
Employment	10.1	8.3	7.0	26.8	22.8	23.9
Help for debris removal	0.2	1.5	0.1	0.4	1.6	0.9
Repair feeder roads / Communications infrastructure	0.8	1.1	0.1	3.3	3.9	1.5
Other	0.0	0.0	0.0	1.0	1.3	0.9

6.6 Summary

The high frequency of coping strategies used by LRA-sampled households in Sindh at the time of the survey is an indication of food security stress.

The most popular recovery activities undertaken by flood-affected households in both provinces were house repair, participation in community activities, clearing irrigation channels, clearing/leveling land, and improving flood protection.

The supply of building materials, cash grants and food aid were widely perceived as the most immediate needs by surveyed households in both provinces, highlighting the importance of such support for continued household recovery from the 2011 floods. In relation to specific agricultural needs, seed was easily the most important followed by fertilizer.

Looking further ahead, the proportion of households expecting to need building material support and cash grants decreases, whilst the proportion expecting to need employment support and health services increases. The proportion citing food aid as an important priority remains fairly constant.

7. PROTECTING AND SUPPORTING LIVELIHOODS IN THE CONTEXT OF REPEATED FLOODS: INTERVENTION PRIORITIES FOR 2013 AND BEYOND

7.1 Introduction

The LRA has identified a number of areas in which interventions are required to support continued livelihood recovery from the floods of 2010 and 2011. In addition, there are further kinds of support which can and should be provided to communities and households in Balochistan and Sindh at risk from repeated flooding in the years ahead.

7.2 Priorities for continued livelihood recovery

In relation to continued livelihood recovery programming for communities affected by the 2010 and 2011 floods, action is recommended in **five** key areas – these actions are also relevant to current recovery efforts for households affected by the 2012 floods. These five areas are listed below in no particular order of importance. It should be noted that by taking action in these areas, the food security and livelihood of flood-affected populations will benefit significantly, both in the short – and longer term. Looking to the future, additional action is recommended to enhance the **resilience** of communities in the face of future floods, which is the sixth priority area for programming.

Priority support area 1: Increase household access to cash to support basic needs, increase employment and reduce reliance on debt

The LRA has confirmed the high demand for cash among households affected by and recovering from floods (refer to Figure 34 and Figure 35). Increased needs combined with decreased means leads to further indebtedness and increases the likelihood of a downward spiral into increasing poverty, coping strategies and asset loss. The LIAT case study analysis clearly showed the continued failure of financial capital to recover from the floods. Along with general food distributions (subject to compliance with Government policies), the Watan cash scheme has the broadest coverage of any of the post-flood recovery interventions and should clearly continue and be strengthened if possible. At the same time, there should be an expansion of CFW schemes, particularly those that rebuild damaged community assets such as irrigation infrastructure. Such schemes allow for the rehabilitation of community infrastructure, provide households with employment and income-generating opportunities[23], and in some cases improve access to agricultural land[24].

Priority support area 2: Agriculture sector support to replenish depleted livestock, repair irrigation and increase agricultural production

One of the key lessons learned from attempts to support communities around the world in the aftermath of major floods is that protection of productive assets is a cornerstone of recovery. The LRA has confirmed that certain key assets remain depleted and are in some cases deteriorating, which calls for sustained

23 As shown in Chapter 7, there is clear demand amongst flood affected populations for increased employment opportunities as a way of generating income.

24 Feedback during provincial consultations revealed there is a preference for CFW over FFW (as CFW gives beneficiaries more options), and vouchers over cash.

support to the agriculture sector, particularly in the following **three** areas:

(i) Livestock support is of particular importance, as livestock serves as a bank account for affected populations and provides nutrition (linked to priority area 3) and draught power (in Sindh). In both provinces there has been essentially zero recovery from the 2010 and 2011 floods. In order to support livestock recovery, four core activities should be upscaled:

1. Livestock restocking programmes for all forms of livestock. Particular emphasis should be given to large ruminants in Sindh due to their importance as drought power, as well as small ruminants and poultry in both provinces.

2. Provision of and improved access to feed. This is particularly important in areas prone to repeated floods as pastures may be inaccessible or flooded. Fodder-related problems were cited by between 15 and 20 percent of households as a key reason for livestock destocking, as reported in Chapter 5.

3. Improved access to clean water to reduce disease transmission and reduce the spread of foot-and-mouth disease, which is endemic in Sindh and Balochistan. These issues can be addressed by reducing the likelihood of cross contamination by providing alternatives to the use of communal water sources – e.g. by provision of water troughs[25].

4. Additional veterinary assistance should be provided for large and small ruminants to improve animal health.

(ii) Irrigation repair and land drainage/preparation – The LRA indicates that a full two years after the 2010 floods the irrigation structures of many households in both provinces are still not restored. This is also cited as one of the main reasons for decreased Rabi production by all three flood cohorts. Households (particularly those flooded in 2011) also reported that the key reason for lower production is the inability to prepare land as it was either still flooded or covered with debris. Repair and rehabilitation of irrigation systems, as well as land drainage and preparation, should be addressed through CFW and FFW programs to support the agriculture recovery path. Both skilled and unskilled labourers should be involved in these programmes.

(iii) Provision of and increased access to seed and fertilizer – Although restoration of these productive assets is key to the recovery of the agricultural livelihoods of flood-affected households, LRA findings show that access is constrained. Access should be increased though direct distribution, input trade fairs, provision of vouchers and Government subsidy support.

Priority support area 3: Targeted food and nutrition interventions for vulnerable population groups

The MUAC measurements taken in the LRA indicate that a high proportion of children under five years old are falling beyond the benchmarks for acute malnutrition. In post-crisis scenarios, acute malnutrition can become a serious public health problem and a leading cause of death, particularly if aggravating factors are present such as poor sanitation and hygiene, inadequate health care and food shortages. Both severe and moderate malnutrition must be addressed, as most of the mortality (in absolute numbers) is linked to moderate malnutrition. The provision of fortified food and targeted food assistance are important tools, especially where food insecurity is a serious problem. Community management of acute malnutrition programmes are useful vehicles in this regard. Nutrition education programmes focusing on infant and young child feeding and care practices also need to be implemented. Due to the cross-cutting nature of malnutrition, it is recommended that the FSC closely collaborates with the Nutrition, Health, Water, Sanitation and Hygiene clusters to address this pressing issue.

The LRA found that dietary diversity in the population is very low. Indeed, combining frequency with type of food intake, it appears that just 20 percent of surveyed households have adequate food consumption

25 The price depends on the specifications. A rubber/plastic/fibre glass trough costs about USD 10 and is easy to procure, while a cement one costs approximately USD 350. Troughs (especially those with round edges) can easily be washed, offering less chance of contamination.

and diversity, with a further 70 percent on the borderline. This finding indicates an overall poor quality of diet and a high likelihood of micronutrient deficiencies in flood-affected populations. Furthermore, for most households food is the most cited reason for taking loans. Thus it is important to provide targeted food assistance combined with FFW or CFW, which will provide households with access to a reasonable food basket for their dietary needs. In addition, agriculture – and livestock-based interventions, such as vegetable gardening and provision of small livestock and poultry, will serve to enhance household food security in the medium term.

Priority support area 4: Support house rebuilding to reduce debt and increase food and basic need expenditures

It is clear from the LRA (and the 2011 DLA) that one of the first priorities of flood-affected households is to rebuild and repair damaged buildings. Shelter is a fundamental, basic human need without which other aspects of existence and livelihood recovery cannot proceed properly. The high priority given to building materials by flood-affected households (refer to Figure 34 and Figure 35) reinforces the need to provide greater support to families as they rebuild their homes. However, many households were not yet able to rebuild, as their income was spent primarily on food purchases or other immediate needs. This need can also be met through cash-based interventions such as CFW or FFW programmes (priority area 1) and targeted food distributions (priority area 3), which relieve households of their food expenditure burden.

Priority support area 5: Improve overall livelihood recovery programme delivery and targeting

The LRA indicates that whilst many households affected by floods received and continue to receive some kind of support from external agencies and government – particularly general food distribution and Watan card payments – there are a number of areas in which improvements could be made.

One such improvement concerns the level of coverage, particularly in the early recovery period for those households affected by floods in 2011. It appears that support to these households is probably much lower than support to 2010 flood-affected households in the corresponding period in 2011 (refer to section 5.2 and footnote 19). This support should be increased to help speed recovery from the 2011 floods and reduce vulnerability to future floods. From a livelihoods perspective, of particular concern is the reported extremely low level of support to agricultural production, livestock and irrigation repairs (refer to Table 28, Table 30 and Table 31).

A second improvement relates to targeting: it is of some concern that households from the lower wealth quintiles in both provinces appear less likely to have received any kind of assistance during the emergency period (refer to Table 27). These poorer households were also less likely to have received food aid or agricultural inputs than their better-off counterparts.

Thirdly, as was reported in the 2011 DLA, there was a great deal of segmentation in response – i.e. a household in a given area may have received one or two types of support over a particular period, whereas another household with the same kind of livelihood could have received a different level and type of support in another area. This is presumably a function of the types of interventions offered by different agencies working in different areas. It is difficult to reconcile the level of unevenness and segmentation of response with actual livelihood recovery needs.

Improvement in these areas depends upon better coordination among stakeholders. This should be addressed by the Government of Pakistan at national, provincial and district levels in collaboration with the Pakistan FSC, the Pakistan Humanitarian Forum, National Humanitarian Network and donors.

Priority support area 6: Increasing the resilience of flood-prone communities

As noted in the introduction to the LRA, climate change has undoubtedly contributed to the severity of flooding caused by the last three monsoon seasons[26]. This trend is expected to continue and demands a reconsideration of policy and programme measures to reduce the impact of flooding on the livelihoods of populations in flood-prone areas. Furthermore, Chapter 3 of the LRA underlined the fact that repeated historical exposure to hazards and shocks – including but not limited to floods – can significantly reduce the ability to cope with and recover from current hazards and shocks. Chapter 3 also indicated that frequency of hazard exposure is associated with greater food insecurity at household level (refer to Figure 4, Figure 6 and Table 12).

For these reasons (climate change associated flood frequency and general incidence of hazards and shocks in rural Sindh and Balochistan), additional efforts should be directed at increasing the **resilience** of communities and households, enabling them to withstand and recover more easily from future floods and other calamities.

Enhancing resilience involves enhancing the ability of communities to prevent shocks and enabling those that are most at-risk to better anticipate, withstand and recover from shocks, as well as enhancing their ability to adapt to a changing environment. Resilience-building measures are therefore considered to be especially relevant in improving people's food and nutrition security, protecting livelihoods and reducing vulnerability in fragile and food insecure contexts.

The international literature on resilience is small but growing rapidly, and there is increasing evidence that improving the resilience of communities at risk of disasters can have significant benefits in terms of reduced losses and faster recovery. Much of the current thinking on community level resilience comes from the work of John Twigg (2007 and 2009)[27] who defined seven components of resilience as follows:

- Disaster risk reduction policy, planning, priorities and political commitment;
- Legal and regulatory systems;
- Integration with development policies and planning;
- Integration with emergency response and recovery;
- Institutional mechanisms, capacities and structures: allocation of responsibilities;
- Partnerships;
- Accountability and community participation.

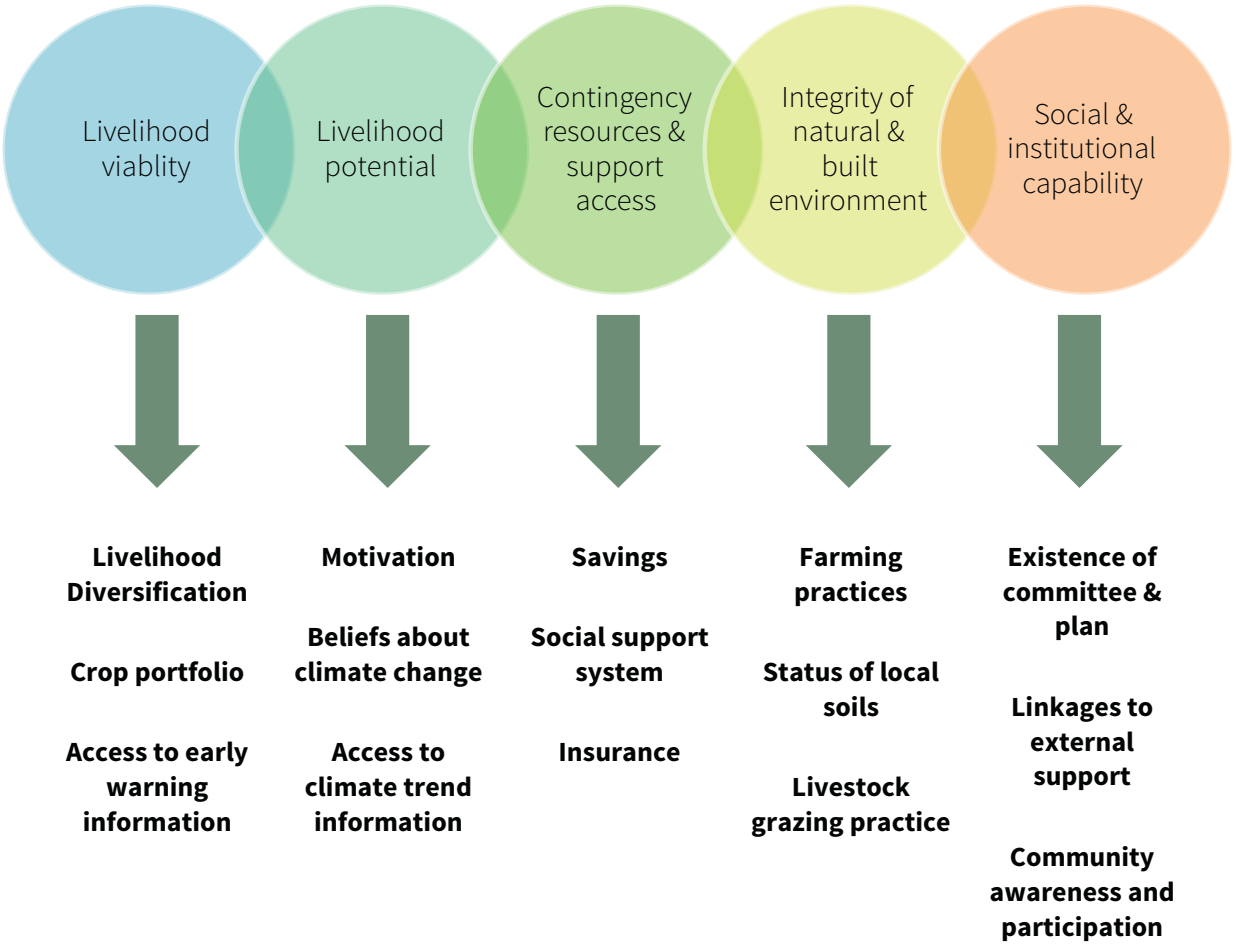
For each of these components there are two sets of characteristics: one set applies to a *Disaster Resilient Community* and the other to an *Enabling Environment*. The characteristics are quite detailed and give clear directions and priorities for actions under each of the seven components. Furthermore, the characteristics apply to both the community and the enabling environment, underlining the fact that resilience depends on actions taken at community level as well as the agency and inter-agency levels.

26 According to the Multi-cluster Initial Rapid Assessment findings, the flooding in 2012 affected some 2.02 million people and destroyed about 80 percent of the standing crops (including cotton, rice, sorghum, pulses and vegetables) and 73 percent to 96 percent of fodder stocks.

27 Twigg J "Characteristics of a Disaster Resilient Community" (first edition 2007, second edition 2009).

Building on this work, Oxfam GB developed a framework which was used to measure the impact of resilience-building measures on recovery from the 2010 floods in Pakistan. The framework is illustrated in Figure 37 below.

Figure 37. Oxfam GB Resilience Framework[28]



Using this framework, Oxfam studied communities where resilience measures had been implemented and compared them to those where they had not. Improved early warning meant that communities which had participated in resilience-building initiatives received earlier warning of the floods and were therefore better prepared to deal with them. In addition, livestock, grain and tool losses were lower and asset levels were higher after the floods.

In stakeholder consultations undertaken as part of the LRA validation process in October 2012[29], the following resilience-building measures were suggested by participants in Sindh and Balochistan:

- **Increased and improved availability of baseline data and flood early warning systems** tailored for agriculture sector users (i.e. local government officials, farmers, communities and extension services).
- **Improved preparedness by all humanitarian actors** (i.e. having emergency stocks of food, seed and vaccinations readily available at district level and performing a comprehensive survey of buildings at risk) and **coordination** of humanitarian actors and Government (including dissemination of assistance packages, targeting eligibility criteria and timing of assistance) to ensure the timely and effective dissemination of information and alerts to communities, village councils and local disaster management committees.

28 Source: "Oxfam GB's attempt to measure Resilience" Powerpoint presentation given by Karl Hughes, October 2012.

29 The preliminary findings of the LRA were validated and discussed at two provincial level workshops: one in Sindh and one in Balochistan in October 2012.

- **Establishment and capacity development of community disaster management committees** at district and village level, and involvement of all relevant line departments in preparedness planning and processes.
- **Conduct annual livestock vaccination campaign** before the start of the monsoon season (particularly in Sindh), build community livestock shelters, increase emergency feedstocks, and include livestock **assistance in life-saving relief activities**.
- **Implement specific improvements in infrastructure related to flood prevention, mitigation and preparedness**, such as improving irrigation and draining systems, increasing rescue capacity to pump out inundated land, protecting river banks, building flood-resistant houses (constructed higher than ground level) and providing basic health care facilities.
- **Increase capacity building** of at-risk households on specific flood preparedness measures in order to safeguard lives and assets, including livestock, food, seed, and fodder stock protection (e.g. storing seeds in waterproof containers).

It is recommended that in the first quarter of 2013, a process to further develop and implement these and other resilience-building and enabling activities is **promoted**, building on existing programmes and policy frameworks. The Pakistan FSC should play a catalytic role in this regard in partnership with the NDMA, PDMAs and District Disaster Management Authorities in Balochistan and Sindh.

SECTION THREE:

ANNEXES

ANNEX I. LRA CONCEPT NOTE

Objectives of the LRA

1. To evaluate the extent to which rural households have recovered in terms of livelihoods and food security from the 2011 and/or 2010 floods with a focus on Sindh and Balochistan.

2. To provide insights on the impact and effectiveness of interventions designed to support livelihood and food security recovery.

3. To understand the problems and issues that remain for livelihood recovery and the implications for future programming for the three different scenarios.

The survey will produce reliable data at district level in areas severely affected by the 2010 and 2011 floods in Sindh and Balochistan provinces for the following three scenarios: households only affected by the 2010 floods; households affected only by the 2011 floods; and households affected by the 2010 and 2011 floods. In addition, the LRA will indicate the current state of livelihood recovery from the 2010 floods across the 2010 only flood-affected households of the four provinces.

Which tools will be used for the LRA?

The LRA consists of two core instruments:

- A household questionnaire-based survey;
- Livelihood impact case studies.

Geographical focus of the LRA

The **main focus** will be on households in districts affected only by the 2011 floods in severely affected districts in Sindh and Balochistan – this will account for about 36 percent of the total household survey sample size. A **second focus** will be on households in Sindh and Balochistan which were affected only by the 2010 floods (this will account for 21 percent of the sample), and **third focus** is given to households which were affected by floods in 2010 and 2011 in Sindh and Balochistan, covering the remaining 43 percent of the total sample size. **Finally**, trend analysis will be conducted via Livelihood Asset Recovery Trajectory case studies in the four provinces of Sindh, Balochistan, Khyber Pakhtunkhwa and Punjab.

What kinds of questions will the LRA help to answer?

The LRA will answer important questions concerning the impact of assistance so far received by households, the current vulnerability / resilience of livelihoods and prospects for the rest of 2012 and beyond, taking into consideration three types of affected households:

- Flood-affected in 2011 and 2010;
- Flood-affected in 2011 only;
- Flood-affected in 2010 only.

Specific questions answered by the LRA will include:

- What have been the food security and livelihood impacts of the 2011 and / or 2010 floods at household level?
- How have men and women **adapted their livelihood strategies** in the aftermath of the floods (for example by switching from farming to wage labour) and what is the impact of exceptional coping strategies on the prospects for sustainable recovery? (Of particular importance here is the huge increase in indebtedness of poor farmers to landlords)[30].
- What has been the **impact of ongoing interventions** and gaps on livelihoods? Key questions here include: (i) what are the differences between households and individuals which have received assistance with those which have not? (ii) to what extent has the assistance given so far been relevant to rebuilding livelihoods over the longer term and where are the gaps? (iii) what patterns can be observed in relation to assistance received in 2012 vs. 2011? What are the outstanding problems faced by flood-affected communities and what are the prospects and priorities for livelihood support in the next 3-6 months for the three types of households?

What will be the level of detail of the LRA?

It has emerged from discussions with NDMA and other stakeholders that one of the key concerns is for the assessment to produce information which is useful to guide programming at district level and below. In accordance with this, the assessment has been designed in such a way so as to ensure that an accurate picture is developed for all selected districts.

More generally, the design of the assessment will allow the following:

- Extremely accurate estimates at provincial level (>95% confidence);
- Very highly accurate estimates at district level (90 – 95% confidence).

Partnerships

The LRA is meant to provide stakeholders with information on the actual situation one or two years after the flood crisis. This information will be useful in guiding interested stakeholders during proposal formulation, detailed needs analysis, monitoring purposes and report preparation, as well as improving the targeting of beneficiaries. The survey will help all stakeholders to have a clearer understanding of the impact of early recovery activities, while government and donors will benefit from having improved information to plan funding allocations geographically and sector wide.

What are the reasons for the design of the assessment?

The assessment has been designed to allow a detailed understanding whilst at the same time being practical in terms of cost and time required. With this design it will be possible to undertake the fieldwork before the monsoon season 2012 and to have the results by end of September, thereby being useful for programming from October 2012.

FAO and partners have sufficient financial resources to conduct this study. Preparations are ongoing and field work is scheduled to commence in late August and to be completed by September (barring monsoon emergencies). October will be dedicated to data analysis and report writing up to early November. It is expected that the preliminary results will be presented, and that a final report would be ready by November 2012.[31]

30 It is important to note that the need for a focused livelihood survey during the early recovery phase is highlighted by the "Guiding principles of Early Recovery" of the "Agriculture Early Recovery Strategy – Floods 2010" published by NDMA in February 2011 and approved by the Agriculture Cluster.

31 If an emergency is declared as a result of monsoon rains and/or related flooding, this schedule will be revisited and revised.

Table 36. Districts selected for the LRA and sample sizes

District	Year(s) affected by floods	Affected population in 2010	Affected population in 2011	Number of households with 90% CI	Livelihood case studies
Charsadda	2010	326 643			2
Province totals				**0**	**2**
Punjab					
Muzaffargargh	2010	1 058 815			2
Province totals				**0**	**2**
Sindh					
1. Dadu	2010 + 2011	168 004	316 345	810	6
2. Ghotki	2010	239 399		270	
3. Jacobabad	2010	18 289		260	
4. Jamshoro	2010 + 2011	208 462	31 774	540	
5. Kashmore	2010	154 735		270	
6. Larkana	2010	15 778		260	
7. Qambar Shahdadkot	2010	174 258		270	
8. Shikapur	2010	325 050		270	
9. Thatta	2010 + 2011	459 323	236 120	810	
10. Badin	2011		722 901	270	
11. Umerkot	2011		646 257	270	
12. Mirpurkas	2011		195 422	270	
13. Sanghar	2011		318 808	270	
14. Tharparkar	2011		890 643	270	
15. S. Benazirabad	2011		983 961	270	
Province totals				**5 380**	**6**
Balochistan					
16. Jaffarabad	2010 + 2011	381 253	181 471	540	
17. Nasirabad	2010+ 2011	43 483	23 760	540	4
18. Kalat	2011		90 020	270	2
19. Killa Abdullah	2011		14 263	260	
20. Lasbela	2011		22 213	260	
21. Jhal Magsi	2010			270	
Province totals				**2 140**	**6**
GRAND TOTALS				**7 520**	**16**

\+ Type of households: affected only by 2010 floods (in 11 districts), affected only by 2011 floods (in 11 districts), affected by both 2010 and 2011 floods (in 5 districts).

** Livelihood asset recovery trajectory case studies will be done in two villages of the selected districts covering the three different household types in the four 2010 flood affected provinces. Two livelihood case studies will be selected in only one of three highlighted districts, depending on access and security.

ANNEX II. LRA HOUSEHOLD QUESTIONNAIRE

Sr. No |__|__|__|__|

Household Questionnaire

Food and Agriculture Organization of United Nations

World Food Programme
Project: Livelihood Recovery Appraisal
(2012)

a-Date (day/month) |____||____|/ |____||____| **b-** Team Number: |____||____|
c-District: _____ |_||_| **d-**
Tehsil:_____ |_||_|
e- Union Council:_____ |_||_| **f-** City/village name: _____ |_||_|
g-Enumerator names : _____ |_||_| **h-** Respondent name:_____ |_||_|
i- Sub-caste of the respondent, please specify: _____ جواب دہندہ کی ذات لکھیں:
j-Gender of the respondent: **1**=Male, **2**=Female |____| جواب دہندہ کی جنس لکھیں:
k-By which floods have you been affected over the last two years: آپ پچھلے دو سالوں میں کس سیلاب سے متاثر ہوئے تھے؟ [کسی ایک کا انتخاب کریں]
(Choose one option from below) |____|
1=Only 2010, **2**=Only 2011, **3**=Both (2010 and 2011)
m-CNIC number of the head of household |_|_|_|_|_|_|_|_|_|_|_|_|_|_|_| _____ گھر کے سربراہ کا شناختی کارڈ نمبر
n=Cell phone: |_|_|_|_|_|_|_|_|_|_|_|_| موبایل نمبر
o- Relation of the respondent to the head of household? (Choose one option from below) |____| جواب دہندہ کا گھرانے کے سربراہ سے رشتہ:
1= head of household گھرانے کا سربراہ **2** = spouse بیوی/خاوند **3**=parents or parents-in-law سسرالی والدین **4**= brother / sister or in-law سسرالی بہن بھا ئی **5** = daughter / son بیٹا/بیٹی **6**=others, specify کوی اور وضاحت کریں: _____
Signature enumerator: _____ **Signature Team Leader:** _____

Consent: We are conducting a survey of the food security and the livelihood situation of families living in the areas affected by 2010 and/or 2011 floods.We are from APEX consulting Pakistan that is a firm for conducting different kinds of survey activities throughout the Pakistan. We would like to ask you some questions about your family. The survey usually takes 40 minutes to complete.

ہم سیلاب 2010 اور/یا 2011 سے متاثرہ علاقوں میں رہنےوالے لوگوں کی منا سب خوراک اور کام کاج کے حوالے سے ایک سروے کر رہے ہیں۔ ہمارا تعلق ایپکس کنسلٹنگ پاکستان سے ہے جو ایک سروے کرنے والی فرم ہے اور پورے پاکستان میں سروے کے کام کرتی ہے۔ہم آپ سے آپ کے گھرانے کے متعلق کچھ سوالات کرنا چاہتے ہیں۔ اس میں آپ کے انداز ۴۰ منٹ لگیں گے۔

Any information that you provide will be kept strictly confidential and will not be shown to other people. This is voluntary and you can choose not to answer any or all of the questions if you want. However, we hope that you will participate since your views are important. Do you have any questions? May we begin now?

آپ جو بھی معلومات مہیا کریں گے ان کو صیغہ راز میں رکھا جائےگا اور کسی کو نہیں دکھائی جائیں گیں۔ یہ ایک بے لوث کام ہے اوراگر آپ چاہیں تو آپ کسی ایک یا سب سوالوں کا جواب دینے سے انکارکر سکتےہیں۔ تاہم، ہم یہ امید کرتے ہیں کہ آپ تعاون کریں گے کیونکہ آپ کے جوابات بہت اہم ہیں۔ کیاآپ کے کچھ سوالات ہیں؟ اگرآپ اجازت دیں تو ہم انٹرویو شروع کریں

SECTION I – HOUSEHOLD COMPOSITION

1.01	What is the gender of the head of household? *(Choose one option)* گھرانے کے سربراہ کی جنس کیا ہے؟[کسی ایک کا انتخاب کریں]	**1**= Male , **2** = Female	|_____|
1.02	How old is the head of household? *(Write number)* گھرانے کے سربراہ کی عمر کیا ہے؟ (نمبر میں لکھیں)		|_____| years
1.03	What is the marital status of the household head? *(Choose one option)* گھرانےکے سربراہ کی ازدواجی حیثیت کیا ہے؟ [کسی ایک کا انتخاب کریں]	**1** = Married , **2** = Divorced, **3** = Widowed, **4** = Separated, **5** = Unmarried	|_____|
1.04	What is the highest educational level of the household head? *(Number of school years completed)* گھرانے کے سربراہ کی سب سے اعلی تعلیم کیاہے[مکمل کئے گئے تعلیمی سال لکھیں]		|_____|
1.05	Ask only in male headed households: What is the highest educational level of the spouse of the household head? *(Number of school years completed)* صرف ایسے گھرانے جہاں مرد سربراہ ہوں: گھرانے کے سربراہ کی بیوی کی سب سے اعلی تعلیم کیاہے [مکمل کئے گئے تعلیمی سال لکھیں]		|_____|
1.06	Currently, does the head of the household possess a CNIC card? *(Choose one option)* کیا اس وقت گھرانے کے سربراہ کے پاس قومی شناختی کارڈ ہے؟ [کسی ایک کا انتخاب کریں]	**0**= No, **1**= Yes	|_____|
1.07	*Currently, does at least one woman in the household have a CNIC card? (Choose one option)* اس وقت گھرانے میں کسی ایک خاتون کے پاس بھی قومی شناختی کارڈہے؟ [کسی ایک کا انتخاب کریں]	**0**= No, **1**= Yes	|_____|
1.08	Is the head of household living and eating in this house? کیاگھرانے کے سربراہ کی رہائش اور کھانا پینا اسی گھر میں ہے؟	**0**= No, **1**= Yes	|_____|
1.09 1	Currently, how many persons are living and eating in this household (excluding guests/IDPs living in the household for less than 90 days)? *(write number)*		|_____| persons

	اس وقت کتنے (مہاجروں اور مہمانوں کے علاوہ جو 90 دن سے کم یہاں رہائیش پذیر ہیں) [تعداد لکھیں] ؟ لوگوں کی رہائش اور کھانا پینا اس گھرانے میں ہے						
How many children and adults are currently living in the household (excluding Guests/IDPs living in the household for less than 90 days)? اس وقت کتنے بچوں اور بڑوں کی رہائش اور کھانا پینا اس گھرانے میں ہے ؟ (مہاجروں اور مہمانوں کے علاوہ جو 90 دن سے کم یہاں رہایش پذیر ہیں)		اس وقت گھرانے میں رہنے والے بچوں اور بڑوں کی تعداد لکھیں؟ (مہاجروں کے علاوہ)					
		Male	**Female**			**Male**	**Female**
1.10	Children < 5 years بچے ۵ سال سے کم	|___|	|___|	**1.11**	Children 5-9 years بچے ۵ سے ۹ سال تک	|___|	|___|
1.12	Children/Adolescents 10-17 year بچے یا بالغ ۱۰ سال سے ۱۷ سال کے	|___|	|___|	**1.13**	Adults 18-65 years بچے ۱۸ سے ۶۵ سال تک	|___|	|___|
1.14	Elderly (>65 years) بڑے (۶۵ سال سے زیادہ)	|___|	|___|	**1.15**	No of disabled persons معذور افراد کی تعداد	|___|	|___|
1.16	Pregnant and lactating women حاملہ اور دودھ پلانے والی مائیں	|___|	|___|				

SECTION II – HAZARDS AND VULNERABILITY

2.01	Between 2000 and the big floods of 2010 ,excluding flood 2010, which significant hazards did you face? Rank according to severity (also includes their frequency) [If no then go to the Q 2.03] 2000 سے 2010 کے سیلاب سے پہلےتک(۲۰۱۰کےسیلاب کے علاوہ) آپ نے کون سی بڑی آفات کا سامنا کیا، ان کی تعداد لکھیں؟ ان کی شدت کے لحاظ سے ان کی درجہ بندی بھی کریں ۔اگر جواب نہ ہو تو سوال نمبر Q2.03پر جائیں۔ **1** = Riverine floods دریائی سیلاب **2** = Flash Floods پہاڑی سیلاب **3** = Drought قحط سالی, **4** = cyclonesطوفان ; **5** = earthquake زلزلہ ; **6** = high food prices اشیاءخوردو نوش قیمتوں میں اضافہ; **7** = conflict تنازعات **8** = Others (specify) (وضاحت کریں) دیگر _____, **99** = not applicable لاگو نہیں	Hazard	|___|	|___|	|___|
		Frequency (Numbers)	|___|	|___|	|___|
2.02	Did any of these hazards affect your ability to cope with the 2010 or 2011 floods? کیا ان میں سے کسی آفت نے آپ کی 2010 اور2011کے سیلاب سے نمٹنے کی صلاحیت کو متاثر کیا؟	**0**= No, **1**= Yes	|___|		
2.03	Have you been facing shocks in the past 6 months? [If no then go to the Q 3.01] کیا آپ نے پچھلے 6 ماہ میں کسی مصیبت کا سامنا کیا ؟[اگر جواب نہ ہو تو سوال نمبر Q3.01پر جائیں]	**0**= No, **1**= Yes	|___|		
	If yes, can you please mention the three main ones? اگر ہاں تو ان میں سے تین بڑی کا ذکر کریں 1= Sickness/health expenditures بیماری/ طبی اخراجات 2= Death of household member گھر کے کسی فرد کی موت 3= High food pricesغذا کی ذیادہ قیم 4 = Energy crisis 5 = Displacementبجلی کی بندش 6 = Crime/thefts/high levels of insecurityجرائم/چوری/عدم تحفظ 7= Loss of employmentبےروزگاری 8= Other _____دیگر 99= Not applicableلاگو نہیں -	If yes, write code |_____| |_____| |_____|		
2.04	Taking all the shocks mentioned in Q 2.3 together, how much have they affected your ability to recover from the floods? سوال نمبر 2.3 میں بیان کی ہوئی آفات کو مد نظر رکھتے ہوئے یہ بتائیے کہ ان کی وجہ سے آپ کی سیلاب سے بحالی پر کیا اثرات مرتب ہوئے؟ 1 = Very significant بہت زیادہ ; 2 = somewhat significantکچھ حد تک ; 3 = Has not affected ability much متاثر نہیں کیا ; 4 = Very little or no effect زیا دہ بہت کم یا بالکل نہیں	|_____|		

SECTION III: DISPLACEMENT AND ASSISTANCE

3.01	Have you been forced to leave your home in the past 2 years (since June 2010) for any reason If NO go to 3.05 کیا آپ نے پچھلے دو سال[جون ۲۰۱۰سے اب تک] میں کسی بھی وجہ سے اپنا گھرچھوڑا؟ اگر نہیں تو سوالنمبر 3.05 پر جائیں	**0**= No, **1**= Yes	|_____|
3.02	If yes, how many times have you been forced to leave your house over the past two years? اگر ہاں، توپچھلے دو سالوں میں کتنی بار آپ کو اپنا گھر چھوڑنا پڑا؟		|_____|
3.03	If yes, why did you leave your home? *(Give up to three options, use codes below)* اگر ہاں تو آپ نے اپنا گھر کیوں چھوڑا [کسی تین کا انتخاب کریں اور نیچے دئے گئے کوڈ استعمال کریں]		|_____| |_____| |_____|

1=to bring livestock to other grazing grounds, مال مویشی کو کسی اور چراہ گاہ میں لے جانے کے لیے 2= to rescue livestock, مال مویشی کی جان بچانے کے لیے,
3= fled flooding of 2010, 2010 کے سیلاب کی وجہ سے 4 = fled flooding of 2011 , 2011 کے سیلاب کی وجہ سے 5 = house destroyed, گھر کے تباہ ہونے کی وجہ سے 6= insecurity/fear, خوف یا ڈر کی وجہ سے 7= to get assistance, امداد کے حصول کے لیے 8= lost income/livelihood, آمدن یا روزگار کا نقصان 9 = seek employment, روزگار کے حصول کے لیے 10 = head of household died, گھرانے کے سربراہ کے انتقال کی وجہ سے , 11 = other, specify: دیگر وضاحت کریں

3.04	For how long did you stay at the new location? *(Choose one option)* آپ وہاں کتنی دیر تک ٹھہرے؟[کسی ایک کا انتخاب کریں]	1 = less than one month, ۱۔ ایک مہینے سے کم 2= 1-4 months, ۲۔ ۱ سے ۲ مہینے 3 = more than 4 months ۳۔ ۲ مہینے سے زیادہ	First second |_____| |____|

If households affected by 2011 flood or affected by both floods (2010 and 2011) than ask the following questions, If household is affected by 2010 flood than go to question 3.157.

اگر گھرانہ ۲۰۱۱کے سیلاب سے متاثر ہوا ہویا ۲۰۱۰اور ۲۰۱۱ کے دونوں سیلابوں سے متاثر ہوا ہو تو مندرجہ ذیل سوالات پوچھیں۔ اگر وہ **3.157**پر جائیں۔
گھر صرف ۲۰۱۰کے سیلاب سے متاثر ہوا ہو تو سوال نمبر

			During the period from flood in March this year did you receive any type of assistance? *(Choose one option for each type of assistance)* **گزشتہ سال کے سیلاب سے اس سال مارچ تک** آپ کو کس قسم کی امداد ملی؟ [کسی ایک کا انتخاب کریں] **(کس ایک کوڈ کا انتخاب کریں)** **0** = No **1** = Yes	**Source امدادی ذرائع** ***(Choose from options below)*** **(کس ایک کوڈ کا انتخاب کریں)** **1**=Government گورنمنٹ **2** =UN/ NGO اقوام متحدہ /غیر سرکاری تنظیم **3** = Religious Organization, مذہبی تنظیم **4** = Local Philanthropy لوکل مخیر لوگ **5**=Don't know معلوم نہیں **6** = Other دیگر **99**=Not Applicable لاگو نہیں	**If yes, how would you rate this assistance in terms of helping your household food security and livelihood? (Choose from options below)** اگرہاں تو یہ امداد آپ کی خوراک اور روزگار پر کس طرح اثرانداز ہوئی؟[کسی ایک کا انتخاب کریں] **(کس ایک کوڈ کا انتخاب کریں)** **1**= A great help بہت زیادہ امداد **2** = Some help کچھ امداد **3** = Little help تھوڑی امداد **4** = No help کوئی امداد نہیں **5** = Made the situation worse حالت پہلے سے ابتر ہوئی	**If the answer was 3, 4, or 5, what was the reason(s)? *(Choose ONE from options below)*** اگرجواب ۳، ۴ یا ۵ ہے تو اس کی کیا وجوہات ہیں؟ **(کس ایک کوڈ کا انتخاب کریں)** **1** = Arrived too late بہت دیر سے موصول ہوئی **2** = Was manipulated by others بڑے اور طاقتور لوگوں نے اثرانداز کیا **3** = was not in sufficient quantity ناکافی مقدار میں تھا **4** = was of the wrong type for my livelihood; میرے روزگار کے مطابق نہیں تھی **5** = other Specify دیگر
Agricultural inputs direct distribution(seeds, fertilizers, tools) زرعی اشیاء (بیج، کھاد، اوزار)	**3.05**	|____|	**3.06**	|____|	**3.07**	|____|	**3.08**	|____|
Agriculture inputs through vouchers زرعی اشیا بذریعہ رسید/واوچر	**3.09**	|____|	**3.10**	|____|	**3.11**	|____|	**3.12**	|____|
Livestock support direct distribution(Fodder, veterinary services, Restocking) مال مویشی کی صورت میں کی گئی امداد	**3.13**	|____|	**3.14**	|____|	**3.15**	|____|	**3.16**	|____|
Livestock support through vouchers مال مویشی بذریعہ رسید/واوچر	**3.17**	|____|	**3.18**	|____|	**3.19**	|____|	**3.20**	|____|
Cash through Government Watan cards گورنمنٹ وطن کارڈ کے ذریعے نقد رقم	**3.21**	|____|	**3.22**	|____|	**3.23**	|____|	**3.24**	|____|
On site School feeding (children) سکول میں خوراک کی فراہمی[بچوں کے لئے]	**3.25**	|____|	**3.26**	|____|	**3.27**	|____|	**3.28**	|____|
Zakat/ Khairat زکوۃ یا خیرات	**3.29**	|____|	**3.30**	|____|	**3.31**	|____|	**3.32**	|____|
Remittances from family	**3.33**	|____|	**3.34**	|____|	**3.35**	|____|	**3.36**	|____|

رشتہ داروں کی طرف members سے زر مبادلہ								
Government compensation (unconditional cash grants) سرکاری مالی امداد[بلا شرائط]	3.37	____	3.38	____	3.39	____	3.40	____
Unconditional Cash grants (non-govt) غیر سرکاری مالی امداد	3.41	____	3.42	____	3.43	____	3.44	____
Cash for training ٹریننگ کے لئے نقد رقم	3.45	____	3.46	____	3.47	____	3.48	____
Cash for work کام کے لئے نقد رقم	3.49	____	3.50	____	3.51	____	3.52	____
Voucher for work کام کے مد میں کیش یا خوراک کی فراہمی	3.53	____	3.54	____	3.55	____	3.56	____
Food for work کام کی مد میں خوراک	3.57	____	3.58	____	3.59	____	3.60	____
General Food Distribution عام خوراک کی تقسیم	3.61	____	3.62	____	3.63	____	3.64	____
Food vouchers خوراک کے لئے رسیدیں / واوچر	3.65	____	3.66	____	3.67	____	3.68	____
Complementary / supplementary feeding for children under 2 & pregnant and lactating women چھوٹے بچوں اور عورتوں کے لیے خصوصی امداد	3.69	____	3.70	____	3.71	____	3.72	____
Repair of irrigation structures نظام آبپاشی کی مرمت	3.73	____	3.74	____	3.75	____	3.76	____
Have you been assisted in some kind of trainings? کیا آپ کو کسی بھی قسم کی ٹریننگ میں شامل کیا گیا؟	3.77	____	3.78	____	3.79	____	3.80	____

OVER THE LAST 5 MONTHS did you receive any type of assistance? ***(Choose one option for each type of assistance)*** پچھلے 5 مہینوں کے دوران کیا آپ کو کسی قسم کی امداد ملی؟ [کسی ایک کا انتخاب کریں] **(کس ایک کوڈ کا انتخاب کریں)** **0 = No** **1 = Yes**	**امدادی ذرائع Source** ***(Choose from options below)*** **(کس ایک کوڈ کا انتخاب کریں)** **1**=Government گورنمنٹ **2** =UN/ NGO اقوام متحدہ /غیر سرکاری تنظیم **3** = Religious Organization, مذہبی تنظیم **4** = Local Philanthropy لوکل مخیر لوگ **5**=Don't know معلوم نہیں **6** = Other دیگر **99**=Not Applicable لاگو نہیں	**If yes, how would you rate this assistance in terms of helping your household food security and livelihood? (Choose from options below)** اگرہاں تو یہ امداد آپ کی خوراک اور روزگار پر کس طرح اثرانداز ہوئی؟[کسی ایک کا انتخاب کریں] **(کس ایک کوڈ کا انتخاب کریں)** **1**= A great help بہت زیادہ امداد **2** = Some help کچھ امداد **3** = Little help تھوڑی امداد **4** = No help کوئی امداد نہیں **5** = Made the situation worse حالت پہلے سے ابتر ہوئی	**If the answer was 3, 4, or 5, what was the reason(s)?** ***(Choose ONE from options below)*** اگرجواب ۳، ۴ یا ۵ ہے تو اس کی کیا وجوہات ہیں؟ **(کس ایک کوڈ کا انتخاب کریں)** **1** = Arrived too late بہت دیر سے موصول ہوئی **2** = Was manipulated by others بڑے اور طاقتور لوگوں نے اثرانداز کیا **3** = was not in sufficient quantity ناکافی مقدار میں تھا **4** = was of the wrong type for my livelihood; میرے روزگار کے مطابق نہیں تھی **5** = other Specify دیگر

Agricultural inputs direct distribution(seeds, fertilizers, tools) زرعی اشیاء (بیج، کھاد، اوزار)	3.81	____	3.82	____	3.83	____	3.84	____
Agriculture inputs through vouchers زرعی اشیا بذریعہ رسید/واوچر	3.85	____	3.86	____	3.87	____	3.88	____
Livestock support direct	3.89	____	3.90	____	3.91	____	3.92	____

distribution(Fodder, veterinary services) مال مویشی کی صورت میں کی گئی امداد								
Livestock support through vouchers زرعی اشیا بذریعہ رسید/واوچر	3.93	|____|	3.94	|____|	3.95	|____|	3.96	|____|
Cash through Government Watan cards گورنمنٹ وطن کارڈ کے ذریعے نقد رقم	3.97	|____|	3.98	|____|	3.99	|____|	3.100	|____|
On site School feeding (children) سکول میں خوراک کی فراہمی[بچوں کے لئے]	3.101	|____|	3.102	|____|	3.103	|____|	3.104	|____|
Zakat/ Khairat زکوۃ یا خیرات	3.105	|____|	3.106	|____|	3.107	|____|	3.108	|____|
Remittances from family members رشتہ داروں کی طرف سے زر مبادلہ	3.109	|____|	3.110	|____|	3.111	|____|	3.112	|____|
Government compensation (unconditional cash grants) سرکاری مالی امداد[بلا شرائط]	3.113	|____|	3.114	|____|	3.115	|____|	3.116	|____|
Unconditional Cash grants (non-govt) بلا شرائط مالی امداد [غیر سرکاری]	3.117	|____|	3.118	|____|	3.119	|____|	3.120	|____|
Cash for training ٹریننگ کے لئے نقد رقم	3.121	|____|	3.122	|____|	3.123	|____|	3.124	|____|
Cash for work کام کے لئے نقد رقم	3.125	|____|	3.126	|____|	3.127	|____|	3.128	|____|
Voucher for work کام کے مد میں کیش یا خوراک کی فراہمی	3.129	|____|	3.130	|____|	3.131	|____|	3.132	|____|
Food for work کام کی مد میں خوراک	3.133	|____|	3.134	|____|	3.135	|____|	3.136	|____|
General Food Distribution عام خوراک کی تقسیم	3.137	|____|	3.138	|____|	3.139	|____|	3.140	|____|
Food vouchers خوراک کے لئے رسیدیں / واوچر	3.141	|____|	3.142	|____|	3.143	|____|	3.144	|____|
Complementary / supplementary feeding for children under 2 & pregnant and lactating women چھوٹے بچوں اور عورتوں کے لیے خصوصی امداد	3.145	|____|	3.146	|____|	3.147	|____|	3.148	|____|
Repair of irrigation structures نظام آبپاشی کی مرمت	3.149	|____|	3.150	|____|	3.151	|____|	3.152	|____|
Have you been assisted in some kind of trainings? کیا آپ کو کسی بھی قسم کی ٹریننگ میں شامل کیا گیا؟	3.153	|____|	3.154	|____|	3.155	|____|	3.156	|____|

For households affected by floods in 2010 only, ask the following questions

وہ گھرانے جو صرف ۲۰۱۰کے سیلاب سے متاثر ہوئے ہیں ان سے یہ سوالات پوچھیں۔وہ گھرانے جو ۲۰۱۱کے سیلاب سے متاثر ہوئے ہیں یا دونوں **4.01**پر جائیں۔ سے متاثر ہوئے ہوں وہ سوال نمبر

During the PAST12 (From August 2011 to till date) months did you receive any type of assistance? ***(Choose one option for each type of assistance)***	**Source امدادی ذرائع** ***(Choose from options below)***	**If yes, how would you rate this assistance in terms of helping your household food security and livelihood?**	**If the answer was 3, 4, or 5, what was the reason(s)?** ***(Choose ONE from options***

	پچھلے 12 مہینوں (اگست ۲۰۱۱سے اب تک)کے دوران کیا آپ کو کسی قسم کی امداد ملی؟[کسی ایک کا انتخاب کریں] **(کس ایک کوڈ کا انتخاب کریں)** **0** = No **1** = Yes		**(کس ایک کوڈ کا انتخاب کریں)** **1**=Government گورنمنٹ **2** =UN/ NGO اقوام متحدہ /غیر سرکاری تنظیم **3** = Religious Organization, مذہبی تنظیم **4** = Local Philanthropy لوکل مخیر لوگ **5**=Don't know معلوم نہیں **6** = Other دیگر **99**=Not Applicable لاگو نہیں		**(Choose from options below)** اگرہاں تو یہ امداد آپ کی خوراک اور روزگار پر کس طرح اثرانداز ہوئی؟[کسی ایک کا انتخاب کریں] **(کس ایک کوڈ کا انتخاب کریں)** **1**= A great help بہت زیادہ امداد **2** = Some help کچھ امداد **3** = Little help تھوڑی امداد **4** = No help کوئی امداد نہیں **5** = Made the situation worse حالت پہلے سے ابتر ہوئی		***below)*** اگرجواب ۳، ۴ یا ۵ ہے تو اس کی کیا وجوہات ہیں؟ **(کس ایک کوڈ کا انتخاب کریں)** **1** = Arrived too late بہت دیر سے موصول ہوئی **2** = Was manipulated by others بڑے اور طاقتور لوگوں **3** = was نے اثرانداز کیا not in sufficient quantity ناکافی مقدار میں تھا **4** = Was of the wrong type for my livelihood; میرے روزگار کے مطابق نہیں تھی **5** = Other Specify…….. دیگر	
Agricultural inputs direct distribution(seeds, fertilizers, tools) زرعی اشیاء (بیج، کھاد، اوزار)	**3.157**	⊢	**3.158**	|____|	**3.159**	|____|	**3.160**	|____|
Agriculture inputs through vouchers زرعی اشیا بذریعہ رسید/واوچر	**3.161**	⊢	**3.162**	|____|	**3.163**	|____|	**3.164**	|____|
Livestock support direct distribution(Fodder, veterinary services) مال مویشی کی صورت میں کی گئی امداد	**3.165**	⊢	**3.166**	|____|	**3.167**	|____|	**3.168**	|____|
Livestock support through vouchers مال مویشی بذریعہ رسید/واوچر	**3.169**	⊢	**3.170**	|____|	**3.171**	|____|	**3.172**	|____|
Cash through Government Watan cards گورنمنٹ وطن کارڈ کے ذریعے نقد رقم	**3.173**	⊢	**3.174**	|____|	**3.175**	|____|	**3.176**	|____|
On site School feeding (children) سکول میں خوراک کی فراہمی[بچوں کے لئے]	**3.177**	⊢	**3.178**	|____|	**3.179**	|____|	**3.180**	|____|
Zakat/ Khairat زکوۃ یا خیرات	**3.181**	⊢	**3.182**	|____|	**3.183**	|____|	**3.184**	|____|
Remittances from family members رشتہ داروں کی طرف سے زر مبادلہ	**3.185**	⊢	**3.186**	|____|	**3.187**	|____|	**3.188**	|____|
Government compensation (unconditional cash grants) سرکاری مالی امداد[بلا شرائط]	**3.189**	⊢	**3.190**	|____|	**3.191**	|____|	**3.192**	|____|
Unconditional Cash grants (non-govt) بلا شرائط مالی امداد [غیر سرکاری]	**3.193**	⊢	**3.194**	|____|	**3.195**	|____|	**3.196**	|____|
Cash for training ٹریننگ کے لئے نقد رقم	**3.197**	⊢	**3.198**	|____|	**3.199**	|____|	**3.200**	|____|
Cash for work کام کے لئے نقد رقم	**3.201**	⊢	**3.202**	|____|	**3.203**	|____|	**3.204**	|____|
Voucher for work کام کے مد میں کیش یا خوراک	**3.205**	⊢	**3.206**	|____|	**3.207**	|____|	**3.208**	|____|

کی فراہمی								
Food for work کام کی مد میں خوراک	3.209		3.210	____	3.211	____	3.212	____
General Food Distribution عام خوراک کی تقسیم	3.213		3.214	____	3.215	____	3.216	____
Food vouchers خوراک کے لئے رسیدیں / واوچر	3.217		3.218	____	3.219	____	3.220	____
Complementary / supplementary feeding for children under 2 & pregnant and lactating women چھوٹے بچوں اور عورتوں کے لیے خصوصی امداد	3.221		3.222	____	3.223	____	3.224	____
Repair of irrigation structures نظام آبپاشی کی مرمت	3.225		3.226	____	3.227	____	3.228	____
Have you been assisted in some kind of trainings? کیا آپ کو کسی بھی قسم کی ٹریننگ میں شامل کیا گیا؟	3.229		3.230	____	3.231	____	3.232	____

SECTION IV– AGRICULTURE & LIVESTOCK			
4.01	Do you own land? *(If NO go to 4.04)* کیا آپ زمین کے مالک ہیں؟[اگرنہیں ***4.04*** پر جائیں] تو سوال	**0**= No / **1**= Yes	I_____I
4.02	How much land do you own?*(write number of Acres)* آپ کتنی زمین کے مالک ہیں؟ [ایکڑ میں]	I_____I Acres	
4.03	How much cultivatable agricultural land do you own? *(write number of Acres)* آپ کتنی قابل کاشت زرعی زمین کے مالک ہیں؟ [ایکڑ میں]	I_____I Acres	
4.04	Do you normally cultivate land? (if no, go to 4.52 livestock) کیاعام طور پر آپ زمین کاشت کرتے ہیں ؟**(اپنی زمین اور کسی اور کی زمین،دونوں کی بارے میں پوچھیں)**[اگر نہیں تو سوالنمبر 4.52 پر جائیں]	**0**= No / **1**= Yes	I____I
4.05	What is the type of ownership of the land you cultivate? *(choose one option)* [کسی ایک کا انتخاب کریں] ے ہیں اس کی ملکیت کی نوعیت کیا ہے؟	**1** = Owner, مالک **2**=Tenant/Sharecropper مزاع یا حصہ دار **3**= Owner and tenant, مالک اور مزارع **4** = Leased the land پٹے پر حاصل کی گئی زمین **5**= Other (specify): _____ دیگر	I___I
4.06	***Ask only tenants:*** What share of the harvest do you usually get from the landowner? *(choose one option)* **صرف مزارعین سے پوچھیں** – عام طورپر زمین کے مالک سے آپ کو پیداوار کا کتنا حصہ ملتا ہے؟ (ایک جواب کا انتخاب کریں)	**1**= <25%, ۲۵ فیصد سے کم **2**= 26-49%, ۲۶ سے ۵۰ فیصد **3**= 50% **4**= >50% ۵۰ فیصد سے زیادہ	I____I %
4.07	How many Acres of land do you normally cultivate during *Rabi* season? *(write number of Acres)* ربیع کے موسم میں عام طور پر آپ کتنی زمین کاشت کرتے ہیں؟ (ایکڑ میں لکھیں)	I_____I Acres	
4.08	How many Acres of land do you normally cultivate during *Kharif* season? *(write number of Acres)* خریف کے موسم میں عام طور پر آپ کتنی زمین کاشت کرتے ہیں؟ (ایکڑ میں لکھیں)	I_____I Acres	
4.09	Do you use a tractor for land preparation? کیا آپ زمین کی تیاری کے لئے ٹریکٹر استعمال کرتے ہیں ؟	**0**= No / **1**= Yes	I____I
4.10	Estimate the shares (percentages) of each of the following own land types: irrigated, rain fed or *katcha*? کیاآپ کی زمین بنیادی طور پر ، نہری ہے؟، بارانی ہے ؟ یا کچہ کے علاقے میں ہے؟ [فیصد میں بتائیں]	**1** = % irrigated , نہری پانی سے سیرابی **2** = % rain fed, بارانی **3** = % katcha دریا کے ساتھ کا علاقہ .	I____I % I____I % I____I %
4.11	**If irrigated**, what kind of MAIN irrigation source do you use? **Otherwise skip to Q 4.13.** **اگر نہری پانی تو** عام طور پر آپ زمین کو کیسے سیراب کرتے ہیں؟ 1= tube well, 2=Canal, 3=well, 4=pond, 5=streams, 6=karez ۱۔ ٹیوب ویل، ۲۔کینال ,۳۔ کنواں، ۴۔ تالاب، ۵۔ ندی، ۶ ۔ کاریز	|_____|	
4.12	What are the charges for the irrigation ,if any?, If no, go to Q4.14 سیرابی کی سالانہ آبیاری کیا ہے،؟ اگر کوئی ہے تو؟**[اگر نہیں تو سوالنمبر 4.14 پر جائیں]**	1= Yes, 0=No |_____|	|_____| Rs.
4.13	Who pays the charges for the irrigation? اس سیرابی کی قیمت کون ادا کرتا ہے؟	1=landlord, مالک زمین 2=Tenant مزارع 3=Both دونوں 3= Other_____	|_____|
4.14	What is the share (percentage) of irrigation scheme functioning? سیرابی کی موجودہ صورت حال کیا ہے؟	1=Rehabilitated, بحال کر لیا 2=Not-rehabilitated بحال نہیں ہوا	|_____|
What main crops do you grow normally in each season? *(choose up to three crops, use codes below, order according to the importance given to the crop by the respondent* آپ عام طورپر ہر موسم میں کس قسم کی بڑی غذائی اور زرنقد فصل اگاتے ہیں؟ (تین فصلوں تک کا انتخاب کریں، فصلوں سے حاصل ہونے والی آمدن کے حساب سے نیچے دیے کوڈ کی ترتیب کا انتخاب کریں)			

	Rabi season Codes for type: 1 = cash; 2 = food; 3 = both; 4 = fodder		Kharif season Codes for type: 1 = cash; 2 = food; 3 = both; 4 = fodder	
4.15	First I_____I Type I_____I	4.16	First I_____I	Type I_____I
4.17	Second I_____I Type I_____I	4.18	Second I_____I	Type I_____I
4.19	Third I_____I Type I_____I	4.20	Third I_____I	Type I_____I

1 = wheat, گندم **2** = rice,چاول **3** = barley, جوار **4** = maize, مکئی **5** = fruits,پھل 6 = vegetables,سبزیاں **7** = tobacco, تمباکو **8** = sugar cane,گنا **9** = cotton,کپاس **10** = sorghum, چارہ**11** = berseem, برسیم **12** = pulses (lentils, beans, etc),دالیں **13** = sunflower, سورج مکھی**14** = canola, کینولا**15** = millet, باجرہ
16 = other: _____ دیگر وضاحت کریں

RABI SEASON 2011-12

4.21	How much land did you cultivate during this *Rabi* season (2011/2012)? *(write number of Acres)* ربیع [2011-2012] میں آپ نے کتنی زمین کاشت کی [ایکڑ میں لکھیں]	I_____I Acres
4.22	How much land did you use for wheat cultivation during this *Rabi* season (2011/2012)? *(write number of Acres)* اس ربیع کے موسم میں آپ نے گندم کی بوائی کے لئے کتنی زمین استعمال کی؟ [ایکڑ میں لکھیں]	I_____I Acres
4.23	Did you plant any oil seeds (sunflower, canola) during Rabi 2011-12? ***(If NO, go to 4.26)*** کیا آپ نے ربیع 2011-2012میں تیل کے بیج (سورج مکھی، کینولا) کی کاشت کی؟**[اگر نہیں تو سوالنمبر 4.26 پر جائیں]** — 1= yes, 0=No	I_____I
4.24	From where did you get these oil seeds? یہ تیل کےبیج آپ نے کہاں سے حاصل کیے؟ — **1**= own stocks, اپنے ذخیرہ کیے ہوئے, **2**=UN/NGO, **3**=Government, گورنمنٹ, **4**=Market, مارکیٹ **5**=borrowed/on credit, ادھار لیے،یا قرضے پر, **6**=landowner, زمین کے مالک سے, **7**=other, دیگر ----------	|_____|
4.25	How much land did you use for oil seeds cultivation during this *Rabi* season (2011/2012)? *(write number of Acres)* آپ نے ربیع 2011/2012 میں تیل کے بیجوں کی کاشت کے لیے کتنی زمین استعمال کی ؟ [ایکڑ میں لکھیں]	|_____| Acres
4.26	Did you plant any vegetables in this *Rabi* season (2011/2012)? کیا آپ نے ربیع 2011/2012 میں سبزیوں کی کاشت کی؟ — 1= yes, 0=No	I_____I

How much food and cash crops did you harvest during Rabi 2011-12?
اس ربیع[2011-2012] کے موسم میں آپ نے کتنی غذائی اور زرنقد فصلوں کی کٹائی کی؟

	Actual total quantity harvested in last harvest (in monds) گزشتہ سال کی ٹوٹل پیداوار منوں میں		Total harvest in a normal year before flood – what you get usually (in monds) عمومی ٹوٹل پیداوار منوں میں جو سیلاب سے پہلے ہوتی تھی	
Wheatگندم	4.27	I_____I monds	4.28	I_____I monds
Oil seedsتیل کے بیج	4.29	I_____I monds	4.30	I_____I monds
Fodderچارہ	4.31	I_____I monds	4.32	I_____I monds
Fruits پھل	4.33	I_____I monds	4.34	I_____I monds
Vegetableسبزیاں	4.35	I_____I monds	4.36	I_____I monds
Barleyجوار	4.37	I_____I monds	4.38	I_____I monds
Pulses (lentils, beans, etc)	4.39	I_____I monds	4.40	I_____I monds

4.41	If enumerator observe increase in production than ask Q 4.41 and leave Q 4.42, If observe decrease than skips 4.41 and ask Q 4.42 اگر سوال کنندہ کو پیداوار میں زیادتی کی صورتحال نظر آئے توسوال 4.41کو پوچھیں اور سوال 4.42کو چھوڑ دیں۔ اگر سوال کنندہ کو پیداوار میں کمی کی صورتحال نظر آئے تو سوال4.41کو چھوڑ دیں اور سوال4.42کو پوچھیں۔	
	If increase, what was the reason(s)? *(choose from options below)* **اگر پیداوار بڑھی ہے تو، اس کی کیا وجوہات ہیں؟[جوابات کا انتخاب کریں]** **1** = Increased katcha land available to plant; کچہ قابل کاشت زمین بڑھ گی **2** = increased yield on existing land due to increased fertility from flood; سیلاب کی وجہ سے پہلے سے موجود زمین کی پیداوار بڑھ گئی **3** = increased yield on existing land due to improved seeds; بہتر بیج کی بدولت پہلے سے موجود زمین کی پیداوار بڑھ گئی **4** = increased yield on existing land due to application of fertilizers. کھاد کے استعمال سے پہلے سے موجود زمین کی پیداوار بڑھ گئی **5**=Others----------(دیگر)	I_____I I_____I I_____I

4.42	If decrease, what was his reason(s)? (choose from options below) اگر پیداور کم ہوئی ہے تو، اس کی کیا وجوہات ہیں؟ 1 = not returned in time for planting, (فصل کی بوایی کے لیے بروقت واپسی نہ ہو سکی), 2 = irrigation destroyed, (آبپاشی کے نالے تباہ ہو گئے) 3 = agricultural inputs lost/unavailable, (زرعی اشیاء کی گمشدگی یا عدم دستیابی) ، 4= lack of manpower, (افرادی قوت کا نقصان) 5 = loss / lack of draught animals, (ہل چلانے والے، چھکڑا یا امدادی جانوروں کا نقصان) 6= land was washed away, (زمین بہ گئی) 7= land still under water, (زمین پر اس وقت پانی کھڑاتھا) 8 = soil siltation, بھل کی وجہ سے 9= unclear land use rights,(غیر واضح زمین کے استعمال کے حقوق) 10= cannot afford to buy inputs, (زرعی اجناس خریدنے کی استطاعت نہیں تھی) 11= other reasons (specify)s---------- ----------دیگر وجوہات(وضاحت کریں)	I_____I I_____I I_____I
4.43	How much processed cereals do you have in storage at present (KGs) آپ کے پاس اس وقت کتنا تیار شدہ اناج ذخیرہ اندوز ہے [کلو گرام میں]	**I_____I KG**

KHARIF SEASON 2012			
4.44	How much land have you cultivates this Kharif season (2012)? *(write number of Acres)* اس خریف 2012کے موسم میں آپ نےکتنی زمین کو کاشت کیاہے؟	I _____I Acres	
4.45	From where you got the seeds? آپ نےکہاں سے بیج حاصل کیے؟	**1**= Own stocks, اپنا ذخیرہ **2**=UN/NGO, **3**=Government, گورنمنٹ **4**=Market, مارکیٹ **5**=borrowed/on credit, ادھار یا قرضے پر **6**=landowner, مالک زمین **7**=other,_____ دیگر	Main I_____I Second I_____I
4.46	If the monsoon rains are normal how many monds of rice per acre you plan to harvest 2012 *(write number of monds)* اگر مون سون کی بارشیں معمول کے مطابق ہوئیں تو آپ کے مطابق چاول کی فصل کی فی ایکڑ پیداوار 2012 میں کتنی ہو گی؟ [منوں میں لکھیں]		I_____I Mond
4.47	If the monsoon rains are normal how many monds of cotton per acre you plan to harvest 2012 *(write number of monds)* اگر مون سون کی بارشیں معمول کے مطابق ہویں تو آپ کے مطابق کپاس کی فصل کی فی ایکڑ پیداوار 2012 میں کتنی ہو گی؟ [منوں میں لکھیں]		I_____I Mond
4.48	Did you plant any of the crops mentioned in question 4.16, 4.18 and 4.20? *(If NO, go to 4.15)* کیا آپ نےاس سال سوال نمبر (4.16, 4.18, 4.20) کے مطابق دوسرے نمبر پر کوئی فصل کاشت کی ہے؟[اگر نہیں تو سوالنمبر 4.15 پر جائیں]	**0**= No, **1**= Yes	I _____I
4.49	How much land did you cultivated in last years Kharif season (2011)? *(write number of Acres)* آپ نےگزشتہ سال 2011 خریف میں کتنی زمین کاشت کی [ایکڑ میں لکھیں]	I _____I	
4.50	Have you planted any vegetables in this Kharif season (2012)? کیا آپ اس خریف کے موسم میں کوئی سبزیاں کاشت کر چکے ہیں؟	**0**= No **1**= Yes	I _____I
4.51	Currently, What type of agricultural support do you need the most? *(choose not more than two options, use code below)* موجودہ حالات میں آپ کو کس قسم کی زرعی امداد کی ضرورت ہے؟[دو سے زیادہ کا انتخاب نہ کریں ، کوڈ استعما ل کریں]	First I_____I	Second I_____I

1 = seeds,بیج **2** = fertilizer,کھاد **3**= storage,ذخیرہ کاری **4** = tools,اوزار , **5** = repair of tertiary irrigation Channels,اول درجے کےکھالوں کی مرمت **6** = repair of secondary irrigation Channelsدوم /ثانوی درجے کے کھالوں کی مرمت
7= agricultural services,زرعی تکنیکی سہولیات **8** = credit,ادھار، قرضہ **9** = draught animals,چھکڑاجانور
10=land reclamation,زمین کے کٹاو سے روک تھام, **11**= clear land use rights, زمین کو استعمال کرنے کی واضح حکمت عملی
12= repair of tube wells,ٹیوب ویل کی مرمت, **13** = other, specifyدیگر وضاحت کریں_____

LIVESTOCK

4.	Do you normally keep livestock (Own or Shared)? ***(If NO go to section V)*** کیا آپ عام طور پر مال مویشی رکھتے ہیں؟**[اگر نہیں تو سیکشن5پر جائیں]**	**0**= No, **1**= Yes	I_____I

For households affected only by the 2010 floods, ask the following:2010 کے سیلاب سے متاثر لوگوں سے سوال پوچھیں

		Bullock	Buffalo	Donkey	Cow	Camel	Sheep / Goat	Poultry
4.	What types of livestock do you keep? And how many do you have currently? (Write numbers) آپ کے پاس کون کون سے جانور ہیں اور کتنے ہیں؟کتنے ہیں؟ [تعداد لکھیں]	I____I	I____I	I____I	I____I	I____I	I____I	I____I

For households affected by the 2011 floods ask the following: 2011 کے سیلاب سے متاثر لوگوں سے سوال پوچھیں

4.	How many animal(s) did you have before the flood 2011, specify for each category? جولائی 2011 سیلاب سے پہلے آپ کے پاس کون کون سے جانور تھے اور کتنے		Cow / Buffalo / camel گائے، بھینس یا اونٹ	Sheep / goats بھیڑ یا بکری	Poultry مرغیاں
		Owned	/ /	/	
		Shared	/ /	/	

4.	How many animal(s) did you have after the floods (November 2011)? سیلاب کے بعد (نومبر 2011میں) آپ کے پاس کون کون سے جانور تھے اور کتنے ؟		Cow / Buffalo / camel گائے، بھینس یا اونٹ	Sheep / goats بھیڑ یا بکری	Poultry مرغیاں
		Owned	/ /	/	
		Shared	/ /	/	

4.	Reason for change in the livestock pattern? (If enumerator observed any difference in Q 4.54 and Q4.55 than ask the question otherwise go to the Q 4.57) مال مویشی رکھنے کے رجحان میں تبدیلی کی وجوہات اگر Q 4.54اور سوال نمبرQ4.55میں فرق تو اس سوال کو پوچھے ورنہ سوال کنندہ سوال نمبر نمر Q4.57پر چلے جائیں۔	1= Lack of shelter, پناہ گاہ کی کمی 2= Lack of fodder/pasture/animal feed, خوراک کی کمی 3= Cannot afford fodder/feed, چارہ یا خوراک خریدنے کی استعداد میں کمی 4= Needed cash رقم کی ضرورت 5= Needed for own consumption اپنی ضرورت کے لئے 6= Other reason *specify* دیگر وضاحت کریں)_____ *7=Not Applicable*	|_____|

4.	How many animal(s) do you have currently? ے پاس اس وقت کتنے مویشی ہیں ؟		Cow / Buffalo / camel گائے، بھینس یا اونٹ	Sheep / goats بھیڑ یا بکری	Poultry مرغیاں
		Owned	/ /	/	
		Shared	/ /	/	

4.	Reason for change in the livestock pattern? (If enumerator observed any difference in Q 4.55 and Q4.57 than ask the question otherwise go to the Q 4.59) مال مویشی رکھنے کے رجحان میں تبدیلی کی وجوہات اور Q4.57میں فرق تو اس سوال کو پوچھے ورنہ سوال اگر سوال کنندہ سوال نمبر Q 4.55سوال نمبر نمر Q4.59پر چلے جائیں۔	1= Lack of shelter, پناہ گاہ کی کمی 2= Lack of fodder/pasture/animal feed,خوراک کی کمی 3= Cannot afford fodder/feed, چارہ یا خوراک خریدنے کی استعداد میں کمی 4= Needed cash رقم کی ضرورت 5= Needed for own consumption اپنی ضرورت کے لئے 6 = Livestock received through external assistance (eg NGO) ما ل مویشی امداد میں ملے[غیر سرکاری] 7 = Livestock purchased مال مویشی خود خریدے 8 = Livestock received as gift (informal safety net) مال مویشی تحفتا ملے 9= Other reason *specify* دیگر وضاحت کریں)_____	|_____|

For all households ask the following questions. تمام گھرانوں سے یہ سوالات پوچھیں							
		Cow/Buffalo/Camel		**Sheep/Goats**		**Poultry**	
What are the main reasons for keeping livestock? مال مویشی پالنے کی بنیادی وجوہات بیا کریں؟ (*Choose not more than two options, use codes below*) مندرجہ ذیل میں سے کسی ایک کوڈ کا انتخاب کریں۔ **1** = Products for own consumption دودھ، مکھن، گوشت وغیرہ کے گھریلو استعمال کے لیے **2** = draught power ہل چلانے،پانی وغیرہ نکالنے کےلیے **3** = Transports نقل و حرکت کے لیے **4**= sale of live animals for cash نقد رقم کے لیے جانوروں کی فروخت **5** = other _____ (دیگروضاحت کریں)		**4.59**	|_____|	**4.60**	|_____|	**4.61**	|_____|
How many animals have you sold in 2012? *(Write number)* سال 2012 میں آپ نے کتنے جانور فروخت کیے؟ [تعداد لکھیں]		**4.62**	|_____|	**4.63**	|_____|	**4.64**	|_____|
What was the main reason for selling live animals? *(Use code)* زندہ مال مویشی بیچنے کی کیا وجوہات تھیں ؟ **1**= Need for money, پیسوں کی ضرورت **2** = Old age/sickness بڑھاپا یا بیماری **3**= Infertility, بانجھ پن **4**= Lack of shelter پناہ گاہوں کی عدم دستیابی **5**= Lack of fodder/pasture/animal feed چارہ یا جانوروں کی خوراک کی کمی **6**=cannot afford fodder/Feed, چارہ یا خوراک خریدنے کی استطاعت نہیں **07**= source of livelihood گزر بسر کرنے کے لیے **08**=Other reason *specify*_____ دیگر(وضاحت کریں)		**4.65**	|_____|	**4.66**	|_____|	**4.67**	|_____|
		Dairy products		Eggs		Chicken / meat	
Do you usually sell animal products? کیاآپ عام طور پر جانوروں سے حاصل ہونے والی اشیاء فروخت کرتے ہیں؟ (دودھ، انڈے،گوشت، دہی، پنیر) (Milk, cheese, yogurt, eggs, Meat)? *(Use code)*	0= No, 1= Part of it 2= All of it	**4.68**	|_____|	**4.69**	|_____|	**4.70**	|_____|
Who in the household usually manages the sale of animal products? *(Use code)* عام طور پر گھرانےمیں سے کون جانوروں سے حاصل ہونے والی اشیاءفروخت کرتا ہے؟	1= men, 2= women 3= both	**4.71**	|_____|	**4.72**	|_____|	**4.73**	|_____|

SECTION V: LIVELIHOOD, INCOMES AND EXPENDITURE

	Did anyone in your household do any of the following activities before and after a flood? سیلاب کے بعد سے اب تک، آپ کے خاندان کے کسی فرد نے مندرجہ ذیل کاموں میں حصہ لیا ہے؟					1=yes, 0=No	
		Before flood	After Flood			Before flood	After Flood
5.01	Day Labor in farming during plantation and harvesting کاشت کے دوران دیہاڈی پر مزدوری	|____|	|____|	5.02	Sell crops and livestock products produced by the household زراعت اور جانوروں سے حاصل ہونےوالی اشیاء کی فروخت	|____|	|____|
5.03	Day Labor in construction تعمیراتی کام میں دیہاڑی پر کام	|____|	|____|	5.04	Receive a salary from government job or public service سرکاری ملازمت سے آمدن	|____|	|____|
5.05	Day Labor in factory work فیکٹری میں دیہاڈی پر کام	|____|	|____|	5.06	Generate revenue from trade business کاروبار سے آمدن	|____|	|____|
5.07	Day Labor in workshops ورکشاپ میں د یہاڑی پر کام	|____|	|____|	5.08	Generate revenue from transportation business زرائع آمدورفت سے آمدن	|____|	|____|
5.09	Generate revenue from handcrafts business by women (e.g. Tailoring, production of Jewellery, weaving (carpet), etc.) خواتین کے دستکاری کے کام سے آمدن (مثال کے طور پر درزی کا کام، جیولری کی تیاری وغیرہ)	|____|	|____|	5.10	Generate revenue from factory business فیکٹری کے کام سے آمدن	|____|	|____|
5.11	Rent of private property (land, house, etc.) نجی املاک سے کرایہ (زمین، گھر وغیرہ)	|____|	|____|	5.12	Receive foreign remittances بیرون ملک سے رقم کی منتقلی	|____|	|____|
5.13	Receive local remittances اندرون ملک سے رقوم کی منتقلی	|____|	|____|	5.14	Receive loans from relatives and friends رشتہ داروں اور دوستوں سے قرضہ	|____|	|____|
5.15	Receive income support / Zakat مال معاونت یا زکوۃ	|____|	|____|	5.16	Receive loans from money lenders قرضہ دینے والے سے قرضہ	|____|	|____|
	If enumerator observe any change before and after the flood, then ask following questions, otherwise go to question 5.19 اگر شمار کنندہ سیلاب سے پہلے اور بعد میں کسی تبدیلی کا مشاہدہ کرے تو یہ سوالات پوچھیں ورنہ سوال نمبر 5.19 پر جائیں						
5.17	You have changed your livelihood after flood. What is the main reason for this change? *(Choose one option from below)* سیلاب کے بعد اپنے ذریعہ آمدن کی تبدیلی کی بنیادی وجوہات بتائیں [کسی ایک کا انتخاب کریں]					|___|	
1=Old source was ceased/closed down, پرانے ذرائع سے کم آمدن,**2**=Low income from old sources پرانے ذرائع کا خاتم **3**=More expected income in new source, نئے ذرائع سے زیادہ متوقع آمدن **4**=Migration, ہجرت **5**=Other (Please specify):_____ دیگر[وضاحت کریں]							
5.18	*For this change, would you say that this change is permanent or it is likely that it will go back to what it was before the flood? (Choose one option from below)* کیا آپ سمجھتے ہیں کہ یہ تبدیلی مستقل ہے یا عارضی طور پر ہے [کسی ایک کا انتخاب کریں]						
1=Permanent change, **2**=Will go back to pre-flood state سیلاب سےقبل ذریعہ آمدن اپناونگا **3**=Will restore previous along with new livelihood موجودہ ذریعہ رکھتے ہوئے پرانا بحال کرونگا							
5.19	*Of these which makes the biggest contribution to overall household income? (Use serial number above)* اوپر دیےگئے کاموں میں سے کس کام نے سب سے ذیادہ امداد کی؟ (اوپر دی گیی سیریل نمبر لکھیں)					|____| Before	|____| After
5.20	*Which is second most important?* دوسرے درجے پر سب سے اہم کیاتھا؟	|____| Before	|____| After	5.21	Which is third most important? تیسرے درجے پر سب سے اہم کیاتھا؟	|____| Before	|____| After
For Q 5.22 to Q 5.25 only team leader ask from one key informant of the village سوال نمبر 5.22 Qاور 5.25Qتک صرف ٹیم لیڈر گاوں کے کسی اہم اور معلومات رکھنے والے فرد سے پوچھے گا۔							

		Men / Women
In this area, what is the daily wage rate for ***unskilled agricultural workers?*** *(Write down wage rate in Rs. per day)* اس علاقہ **میں غیر ہنر مند زرعی مزدوروں** کی یومیہ اجرت کیا ہے؟[یومیہ اجرت، روپے میں لکھیں]	**5.22**	|____|.|____|
In this area, what is the daily wage rate for ***skilled agricultural workers?*** *(Write down wage rate in Rs. Per day)* اس علاقہ میں **ہنر مند زرعی مزدوروں** کی یومیہ اجرت کیا ہے؟[یومیہ اجرت، روپے میں لکھیں]	**5.23**	|____|.|____|
In this area, what is the daily wage rate for ***skilled non agricultural workers?****(Write down wage rate in Rs. per day)* اس علاقہ میں **ہنر مند غیر زرعی مزدور** کی یومیہ اجرت کیا ہے؟[یومیہ اجرت، روپے میں لکھیں]	**5.24**	|____|.|____|
In this area, what is the daily wage rate for unskilled non agricultural workers?*(Write down wage rate in Rs. per day)* اس علاقہ میں **غیر ہنر مند غیر زرعی مزدوروں** کی یومیہ اجرت کیا ہے؟[یومیہ اجرت، روپے میں لکھیں]	**5.25**	|____|.|____|

FOCUS ON WOMEN AND CHILDREN

5.26	How many household members earn an income? (Write numbers) گھرانے میں کتنے افراد کماتے ہیں	|____|	**5.27**	How many women in the household earn an income in cash or in kind? (Write numbers) گھرانے کی کتنی خواتین کماتی ہیں؟	|____|
5.28	What is the source of women's income in cash or in kind? ***(Use serial number from above list 5.o1- 5.16)*** خواتین کا ذریعہ آمدن کیا ہے؟	|____|	**5.29**	Is the income earning activity of the women home based? (1=yes, 0=No) کیا خواتین کا یہ زریعہ آمدن گھر بیٹھ کے ہے؟	|____|
5.30	Does any child of 14 years and below to earn an income in cash or in kind? (1=yes, 0=No) کیا آپ کے گھر میں ۱۴ سال یا اس سے کم عمر کا بچہ بھی کماتا ہے؟				|_____|

FOCUS ON SMALL BUSINESS		
5.31	In the past 6 months, have you received any kind of assistance for your business activities? 1=yes, No=0 گزشتہ 6 مہینوں میں کیا آپ کو کارروبار چلانے کے لیے کوئی مدد ملی؟	|_____|
5.32	**If YES: what kinds of assistance you received.** **اگرہاں تو، کس قسم کی امداد ملی؟** 1. Replacing productive tools and assets ; پیداواری اثاثوں اور اوزاوں کی فراہمی 2.Short-term employment opportunities through CFW; سی ایف ڈبلیو کے ذریعے عارضی طور پر ملازمت کا حصول 3. Skills training; تکنیکی تربیت 4. Access to microcredit and/or restructuring/repayment; چھوٹے قرضہ جات تک رسائی اور یا موجوہ قرضہ کی آسان اقساط میں واپسی 5. Other specify _____ دیگر، وضاحت کریں	|_____|
5.33	What was the source of assistance received? کس وسیلے سے امداد ملی تھی؟ **1** = Govt گورنمنٹ ادھار لیں **2** = UN/NGO اقوام متحدہ/غیر سرکاری تنظیمیں **3** = on credit **4** = other _____ (دیگر وضاحت کریں)	|_____|

EXPENDITURES

5.34	Estimate how much cash your household earned in total last month (August 2012) آپ کے گھرانے کی پچھلے مہینے (اگست 2012)میں کتنی آمدن ہوئی؟	|_____| Rs

How much did you spend LAST MONTH on food and other expenditures? آپ نے گزشتہ ایک مہینے میں خوراک اور دوسرے کاموں پر کتنا خرچہ کیا؟

5.35	Food خوراک	|_____| Rs	**5.36**	Health صحت	|_____| Rs
5.37	Agricultural inputs زرعی اشیاء	|_____| Rs	**5.38**	Education تعلیم	|_____| Rs
5.39	Livestock (e.g. fodder) مال مویشی کا چارہ	|_____| Rs	**5.40**	Transportation (fuel) نقل و حرکت	|_____| Rs
5.41	Housing (repairs, rent) گھر کی مرمت یا قرضہ	|_____| Rs	**5.42**	Clothing, shoes کپڑے یا جوتے	|_____| Rs
5.43	Water پانی	|_____| Rs	**5.44**	Ceremonies, funerals تقریبات، جنازہ	|_____| Rs
5.45	Reimbursement قرضوں کی ادائیگیdebts	|_____| Rs	**5.46**	Other non-food expenditures دیگر غیر خوراکی اخراجات	|_____| Rs
5.47	Savings بچت	|_____| Rs			

DEBTS

Do you have any debts (in kind or cash) to reimburse at the moment? (If no go to 5.51 Assets) کیا اس وقت آپ کے اوپر کوئی واجب الادا قرضہ ہے؟ [اگر نہیں تو سوالنمبر 5.51 پر جائیں]	**0**= No **1**= Yes **3**=Don't know	**5.48**	|_____|
Have you contracted new debts in the past 6 months? کیا آپ نے پچھلے 6 مہینوں کے دوران کوئی نئے قرضے لیے ہیں؟		**5.49**	|_____|
From where did you get the loan? *(Choose one option from below)* یہ قرضہ آپ نے کہاں سے حاصل کیا؟ (ایک آپشن کا انتخاب کریں)	**1**=shopkeeper دکاندار **2**=landowner زمین دار **3**= bank بنک **4**= NGO غیر سرکاری ادارہ **5**=relative/friends دوست یا رشتہ دار **6**=community elders علاقے کا بڑا **7**=Bait UL Mal بیت المال **8**=other_____ (دیگر، وضاحت کریں)	**5.50**	|____|
How much debt do you currently have (including the value of the in kind debt)? *(Write amount in Rs.)* آپ کے اوپر ابھی کتنا واجب الادا قرضہ ہے؟ [روپے میں لکھیں]		**5.51**	|_____| Rs
What were the three main reasons for new debts? *(Choose three options from below)* نیا قرضہ لینے کی وجہ کیاتھی؟ (تین آپشنز کا انتخاب کریں)		**5.52**	1: _____ 2: _____ 3: _____

1 = To buy food خوراک خریدنےکے لیے , **2**= To cover health expenses صحت کے اخراجات کےلیے **3** = To pay school, education costs تعلیم کے اخراجات کے لیے **4** = To buy agricultural inputs/tools زرعی اشیاء اور اوزرا خریدنے کے لیے **5**= To buy non-agricultural equipment/tools غیر زرعی آلات خریدنے کے لیے **6** = To buy animal feed/fodder جانوروں کا چارہ خریدنے کے لیے
7= To buy animals جانور خریدنے کے لیے **8**= To buy or rent land زمین خریدنے یا کرایہ ادا کرنے کے لیے
9= To buy clothes, shoes کپڑے یا جوتے خریدنے کے لیے **10** = To pay for ceremonies (funerals, weddings) تقریبات میں ادایگی کے لیے **11**=to pay dowry , جہیز کی ادائیگی کے لیے **12** = To repair the houseگھر کی مرمت کے لیے
13 = to cover travel expensesسفر کے اخراجات کے لیے **14** = To hire labourمزدوروں کی تنخواہ کی ادائیگی کے لیے **15** = To repair irrigation channels کھالوں کی مرمت کے لیے **16**=Other reason (please specify)_____ (دیگر وجوہات)

What types of assets do you own before flood and currently? (State the numbers currently owned) سیلاب سے پہلے اور اس وقت آپ کے پاس کون سے اثاثے موجود ہیں؟[تعداد لکھیں]

Assets		How much you own currently? (تعداد لکھیں)	How many you owned before the Flood?	Assets		How much you own currently? (تعداد لکھیں)	How many you owned before the Flood? (تعداد لکھیں)
Sewing machine سلائی مشین	5.53	|____|	|____|	Cooking range کوکنگ رینج	5.54	|____|	|____|
Plough ہل	5.55	|____|	|____|	Cell phone موبایل فون	5.56	|____|	|____|
Tractor ٹریکٹر	5.57	|____|	|____|	Heater ہیٹر	5.58	|____|	|____|
Motorbike موٹرسایکل	5.59	|____|	|____|	Animal Shelter جانوروں کا باڑہ	5.60	|____|	|____|
Scooter سکوٹر	5.61	|____|	|____|	Handloom کھڈی	5.62	|____|	|____|
Car کار	5.63	|____|	|____|	Television ٹیلی ویزن	5.64	|____|	|____|
Radio ریڈیو	5.65	|____|	|____|	Cooking stove چولہا	5.66	|____|	|____|

SECTION:VI- FOOD CONSUMPTION

			Adults بڑے		Children below 5 years ۵ سال سے کم عمر بچے	
Yesterday, how many meals were eaten by: کل آپ نے کتنی دفعہ کھانا کھایا؟			6.01	|___|	6.02	|___|
Is this number different from usual? کیا یہ تعداد عام طور پر کھائے جانے والے کھانوں سے فرق ہے؟	**1**= Less, **2**= Same, **3**= More ۱۔ کم، ۲۔ یکساں، ۳۔ زیادہ		6.03	|___|	6.04	|___|

	During how many days was the food item eaten in previous 7 days? *(Choose one Option)* پچھلے 7 دنوں میں یہ خوراک آپ نے کتنے دن کھائی ہے؟ [کسی ایک کا انتخاب کریں] **0** = Not eaten **1**= 1 days, **2**= 2 days **3**= 3 days, **4**= 4 days, **5**= 5 days, **6**= 6 days, **7**= 7 days		What was the main source of the food in the past 7 days? *(Choose one Option)* پچھلے 7 دنوں میں خوراک حاصل کرنے کا کیا بڑا ذریعہ تھا؟[کسی ایک کا انتخاب کریں]
Focus on food eaten INSIDE the house گھر کے اندر کھائی جانے والی خوراک کے بارے میں معلومات لیں۔	No. of Days (From the whole week)	Mention the quantity consumed last week Kg [پچھلے ہفتے میں کھائی جانے والی خوراک کی مقدار] کلو گرام	**1**= Own crop/garden production, اپنی اگائی ہوئی فصل **2**= Market/shop purchase, دکان یا بازار سے خریدی گئی فصل **3**= Work for food, کام برائے خوراک **4**= Borrowing/debts, ادھار یا قرضہ **5**= Gifts, Zakat, تحائف یا زکوۃ **6** = food aid, خوراک کی صورت میں امداد **7** = other_____ (دیگر، وضاحت کریں)

Cereals: wheat, bread گندم، روٹی	6.05	|___|	|___|	6.06	|___|
Cereals: Rice چاول	6.07		|___|	6.08	|___|
Cereals: Maize مکئی	6.09		|___|	6.10	|___|
Dhal, beans, lentils, peas, nuts دالیں	6.11	|___|	|___|	6.12	|___|
Vegetables سبزیاں	6.13	|___|	|___|	6.14	|___|
Fruits فروٹ	6.15	|___|	|___|	6.16	|___|
Meat, poultry, fish گوشت، مرغی، مچھلی	6.17	|___|	|___|	6.18	|___|
Eggs انڈے	6.19		|___|	6.20	|___|
Milk, cheese, yogurt دودھ، دہی یا پنیر	6.21	|___|	|___|	6.22	|___|
Sugar, honey چینی، شہد	6.23	|___|	|___|	6.24	|___|
Oil, ghee, butter تیل، گھی یا مکھن	6.25	|___|	|___|	6.26	|___|

6.27 How much did your family spend eating outside of home in the last week?: _____PKR
آپ کے خاندان نے آخری ہفتے کتنے روپے گھر سے باہر کے کھانے پر لگائے؟

Section VII: RESILIENCE AND COPING STRATEGIES

Ask Q 7.1 to 7.4 only to the respondent affected by flood 2010 [7.4-7.1] 2010 کے سیلاب متاثرین سے یہ سوالات پوچھیں

What have you done to improve your situation since the floods of 2010? (*choose options, use code below)* 2010 کے سیلاب کے آنے کے بعد سے اب تک آپ نے اپنی حالت بہتر بنانے کے لیے کیا کوششیں کیں؟[دئیے گئے جوابات کا انتخاب کریں اور کوڈ کا استعمال کریں]	**7.01**	First _____	**7.02**	Second _____	
	7.03	Third _____	**7.04**	Forth _____	

1= Repaired house گھر کی مرمت کروائی 2= cleaned irrigation channels ذرائع آبپاشی کو ٹھیک کروایا 3 = improved flood protection سیلاب سے حفاظتی تدابیر 4 = moving house away from flood area گھر سیلابی علاقے سے دور بنا لیا 5 = moving cultivated land away from flood area قابل کاشت زمین کو سیلاب سے دور لے گیے 6=cleaned/levelled land زمین کی صفائی یا ہموار 7 =found new job نئی ملازمت کی تلاش 8=got help from relatives رشتہ داروں سے مدد 9=cleared debris in the community علاقے سے ملبے کی صفائی 10=participated at community self help activities اپنی مدد آپ کے کاموں میں حصہ 11=replaced/bought productive assets پیداواری اثاثوں کی خریداری یا تبدیلی 12=other, specify (دیگر وضاحت کریں)

Ask Q 7.5 to 7.8 only to the respondent affected by flood 2011 سوال نمبر[7.5 – 7.8] 2011 کے سیلاب متاثرین سے پوچھیں

What have you done to improve your situation since the floods of 2011? (*choose options, use code below)* 2011 کے سیلاب کے آنے کے بعد سے اب تک آپ نے اپنی حالت بہتر بنانے کے لیے کیا کوششیں کیں؟ [دئیے گئے جوابات کا انتخاب کریں اور کوڈ کا استعمال کریں]	**7.05**	First _____	**7.06**	Second _____	
	7.07	Third _____	**7.08**	Forth _____	

1= Repaired house گھر کی مرمت کروائی 2= cleaned irrigation channels ذرائع آبپاشی کو ٹھیک کروایا 3 = improved flood protection سیلاب سے حفاظتی تدابیر 4 = moving house away from flood area گھر سیلابی علاقے سے دور بنا لیا 5 = moving cultivated land away from flood area قابل کاشت زمین کو سیلاب سے دور لے گئے 6=cleaned/levelled land زمین کی صفائی یا ہموار 7=found new job نئی ملازمت کی تلاش 8=got help from relatives رشتہ داروں سے مدد 9=cleared debris in the community علاقے سے ملبے کی صفائی 10=participated at community self help activities اپنی مدد آپ کے کاموں میں حصہ 11=replaced/bought productive assets پیداواری اثاثوں کی خریداری یا تبدیلی 12=other, specify (دیگر وضاحت کریں)

7.09	How do you expect how your situation will change over the next six months? *(Chose only one option)* آنے والے 6 مہینوں میں آپ اپنی حالت میں کیا تبدیلی دیکھتے ہیں؟	**1**= Worsen, **2**= Remain the same , **3**= Improve 4=Don't Know		____	
	Currently, what do you need most? *(Choose first and second from below)* اس وقت آپ کو سب سے زیادہ کس چیز کی ضرورت ہے؟ [کسی دو کا انتخاب کریں]	**7.10**	First ____	**7.11**	Second _____
	In the next six months, what does your household need most? *(choose first and second from below)* اگلے ٦ مہینوں میں آپ کے گھرانے کو سب سے زیادہ کس چیز کی ضرورت ہو گی؟ [کسی دو کا انتخاب کریں]	**7.12**	First ____	**7.13**	Second _____

1 =Building material تعمیراتی سامان **2**= cash grants مالی امداد **3**=food aid خوراک کی امداد **4**=drinking water پینے کا پانی , **5**=credit قرضہ **6**=health services صحت کی سہولت **7**=functioning schools سکول **8**=agricultural inputs/services زرعی اشیاء **9**=employment/job روزگار، ملازمت **10**=help with debris removal ملبہ اٹھانے کے لیے کوئی مدد **11**=repair of feeder roads/community infrastructure چھوٹے راستے اور سماجی انفراسٹرکچر کی مرمت **12**= other (please specify)_____ دیگر، وضاحت کریں

7.14	During the PAST MONTH, have there been times when you had problems to fulfil the household's food needs? گزشتہ ماہ اپنی گھریلو ضروریات [خوراک] پوری کرنے کے لئے کس قسم کی مشکلات درپیش آئیں؟	0= No, 1= Yes		____
7.15	Has anyone in your household done any of these things: During the PAST 30 DAYS due to inadequate food? گزشتہ ماہ آپ کے خاندان میں کسی نے خوراک میں کمی کی وجہ سے مندرجہ ذیل میں سے کسی ایک پر عمل کیا ؟	0= No / 1=Yes		
7.16	Skip meals کھانا نہیں کھایا	____	**7.17**	Skip meals for entire days سارا دن کھانا نہیں کھایا	____

Section VIII- Nutrition of Pregnant and Lactating women

Pregnant, lactating women and children under 5 are identified in Q1.10 and Q1.16

حاملہ ، دودھ پلانے والی ماوں اور بچے جن کی عمر ۵سال سےکم ہےاور اُن کو سوالQ1.10اورQ1.16میں ظاہر کیا گیا ہے۔

			Woman 1	Woman 2	Woman 3	Woman 4
8.01	Age عمر	(Year)				
8.02	MUAC	(cms)				
Nutrition of Children below 5 years of age						
			Child 1	**Child 2**	**Child 3**	**Child 4**
8.03	Sex جنس	**1** = male مرد **2** = female عورت				
8.04	Birth Date تاریخ پیدائش *(Only if official birth document)*	(DD/MM/YY)				
8.05	Age عمر	(Months)				
8.06	MUAC	(Cms)				
8.07	Oedema /سوزش ورم (Bilateral Oedema)	**0**= No, **1**=Yes				

ANNEX III. CASE STUDY (LIAT) METHODOLOGY

The LIAT tool proved quite effective for rapidly assessing the periodic effects of emergencies on the livelihood assets of different socio-economic groups. The Livelihood Asset Pentagon (LAP) methodology also was used for the DLA last year to assess the effects of the 2010 flood emergency on the livelihood assets of women and men throughout Pakistan; the results of the LAP case studies closely matched the findings of the broader DLA in terms of losses and recovery of livelihood assets. Owing to its efficacy, the tool was used again this year as part of the LRA.

Targeting

The LAP tool was applied to various socio-economic groups in different geographic areas to understand the shocks that these diverse groups had sustained during emergencies and the level of recovery they could manage to achieve. Sampling was performed to choose the geographic areas which were:

- only affected in 2010 (same villages as last year's DLA);
- only affected in 2011 (one location in Sindh and one in Baluchistan);
- affected by emergencies in both 2010 and 2011 (one location in Sindh and one in Baluchistan).

The following table shows the socio-economic groups disaggregated by gender.

Table 37. Socio-economic groups disaggregated by gender

	Male groups	Female groups
Socio – economic community groups	Landowners	Female-headed households
	Tenants with livestock	Adult women with landless labourer husbands
	Landless labourers	Adult women with tenant husbands

Each selected village was covered in two consecutive days; on the first day male groups were interviewed and on the second day female groups were interviewed separately.

Selected timelines

In villages affected only by the 2010 floods, asset pentagon exercises were undertaken for July 2011 and September 2012 per each livelihood group. This was made possible by the DLA data sets, which provided asset pentagon scores for July 2010 and November 2010. Those scores were used in the current exercise as a base. The same process was repeated for specified post-flood "snapshots" as shown in the table below.

Table 38. Socio-economic groups disaggregated by gender

Flood cohort		
Only 2010 floods*	**Only 2011 floods**	**Both floods**
	July 2011 (pre-2011 floods)	July 2010 (pre-2010 flood)
	November 2011 (emergency response)	July 2011 (pre-2011 flood)
June 2012 (actual situation)	June 2012 (actual situation)	June 2012 (actual situation)

* For these communities, the asset pentagons developed for the July 2011 timeline in the DLA were used as the baseline. The old DLA scores were validated by the communities; as such, there was only one subsequent "snapshot" in June 2012.

Capitals

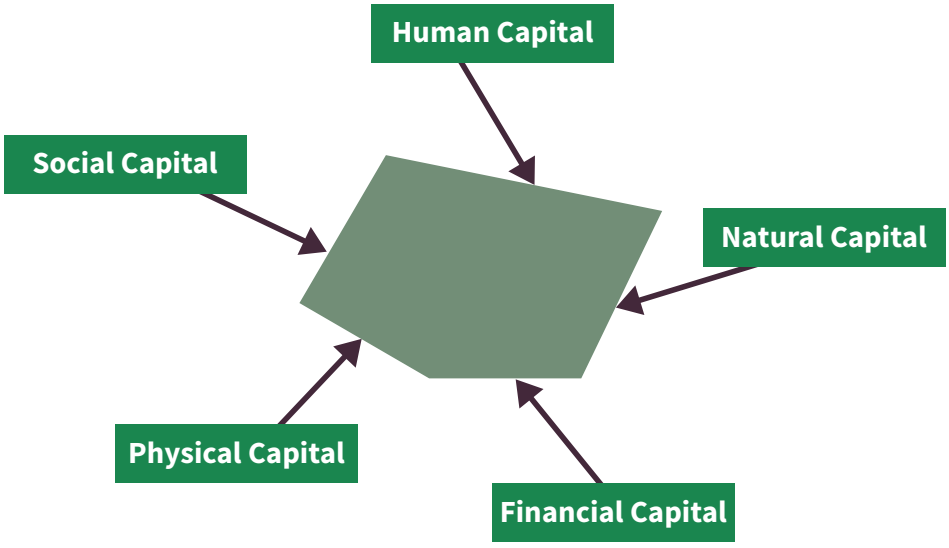
At each location, a group of 2-4 individuals from a socio-economic group was gathered and interviewed with the aim of measuring the "length" of livelihood capitals over time. The five livelihood capitals and their corresponding indicators are contained in the table below.

Table 39. Livelihood capital assets

Human capital	Natural capital	Financial capitals	Physical capital	Social capital
Labour capacity Education Employable skills Local employment opportunities	Access to land Access to common property resources Access to agricultural inputs Access to irrigation infrastructures Livestock holdings Crop production	Wages Access to credit Indebtedness Individual or communal savings Coverage of social safety nets Access to remittances	Water supply Housing Communication Livestock shelter Mechanical infrastructure	Social status Social organizations Discrimination against disabled people Links with families and friends Confidence in the future

At the end of the process a livelihood asset pentagon was developed, such as the one shown below; each of the timelines and differences recorded between the timelines were discussed with each socio-economic group to explore the reasons for various changes as well as future trends.

Figure 38. Livelihood asset pentagon



ANNEX IVA. CALCULATION OF WEALTH INDEX

The socio-economic status of a household can be reflected by its income and expenditures; however, the collection of accurate and reliable income data is a demanding task and requires significant expertise. To develop socio-economic status indices, many other methods based on durable assets and housing conditions are widely used in household surveys. The required data for these indices can be collected rapidly and are more consistent and accurate. In addition, income and expenditures generally represent current status, whereas wealth indices based on assets capture longer term effects. In other words, income and expenditures are flow variables while assets are store variables.

The Wealth Index, introduced in the Demographic and Health Survey and widely used in many socio-economic surveys, is a composite measure of the living standards of a household. It is calculated using data on a household's ownership of selected assets and housing facilities. The wealth score is calculated using a rigorous statistical technique known as principal component analysis, which ranks the households on a continuous scale of relative wealth.

The LRA wealth index is specifically constructed to capture the wealth status of the rural agriculture-based community of Pakistan and cannot be extrapolated to the general society. The prime focus of this analysis is to capture the socio-economic differences of flood-affected households and to find out how these socio-economic groups vary in terms of recovery, coping capacity, resilience and specific needs. Several specific domestic and productive assets, including cultivable agricultural land and livestock, were considered to compute the wealth index. The wealth index is intended to produce a ranking of households by wealth, from lowest to highest, which is then divided into five equal groups. The actual distribution of the wealth score is much more skewed and most of the households lie in a lower category. However, the arbitrary division of households into five equal groups enables us to compare these groups meaningfully. Thus, it is a relative measure and does not provide information on absolute poverty and current income or expenditure level. The variables used in the wealth index and their statistics are shown below.

Table 40. Variables used to calculate wealth index

Asset	Average	Standard deviation	Factor Score
Land ownership (in acres)	3.96	32.69	0.531
Large ruminants	1.20	2.44	0.449
Small ruminants	1.94	6.01	0.266
Cell phone	0.87	1.77	0.207
Cooking range	0.07	0.26	0.272
Tractor	0.02	0.14	0.552
Heater	0.04	0.21	0.333
Animal shelter	0.15	0.36	0.453
Scooter	0.01	0.10	0.214
Handloom	0.02	0.14	0.025
Car	0.01	0.12	0.544
Cooking stove	0.36	0.49	0.351

As per the results of principal component analysis, the highest weight is assigned to the ownership of a car, followed by land (in acres) and tractors. Ownership of large ruminants, animal shelters, cooking stoves and heaters is assigned a medium factor score, whereas other assets are given a lower score.

ANNEX IVB. CALCULATION OF LIVELIHOOD GROUPS

In the LRA, survey respondents were asked about their opinions and preferences regarding a range of income-generating activities in order to understand their livelihood patterns. The results revealed that households rely upon a variety of livelihood sources.

Livelihood groups were computed using a cluster analysis, which is an exploratory data analysis used for classification purposes. Its objective is to sort cases into groups or clusters so that the degree of association is strong between members of the same cluster and weak between members of other clusters. The clustering algorithms are broadly classified into hierarchical and non-hierarchical algorithms. In the hierarchical procedures, which have been used in the current analysis, a hierarchy or tree-like structure has been constructed to show the relationship among entities. At the beginning, each object is considered as a separate cluster; then, step by step, the most similar clusters are joined together. In this procedure, two types of algorithms are used: "distance measure" and "linkage rule". Distance measure is a criterion of grouping or separating objects. Once small clusters have been formed, they are linked using the linkage rule. In the DLA livelihood analysis, the "Squared Euclidean" distance measure has been used which can be computed as:

$$\text{Distance}\ (x, y)^{\square} = \sum_{i=} (xi - yi)$$

The linkage rule used in this analysis is based upon the analysis of variance approach, which attempts to minimize the sum of squares of two clusters that can be formed at each step.

The variables used in analysis and details of clusters are given below:

Interpretation

The percentage figures refer to the proportion of households in each livelihood group that derive income from the livelihood source in question. For example, 100 percent of the households in the daily wage labour (agriculture plus) group derive some income from day labour during the planting and harvesting seasons.

ANNEX IVC. CALCULATION OF FOOD INSECURITY AND ACUTE MALNUTRITION

Food consumption score

Food consumption score (FCS) is one of the main indicators for analysing food security at the household level. It is derived from food items eaten during one week (seven days prior to the survey date) in the household. Food items are grouped into nine categories based on their nutritional characteristics; each of these food groups has a standard weight shown in the following table:

Table 41. Food items included in the nine food groups used to calculate the food consumption score

Food items	Food groups	Weight
Maize, maize porridge, rice and sorghum		
Millet, pasta, bread and other cereals		
Cassava, potatoes and sweet potatoes, other tubers and plantains	Main staples	2
Beans, peas, groundnuts and cashew nuts	Pulses	3
Vegetables and leaves	Vegetables	1
Fruits	Fruit	1
Beef, goat, poultry, pork, eggs and fish	Meat and fish	4
Milk, yogurt and other diary	Milk	4
Sugar and sugar products, honey	Sugar	0.5
Oils, fats and butter	Oil	0.5
Spices, tea, coffee, salt, fish powder and small amounts of milk for tea	Condiments	0

These food groups and the corresponding weights have been standardized based on research in many countries. The FCS is computed by multiplying the frequency (number of days) each of these food groups have been consumed by the corresponding weight, and recording a total of this value for all food groups consumed in the one-week period. Based on the value of FCS, households are classified into different levels of food consumption. The thresholds used for such classifications are decided by considering country specific context; in Pakistan, the classifications are: poor (1-28); borderline (28-42); and acceptable (>42).

Food expenditure

Expenditure on food is another important indicator for measuring food security. While most households spend a reasonable amount of money to meet daily food requirements, poor people spend a higher share of expenditures on food. With an increase in poverty or vulnerability, the share of expenditures on food increases. The standard cut-off points used are: poor (spending above 60 percent on food); borderline (40-60 percent spending on food); and reasonable (<40 percent spending on food).

Food security

Food security can be analysed using a number of indicators related to food availability, access, utilization and vulnerability. Among them, the analysis in this report is based on a combination of two main indicators: food consumption score and food expenditure. Poor food consumption has a severe impact on the nutrition of household members and those affected are considered to be highly vulnerable. The

borderline group often consumes inadequate kilocalories or has limited food diversity, usually below the recommended norms. This group can be vulnerable to food insecurity in the face of shocks such as food price hikes, disaster or reductions in income. Similarly, the share of expenditures on food provides a good indication of the household food security situation. The combination of these two indicators thus provides a good overview of household food security. The following chart shows the summary of food security categories by considering food consumption and expenditures on food.

Table 42. Food security relative to food consumption and expenditures

Food security group scores		Categories of food expenditures		
		>60% expenditure	40 to 60% food expenditure	<40% food expenditure
Food consumption groups	Poor (1-28)	poor	poor	borderline
	Borderline (28.1-42)	poor	borderline	borderline
	Acceptable (>42)	borderline	reasonable	reasonable

Mid-upper arm circumference

In order to assess the nutritional status of children (6-59 months of age) and mothers (pregnant and lactating), the mid-upper arm circumference (MUAC) module is used. MUAC is the circumference of the left upper arm, measured at the mid-point between the tip of the shoulder and the tip of the elbow (olecranon process and the acromium).

For children's MUAC measurements, the thresholds shown in Table 41 are used to interpret the level of acute malnutrition. The reference values are in accordance with National Community Management of Acute Malnutrition programme guidelines.

Table 41. Interpretation of MUAC values for children 6-59 months

MUAC value	Interpretation
< 115 mm	Severe acute malnutrition
115 – <125 mm	Moderate acute malnutrition
> 125 mm	No acute malnutrition

Similarly, for pregnant and lactating women, the following reference values are used in this appraisal.

Table 43. Interpretation of MUAC values for pregnant and lactating women

MUAC value	Interpretation
< 21.5	Malnutrition
> = 21.5	Not malnutrition

ANNEX V. SAMPLING METHODS

The following standard formula was used for the sample size determination at district level:

$$SS = \frac{Z2 * (p) * (1-p)}{C2}$$

Where:
z = z value (e.g. 1.64 for 90% confidence level)
p = Estimated prevalence, expressed as decimal = 0.5
C = confidence interval or margin of error, expressed as decimal = 0.05 = ±5%)
SS = sample size

Resulting in a base sample size for each district and household type (SS) = 268.

For those districts affected by both the 2010 and 2011 floods, the sample size was further increased to get reliable estimates for each household type or flood category separately (2010 affected, 2011 affected and those affected by both floods) multiplying the base sample size accordingly.

In several districts where the population size was not very large, the sample size was adjusted using the following formula:

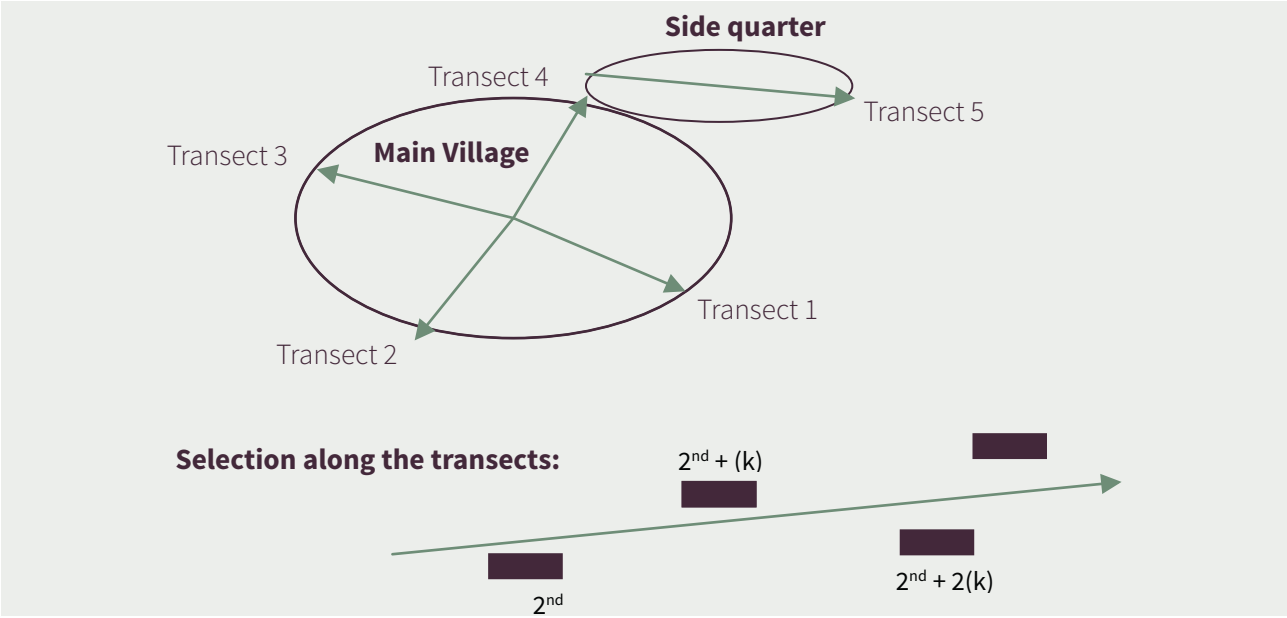
$$\text{Adj. SS} = \frac{SS}{1 + \frac{SS - 1}{Pop.}}$$

Where:
Adj. SS = adjusted sample size
Pop. = population size

Locating households (from enumerators guidelines)

- Once in the village selected for assessment, the following information was gathered:
  - total number of households in a village;
  - number of female-headed households.
- If female-headed households are more than three, select three among them randomly. If there are three or less, cover all.
- For selection of male-headed household, find sampling interval (k).
- Sampling interval = k = total number of male headed households /12*
  *[Replace 12 with higher number if female headed households are less than three].
- Find out first with the village chief or elder if there are different sections or quarters of the village (as sometimes minorities are living separately from the main village). Make sure that those households are also taken into account during the household selection.
- The following step is from the middle of the village: draw four or five transects in different directions, along which the households will be selected. Divide the 15 households into the numbers of transects made, thus obtaining the number of households to be selected along each transect.
- Start with the second house on the right side and apply the frequency (k) calculated beforehand, alternating subsequent house choices from the left side to the right side and so on.

Figure 39. Selecting sample households in the village



ANNEX VI. GENERAL LIVELIHOOD INFORMATION RELEVANT FOR PROGRAMME DEVELOPMENT PURPOSES

Agriculture and irrigation

The main crop cultivated during the Kharif season in both provinces is rice, which is used mainly as a cash crop but also for home consumption. Berseem, used as a fodder crop, comes second in Sindh with millet as the third most frequently planted crop. Maize, fruit and vegetables have a higher net frequency in Balochistan compared with Sindh. Cotton is the highest priority crop cultivated in Balochistan, as compared with Sindh where it was only the second or third priority crop. Table 44 shows the frequency with which various other crops were cultivated during the Kharif season.

Table 44. Main Kharif crops usually cultivated in frequency of households by province

Percent of households cultivating in Kharif season	Sindh	Balochistan
Cereals	41.7	40.8
Fruits	0.3	7.7
Vegetables	5.8	6.8
Cash crops other than cotton	2.7	0.2
Cotton	2.3	2.1
Fodder crops	11.4	1.8
Pulses	3.8	0.2
Oil crops	1.2	0.0
Other crops	1.2	0.0

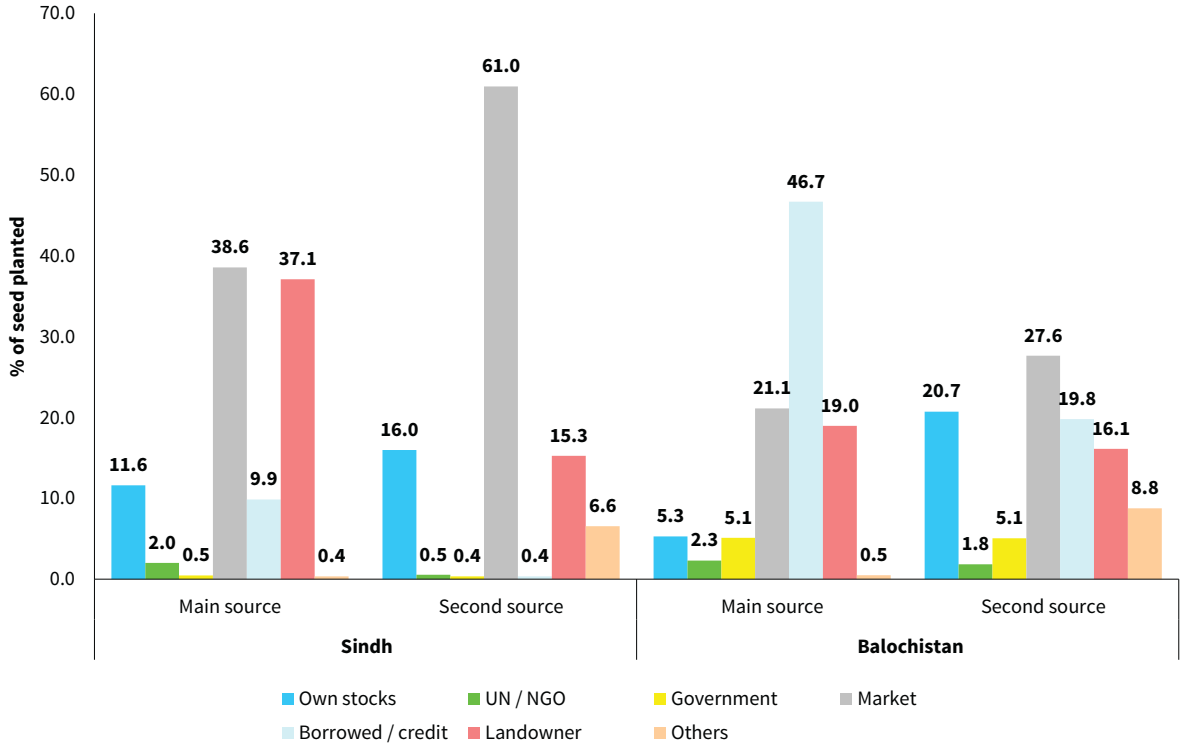
In Sindh, the following crops are cultivated during the Rabi season in decreasing order of planting per household: wheat, sunflower, maize, sorghum and tobacco. In Balochistan the following order was recorded: wheat, millet, tobacco and maize. Overall, fewer crops are cultivated in Balochistan than in Sindh province, resulting in less diversified agriculture-based livelihoods. This is mainly owing to the fact that Balochistan has less favorable climatic conditions, less access to irrigation schemes and less fertile soil.

Table 45. Main Rabi crops usually cultivated in frequency of household by province

Percent of households cultivating in Kharif season	Sindh	Balochistan
Cereals	51.1	49.7
Fruits	0.4	0.0
Vegetables	2.3	3.4
Cash crops other than cotton	0.9	0.4
Cotton	2.4	1.0
Fodder crops	2.4	0.1
Pulses	1.0	1.5
Oil crops	3.9	0.1

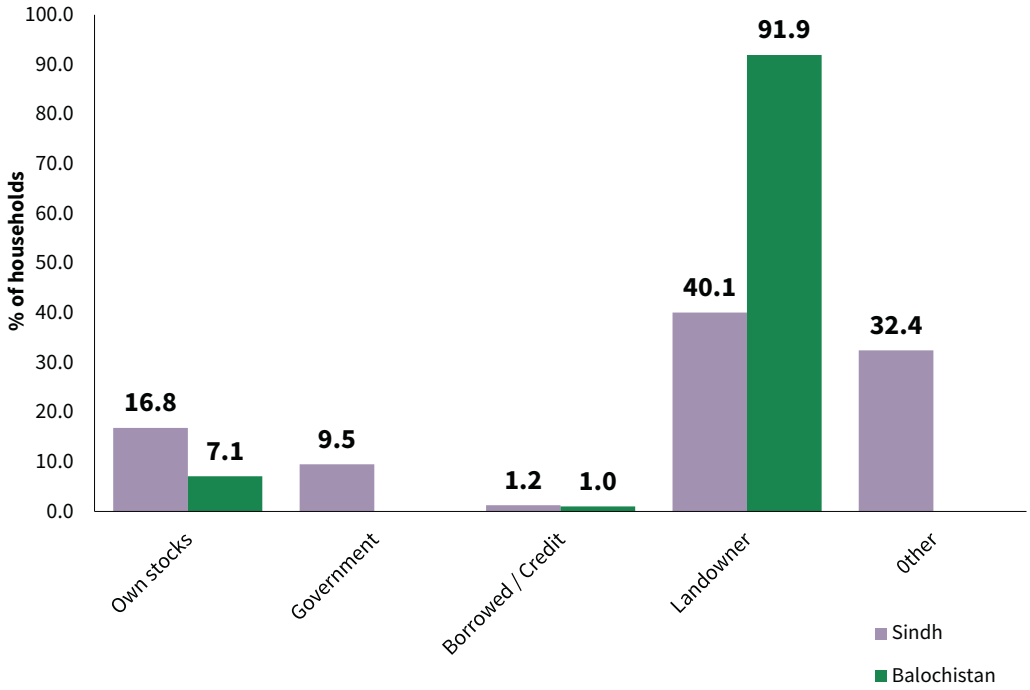
Figure 40 shows the proportion of different seed sources used for Kharif season crops: markets play an important role in Sindh, while in Balochistan buying on credit is important.

Figure 40. Main and second Kharif crop seed sources by province



The majority of oil crops (sunflower, canola and mustard) are considered exclusively cash crops and not for home consumption; land owners are interested to have sharecroppers cultivating such crops and therefore provide the main source of corresponding seeds, especially in Balochistan. In Sindh, some seeds are provided by own production, government stocks or other sources, as shown in Figure 41.

Figure 41. Sources of oil crop seeds by province



Land ownership relies mainly on a few large-scale landowner households and many small-scale land owners or tenants. Therefore, more important than land ownership is having access to arable or pasture land for own crop or livestock production.

The percentage of land owning households is just under one-third in both provinces. Owing mainly to the following two factors, the average area of land owned and average area of own cultivable land is about three times higher in Balochistan compared with Sindh: Sindh province has a higher population density than Balochistan; and the agroecological zone in Balochistan is a more arid region than in Sindh. In addition, Sindh had significantly higher proportions of irrigated land and Katcha land (plots along the rivers which are used during the dry season for short-term crop production), while Balochistan had more rainfed land. Few differences were recorded in the areas cultivated during Rabi and Kharif seasons in each province.

Table 46. Household agricultural parameters by province

Agricultural parameters	Sindh	Balochistan
Land owner (percent of households)	31.2	30.2
Average area of land owned (acres)	7.8	25.6
Average area cultivable own land (acres)	6.4	18.1
Cultivate land (percent of households)	60.0	52.0
Area normally cultivated during Rabi season	5.0	10.1
Area normally cultivated during Kharif season	5.4	10.2
Use of tractor for land preparation (percent of households)	93.5	96.1
Irrigated land (percent of total land)	82.6	69.0
Rainfed land (percent of total land)	11.0	30.4
Katcha land (percent of total land)	6.5	0.6

As shown in Table 47, male-headed households experience more favourable agricultural parameters and access to land compared with female-headed households. Households headed by female widows have the lowest share of land ownership, and the least average surface of owned and cultivable land. However, they have more irrigated and Katcha land than married female-headed households.

Regarding the wealth groups, land ownership and the average area of owned and cultivable land increases with wealth status; likewise, the share of households cultivating their own land increases from the very poor (37 percent) to the well off (68 percent). As the better and well-off households tend to own more land overall, their share of irrigated land decreases; consequently, the rainfed and the very productive Katcha land share increases. Excepting the two observations noted above, no specific differences were recorded relating to the areas cultivated during the Rabi and Kharif season.

Table 47. Agricultural parameters by household head type and wealth group

Agriculture parameters	Head of household type			Wealth group				
	Male	Female married	Female widowed	0-20%	21-40%	41-60%	61-80%	81-100%
Land owner (percent of households	32.2	27.1	21.0	8.5	43.8	23.9	36.8	46.3
Average area of land owned (acres)	13.7	5.0	5.7	2.9	5.0	5.6	10.7	26.7
Average area of owned cultivable land (acres)	10.3	4.4	4.5	36.9	69.7	51.7	67.1	67.6
Cultivate land (percent of households)	60.2	45.2	41.6	36.9	69.7	51.7	67.1	67.6
Area normally cultivated during Rabi season	6.6	4.0	4.0	4.3	4.3	5.0	6.9	9.9
Area normally cultivated during Kharif season	6.8	4.9	4.3	4.6	4.7	5.5	7.1	9.8
Irrigated land (percent of total land)	81.3	71.8	78.3	86.3	81.1	82.7	79.0	76.6
Rainfed land (percent of total land)	13.6	21.5	10.0	10.0	14.4	12.2	16.2	13.9
Katcha land (percent of total land)	5.2	6.7	11.6	3.7	4.4	5.1	4.8	9.5

Owing to relatively harsh climatic conditions (a short rainy seasons with low rainfall combined with high temperatures during the cropping periods), access to irrigation is important to ensure high agricultural yields and therefore a high level of food security; larger irrigation schemes are more prevalent in the low areas of Sindh and Balochistan near the main rivers.

As shown in Table 48, a higher percentage of households in Sindh are paying water charges than in Balochistan; however, the actual amounts per household and season in Balochistan are around threefold those paid in Sindh. The reason for this difference is that in Balochistan mainly tube wells and motorpumps are used, as compared with Sindh where canal irrigation structures are common.

After the floods in Sindh province, 84 percent of households with access to irrigation have a functional irrigation scheme versus only two-thirds of households in Balochistan.

Table 48. Irrigation parameters by province

Irrigation parameters	Sindh	Balochistan
Paying water charges (percentage households)	65.7	59.7
Average charge for irrigation (PKR / year)	2 111	6 816
Functioning irrigation scheme (percentage of households which had irrigation before the floods)	84.2	67.4

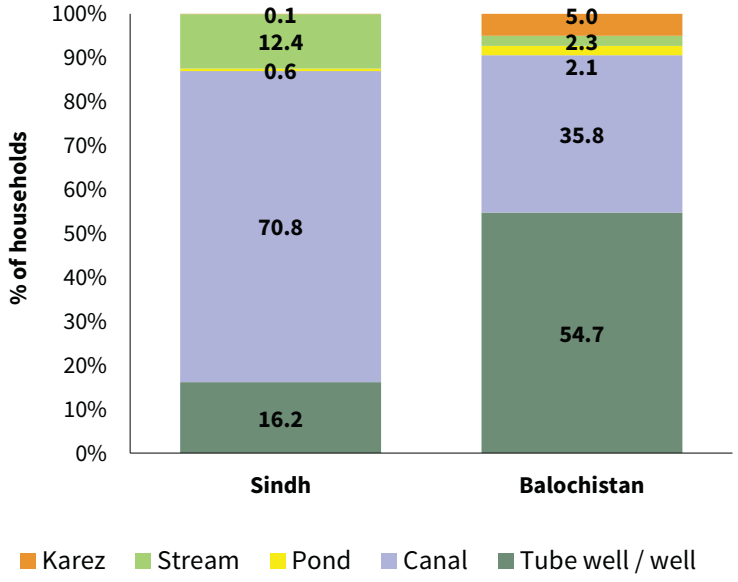
As shown in Table 49, the very poor are the most likely to pay for water charges; as the wealth group increases from very poor to well-off, the proportion of households paying water charges likewise decreases. The reason for this is two-fold: wealthy households generally are either the large landowner of a village or related to the owner and therefore responsible for the water rights; in addition, they are in charge of the maintenance of the irrigation schemes which is usually maintained through the labour contribution of the various water users.

Table 49. Irrigation parameters by type of head of household and wealth group

Irrigation parameters	Head of household type			Wealth group				
	Male	Female married	Female widowed	0-20%	21-40%	41-60%	61-80%	81-100%
Percentage of households paying water charges	65.5	56.4	62.0	74.3	65.7	62.9	62.9	60.8
Average charges for irrigation (PKR / year)	2 839	1 989	2 189	2 403	2 269	2 101	2 767	4 049

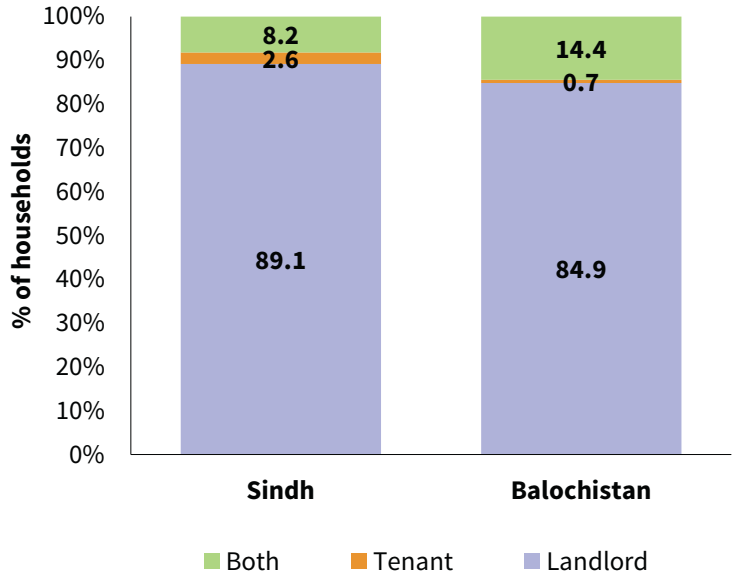
As shown in Figure 42, the most frequent recorded irrigation sources are tube wells in Balochistan and canal irrigation in Sindh.

Figure 42. Sources of irrigation water by province



Water costs are generally paid by the landlord in both provinces, with a slightly higher share in Balochistan than in Sindh, as shown in Figure 43.

Figure 43. Payee of irrigation costs by province



In addition to land ownership, a special focus was made on land tenure, which also plays an important role in livelihoods. Access to land can be gained by leasing, renting or, more commonly, sharecropping agreements – either over a long period of time or only for a specific season.

Of the total population sampled, the majority of households are sharecroppers, followed by households which are only cultivating their own land. These are followed by landowners who are gaining access to additional land through sharecropping agreements, and those households leasing land over a longer period of time.

Figure 44. Land tenure by province

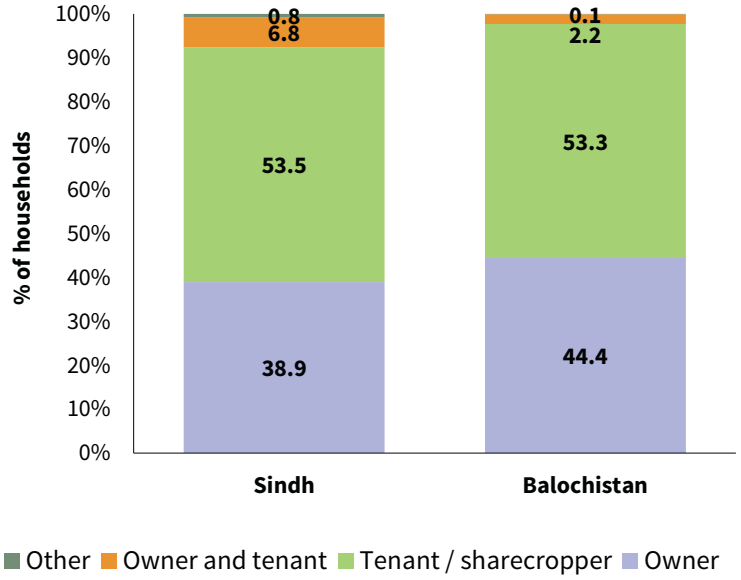
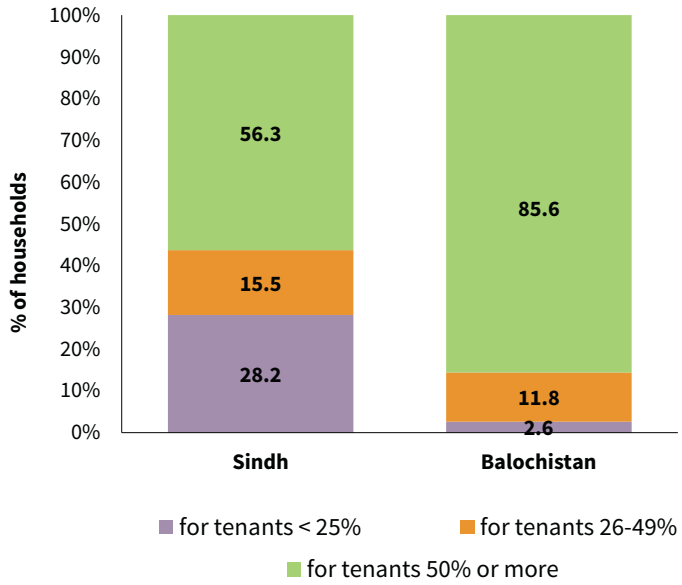


Figure 45 shows large differences between the two provinces concerning the percentage of harvest yields given to landowners by sharecroppers. In Balochistan, almost every sharecropper (86 percent) has to give at least 50 percent or more of their harvest to the landowner, as compared with Sindh province where the proportion is below 57 percent. In Sindh, 28 percent of sharecroppers pay less than 25 percent of the harvest to the landowner.

Figure 45. Share of production received by land owner from the sharecropper by province



As shown in Table 49, after giving landowners their share, the remaining harvest is used by shareholders for own consumption, sold or used as fodder. Regarding the Rabi crops, in Balochistan a significantly higher share is used for own consumption, as the major crop cultivated during this period is wheat – the staple food crop which is cultivated less during the Kharif season. In Sindh, mainly rice but also maize is cultivated. A larger share of the Kharif crops are cultivated for sale, as it is also the season when the main cash crops are cultivated: cotton and tobacco. Only a small share is exclusively used as fodder, as the other major crops cultivated are also used as fodder sources.

The share of crops used exclusively as fodder is reduced, with a higher level in Sindh during the Rabi season and in Balochistan for the Kharif season. This low share of fodder crops is due to the fact that the crop residue of almost all major crops are also used as fodder.

Table 50. Utilization of crop production by season

Utilization of crops (percentage of households)	Rabi crops		Kharif crops	
	Sindh	Balochistan	Sindh	Balochistan
Selling	19.4	6.8	35.2	33.1
Consumption	25.8	42.1	16.4	7.5
Selling and consumption	53.8	50.6	47.0	57.1
Fodder	1.0	0.4	1.5	2.3

Livestock and poultry

Animals are considered a valuable asset and store of value, often functioning as a household's savings mechanism. However, livestock are often sold during food shortages and emergencies.

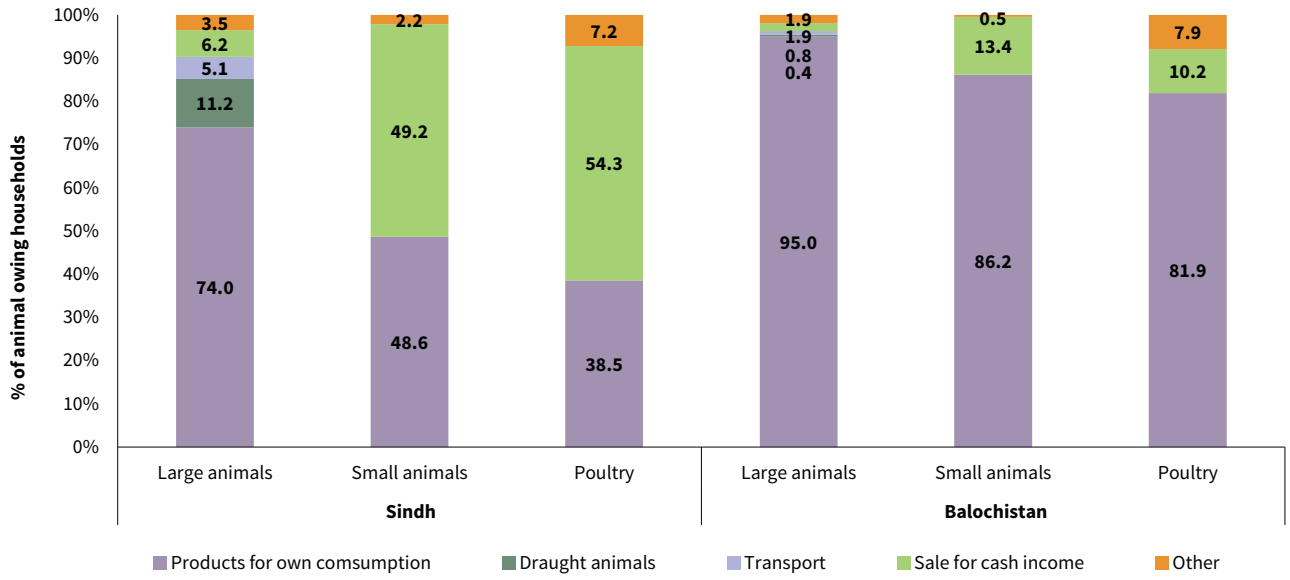
Offspring are effectively the interest rate generated by livestock, in addition to the the increased market value of the growing animal. In addition, animal products such as milk, wool, skins and meat are also an important source of in-kind or cash income, either through self consumption or marketing.

Additional value is generated by using cattle or buffalo for land preparation or transport, in addition to camels, horses and donkeys. Some animals also play an important role in religious or family ceremonies.

In addition to owned animals, households often have shared ownership of animals, in which either the offspring are given to the actual animal owner and the original animal is given to the other party. Sometimes the offspring are shared between two owners, particularly in the case of poultry and goats or, to a lesser extent, sheep.

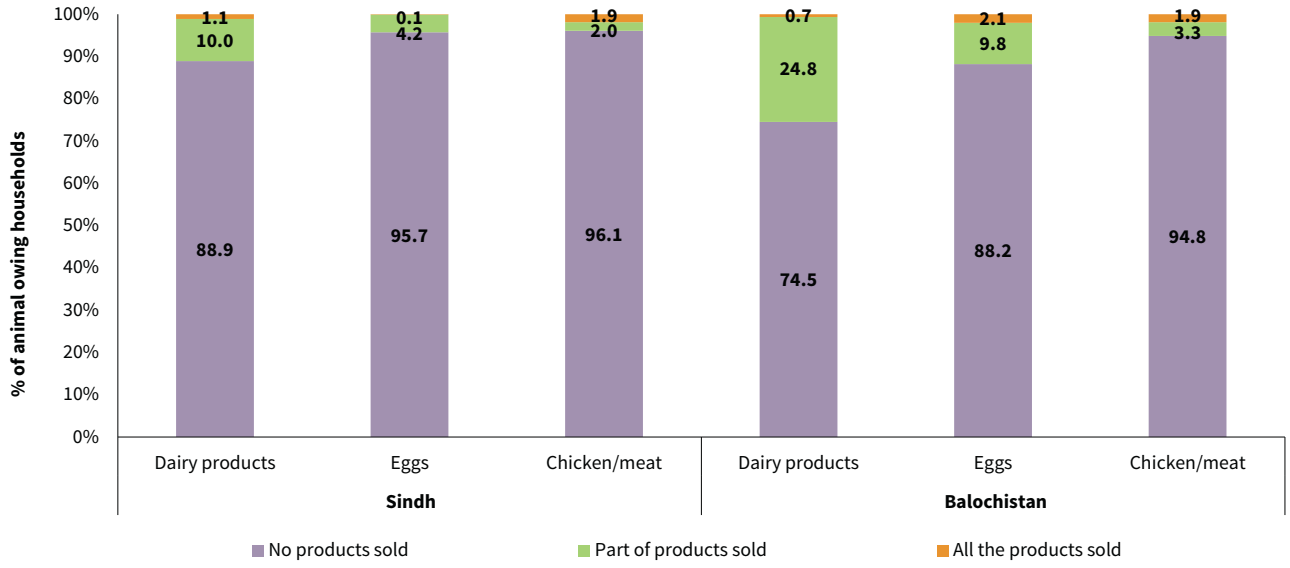
Of the households surveyed in Balochistan, large animals are kept almost exclusively for own consumption (milk and meat) and to a smaller extent used for transportation. Small animals and poultry are more likely to be sold at market than large animals owing to the remoteness of rural households in Balochistan and difficulty accessing local markets. In Sindh province, however, households are more likely to be involved in agriculture and are closer to markets. Therefore, commercial livestock holdings are more prevelant, particularly for small animals and poultry of which 50 and 54 percent are sold, respectively. In Sindh, large animals are also used for animal traction in agricultural activities as well as for transport.

Figure 46. Reasons for keeping animals by province



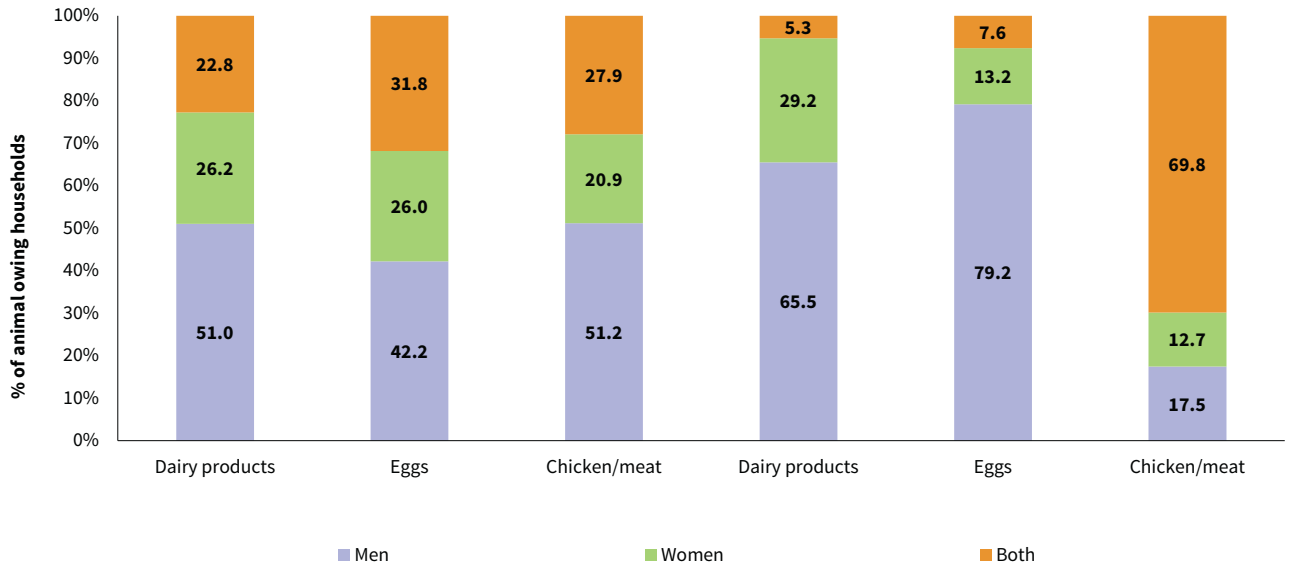
As shown in Figures 46 and 47, in both provinces most animal products are used for own consumption, the share of marketed goods in Balochistan is higher than in Sindh, and meat and chicken are used mainly for own consumption and seldom sold directly. This shows the nutritional importance of keeping livestock and poultry, expecially during a crisis or as a coping mechanism; it is therefore very importance to keep the animals alive when they become vulnerable.

Figure 47. Marketing of animal products by province



The cash generated from the marketing of the dairy products and eggs are managed primarily by men in Balochistan, whereas chicken and meat are managed in equal shares by each gender. In Sindh, the share of women managing the income is higher than in Balochistan for each category, but still less than the share managed exclusively by men.

Figure 48. Management of animal produce income by province

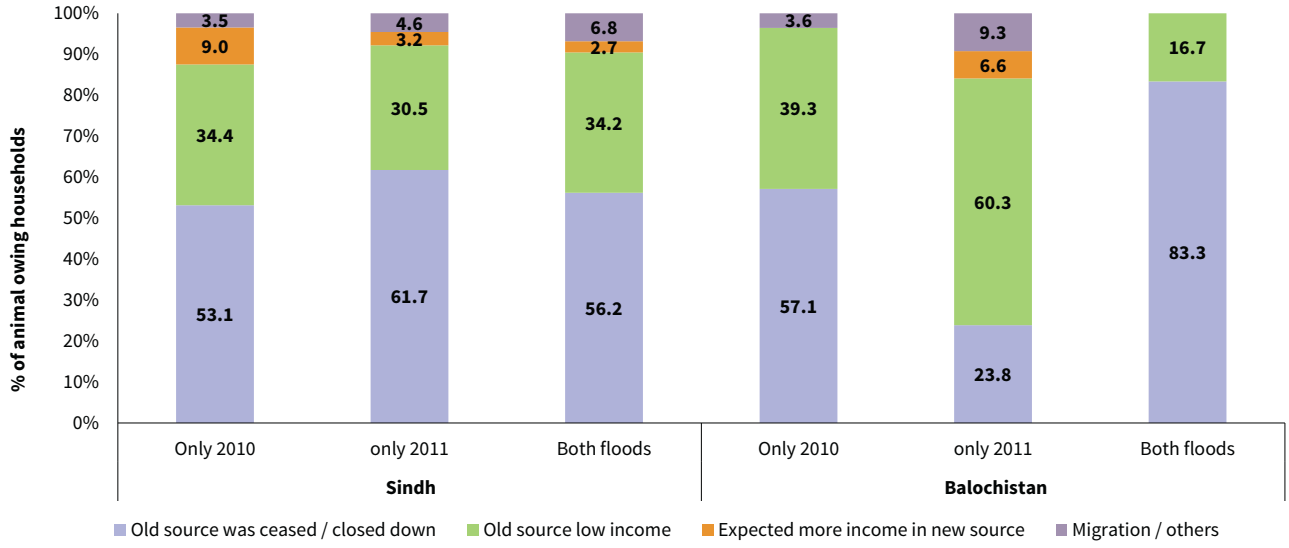


Income sources

It is particularly important to note that in both provinces the highest portion of households to change sources of income is the *only 2011* affected households, as they were more flood resilient and able to adapt, followed by those affected by only the 2010 floods and those affected by both floods.

The main reason for changing income sources was that the old income source (e.g. share cropping contracts) ceased to exist, or there was a need for higher income to offset increased expenditures.

Figure 49. Main reasons for income source change by household type and province



Changes in income sources can lead household members to migrate in search of alternative or improved income-generating opportunities. The largest proportion of households forced into migration were those affected by both floods, especially in Balochistan province; very poor and poor households often migrate as a result of losing their usual source of income. A similar situation was observed for widowed female-headed households and to a lesser extent, male-headed households.

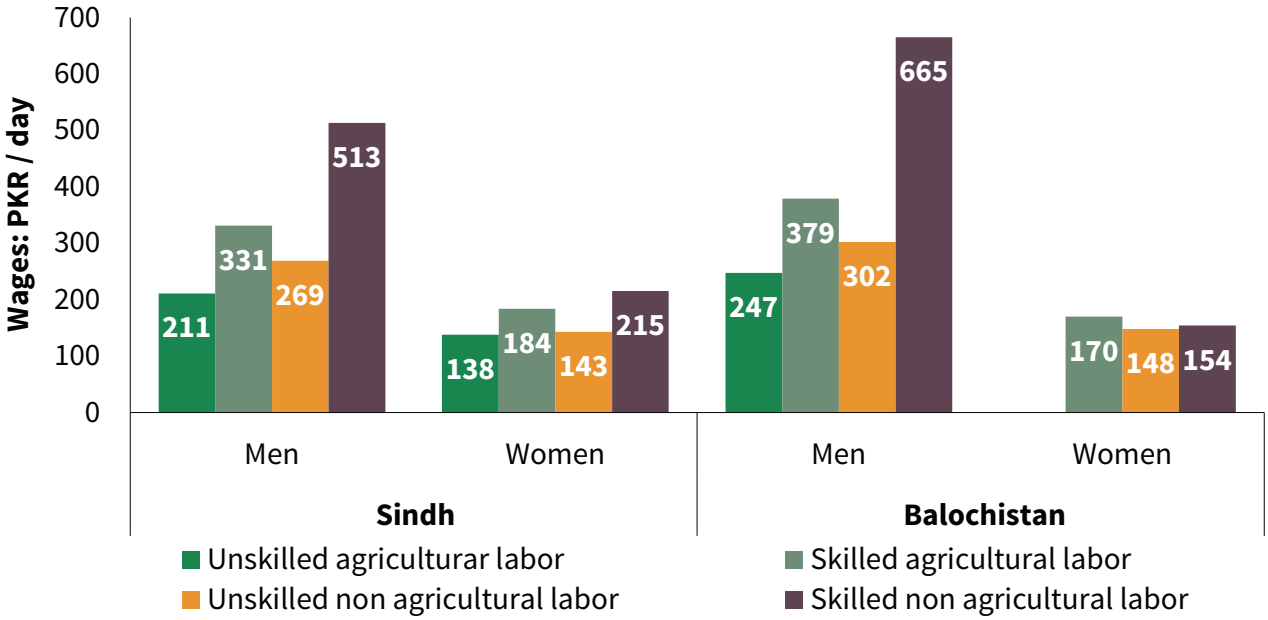
Table 51. Income source change and main reasons by household head type and wealth group

Reasons for livelihood change	Head of household type			Wealth group				
	Male	Female married	Female widowed	0-20%	21-40%	41-60%	61-80%	81-100%
Percentage of households changing income source	**12.3**	**7.4**	**13.3**	**9.5**	**13.7**	**10.5**	**12.1**	**15.7**
Previous source ended	52.1	58.3	52.8	58.0	61.2	53.2	50.0	43.0
Previous source was low income	37.0	37.5	37.1	27.8	33.1	41.1	40.1	41.4
Expected more income in new source	5.8		4.5	4.9	2.2	1.9	6.0	10.1
Migration	2.9		3.4	4.9	2.8	1.3	2.2	3.0
Other reasons	2.3	4.2	2.2	4.3	0.6	2.5	1.6	2.5

Socio-economic analysis of income

Labour wages are an important consideration regarding gender-based income differences. The LRA survey indicates a large disparity between male and female wages in both Sindh and Balochistan; male wages in many cases are more than double those of females across all labour categories, especially skilled non-agricultural labour.

Figure 50. Labour wage rates by gender and province



In both provinces, there is a high proportion of households with women earning income from handicrafts. In addition, a larger proportion of women in Sindh earn income from agricultural labour, while in Balochistan a higher number sell homegrown crops or animal products. In Balochistan, fewer households have women earning an income, and those who do engage in fewer income-generating activities as shown in Table 52.

Table 52. Source of women's income by household type and province

Women's income source (percentage of households)	Sindh			Balochistan		
	Only 2010 floods	Only 2011 floods	Both floods	Only 2010 floods	Only 2011 floods	Both floods
Agricultural labour	19.6	44.6	15.8	19.1	8.1	5.7
Sell own produced crops or animal products	14.8	1.9	2.6	50.0		28.3
Labour in construction	1.9	1.5	0.9			
Government salary	0.3	0.6			8.1	
Trade / business	0.3	1.5	2.2			
Workshop / factory labour	0.6	0.4	0.4		2.7	
Transport business	0.6	0.1				
Women's handicraft	61.9	49.3	78.1	30.9	81.1	66.0
Loan from money lender			0.4			

In general, widowed females earn income from a greater variety of sources of income than married females. The majority of households in which women have a source of income are in the very poor to medium wealth groups; the well-off group has the smallest fraction of women working, as they do not necessarily need additional income.

Table 53. Source of women's income by household head type and wealth group

Women's income source (percentage of households)	Head of household type			Wealth group				
	Male	Female married	Female widowed	0-20%	21-40%	41-60%	61-80%	81-100%
Households with a source of women's income	**22.5**	**52.0**	**59.6**	**29.3**	**31.5**	**29.6**	**26.6**	**19.6**
Agricultural labour	30.5	21.4	28.4	25.5	33.7	35.4	28.6	21.0
Sell own produced crops or animal products	10.7	5.4	5.8	3.0	10.7	8.1	14.7	11.9
Labour in construction	1.6		1.5	2.6	1.0	1.1	1.5	0.7
Government salary	0.4	1.8	0.3	0.4				2.7
Factory labour	0.3			0.4	0.2	0.2		0.3
Trade / business / transport	1.1	1.8	1.5	2.0	1.5	0.2	0.5	0.3
Workshop labour	0.1		0.5	0.2		0.4	0.2	
Women's handicrafts	55.2	69.6	62.1	65.9	52.2	54.0	54.0	62.0

As compared with those in Balochistan, households in Sindh had a higher number of members earning an income – sometimes up to 30 percent more. Moreover, households in Sindh had 3-8 times more women earning an income, depending on flood cohort. The proportion of children under 14 years old earning an income ranged from 1.1-4.8 percent in Balochistan to 2.3-3.6 percent in Sindh.

Table 54. Family and income activities by household type and province

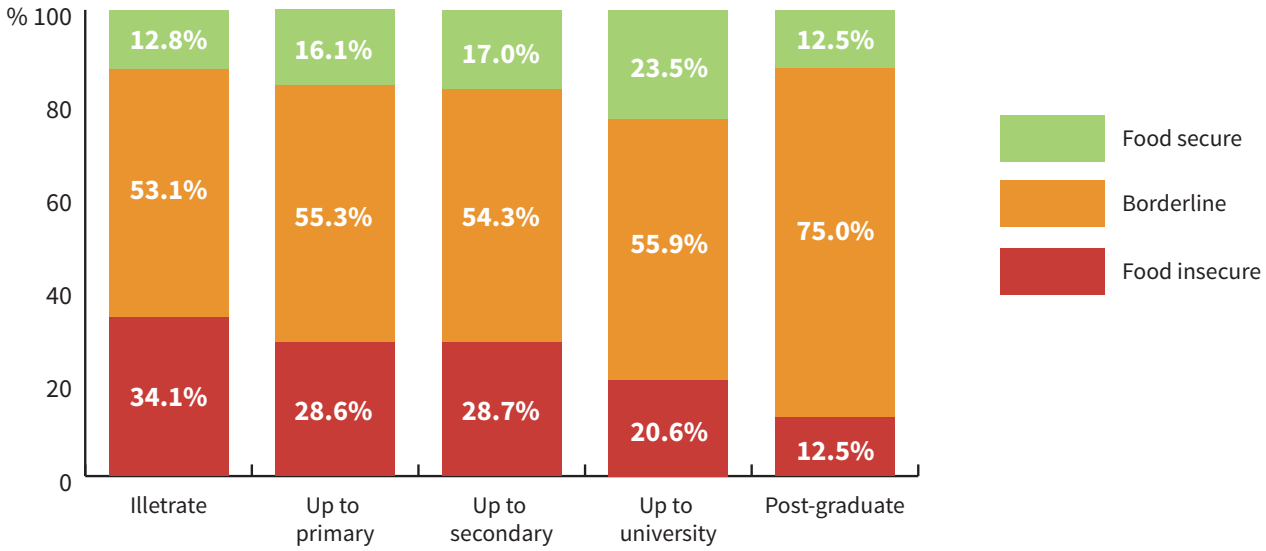
Family and income activities	Sindh			Balochistan		
	Only 2010 floods	Only 2011 floods	Both floods	Only 2010 floods	Only 2011 floods	Both floods
Household members earning an income	2.1	1.9	1.9	1.4	1.8	1.5
Women earning an income (percent of households)	37.0	36.1	28.1	8.4	4.6	9.8
Women's income activity is homebased (percent of households)	66.5	46.3	76.3	52.9	75.7	73.6
Child < 14 years earn income (percent of households)	3.6	2.9	2.3	2.0	4.8	1.1
Households changing income source (percent of households)	13.5	15.3	9.0	3.5	18.6	1.1

Food security related to other household characteristics

Education and food security

An analysis of food security by the head of household's education level showed that those households with an illiterate head had a higher rate of food insecurity (34 percent). As the level of education increases, the rate of food insecurity decreases; only 12 percent of those households headed by a post-graduate are food insecure. Educated heads of households have improved livelihood opportunities and higher incomes, and are more likely to enable other members of the household to get an education.

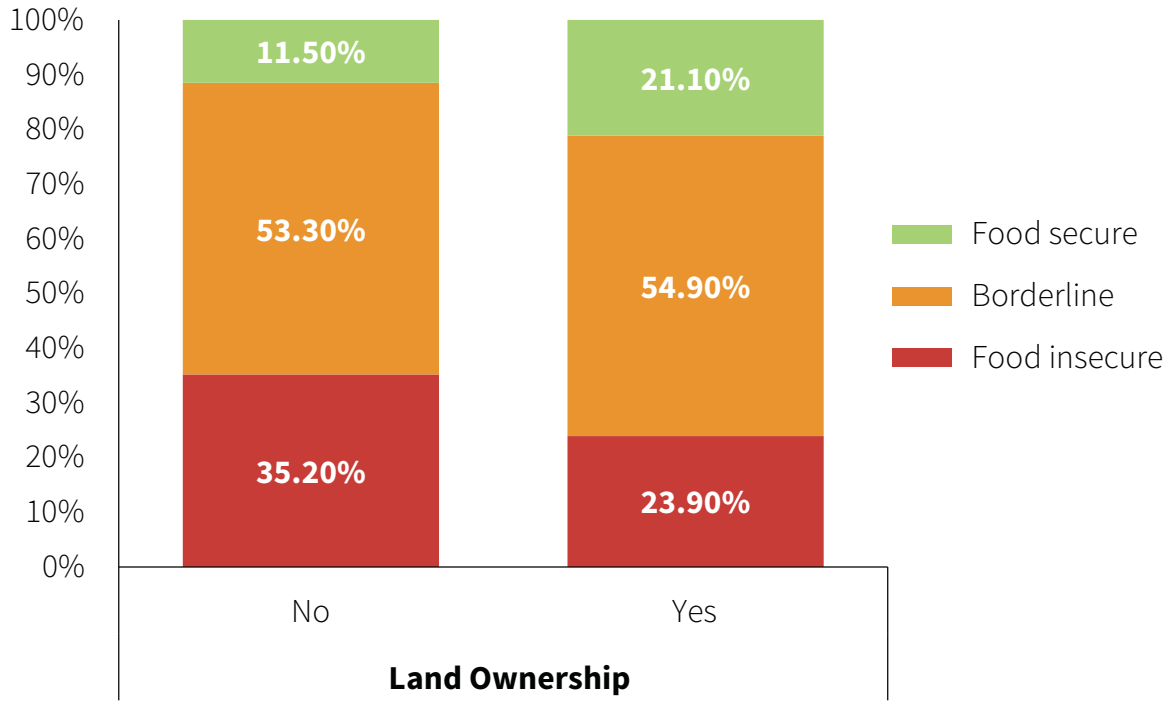
Figure 51. Food security status by head of household's education level



Land tenure / ownership and food security

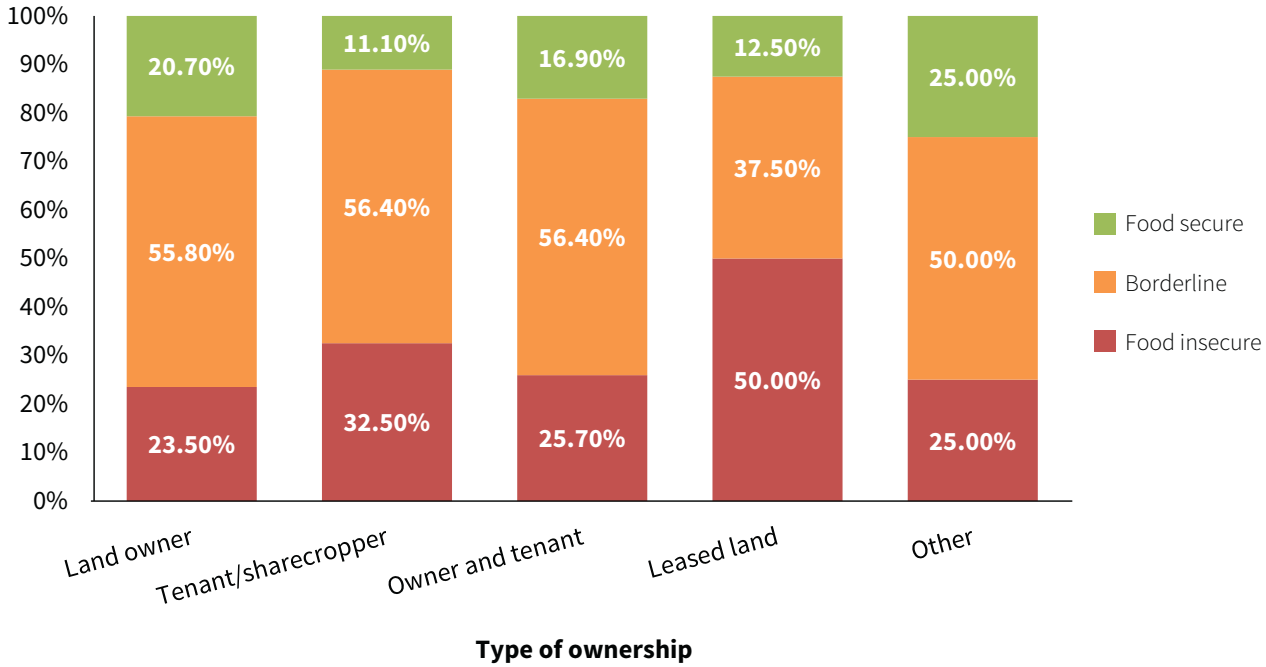
Land ownership plays a significant role in food security. Households owning land have a sustainable source of food or cash with which to obtain food. Such households therefore are generally less food insecure compared with landless households, as shown in Figure 52.

Figure 52. Food security by land ownership



In flood-affected areas of Sindh and Balochistan, most household livelihoods are related to agriculture and livestock. As land ownership is an important source of livelihood in an agrarian society, the majority of households that do not own land are either tenants or lease holders with a limited share in production and therefore inadequate incomes. Tenants in Sindh generally cultivate a small area per household which is uneconomical and their share of the total production is quite low. Hence, many tenant/sharecropper farmers are trapped in the vicious cycle of debt, poverty and food insecurity. The LRA shows that among the various land tenure types, tenants/sharecroppers and leased landholders had the highest proportion of food insecurity. These results reflect the significance of land tenure/ownership for household food security, as shown in Figure 53.

Figure 53. Food security by land tenure



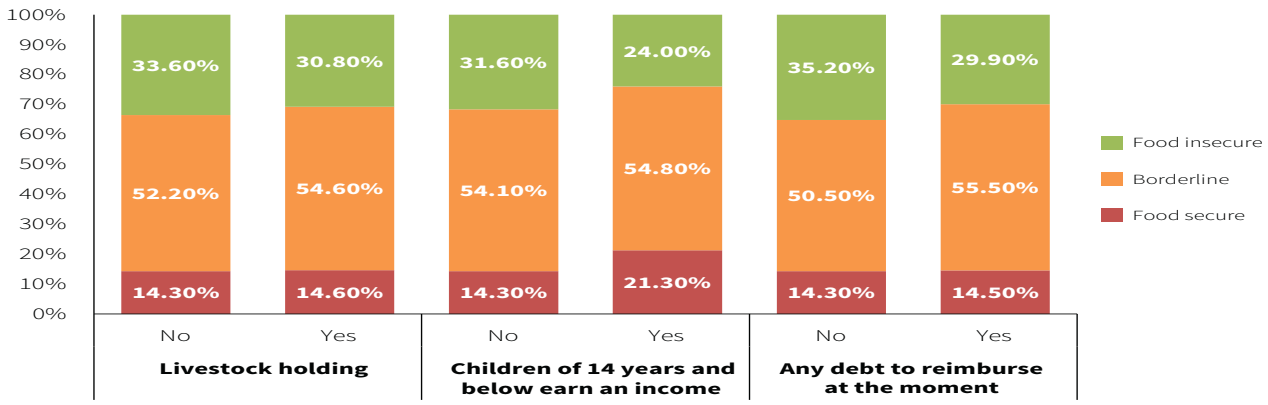
Livestock holding, child labour, debt and food security

Livestock holding is a major food source in rural areas, especially for poor families. The 2012 LRA shows that livestock holders are slightly less food insecure (30.8 percent) compared with those having no livestock (33.6 percent). In a rural economy, livestock products such as milk, butter, yogurt, eggs and chicken or meat provide important sources of own consumption; selling livestock products also enables households to earn income and buy a larger variety of food items on a regular basis.

In addition to livestock, other livelihoods factors were examined to understand their impact on food security. The results showed that households in which children under 14 earn an income are less food insecure compared with those without child labour. This indicates that children's incomes contribute significantly to total household income and support domestic food consumption. The majority of low income households have no sustainable sources of income and encourage their children to earn money to meet their daily needs. However, this adversely impacts the children's education and overall development, which results in negative long-term affects for the households and community.

In another interesting finding related to the receipt of debts, households which did not incur any debt had a higher rate of food insecurity compared with those incurring debt. This means that households used debt for the purchase of food items to help maintain or improve food consumption. Furthermore, the finding suggests that a majority of households with high levels of food insecurity had no access to debt; access to debt requires certain guarantees from the debt sources which poor families often cannot provide.

Figure 54. Food security by livestock holding, child labour and debt



Coping mechanisms

When households are under stress due to various shocks, they adopt a number of coping strategies to meet their basic needs, particularly regarding food requirements.

Among the ten most common mechanisms to cope with household food insecurity, relying on less preferred and less expensive food was the one practiced by most households (47.2 percent). This was followed by limiting portion size at meals (40.0 percent) and skipping meals (25.7 percent). Other coping strategies included reducing consumption by adults in order to feed children, skipping meals for entire days and seeking alternative or additional jobs. Morever, a substantial number of households also reported desperate and unsustainable coping strategies such as consuming seed stocks held for the next season (5.3 percent), selling domestic assets (3.0 percent), selling productive assets such as farm implements (1.7 percent) and removing children from school (1.7 percent), which could potentially have longer term adverse impacts on household food security.

With regard to socio-economic trends, the very poor and poor wealth groups face more difficulty in meeting their household food needs (almost 50 percent higher frequency than well-off households) and are therefore much more prone to use coping mechanisms. Conversely, the better – and well-off households tend to rely on their stocks and to sell domestic and productive assets. The only coping mechanism that is used uniformly by all wealth groups is to seek alternative and/or additional income sources.

In terms of gender, female-headed households, especially widowed females, are more likely to have problems covering the household's food needs and to use coping mechanisms. Similar to the divergence in the type of coping mechanism used by the poor versus well-off groups, female-headed households exhibit a greater tendency to use coping mechanisms involving adjusting food intake, whereas men are more likely to sell their assets.

Table 55. Use of coping mechanism by household head type and wealth group

Use of coping mechanism over last 30 days (percentage of house-holds)	Head of household type			Wealth group				
	Male	Female married	Female widowed	0-20%	21-40%	41-60%	61-80%	81-100%
Households with problems meeting food needs	59.3	64.3	65.3	70.8	69.6	56.0	57.4	46.8
Households which used coping mechanisms	54.1	60.9	64.1	67.0	67.4	49.9	50.8	41.7
Rely on less preferred / expensive food	46.3	46.5	55.9	53.0	55.1	46.4	46.6	35.2
Limit meal portions	38.9	36.3	52.6	45.4	45.7	39.3	39.2	30.3
Skip meals	23.5	36.3	39.9	35.5	32.0	24.8	21.0	14.6
Reduce adult consumption, preference for small children	19.4	20.3	24.7	21.6	22.0	17.4	19.8	18.3
Skip meals for entire days	12.9	25.2	20.7	20.0	16.7	12.3	12.5	9.0
Seek alternative / additional income sources	9.3	10.2	11.0	10.0	9.1	9.0	9.0	10.0
Consume seeds stocks	5.2	4.9	6.4	3.3	5.9	3.3	6.2	8.2
Sell domestic assets	3.2	1.5	2.2	3.1	2.9	2.2	2.7	4.1
Sell productive assets	1.9	0.6	0.9	3.0	1.9	0.9	1.3	1.2
Remove children from school	1.8	2.2	0.9	1.1	1.2	0.6	1.9	3.8

Table 56 shows the frequencies of different livelihoods households used as coping mechanisms over the past 30 days. Not surprisingly, the daily wage labour and especially the non-farm women's labour livelihood groups are less likely to meet their food needs, and therefore more likely to use coping mechanisms. Overall, the different livelihood groups used coping mechanisms in the following decreasing order of frequency: rely on less preferred food; limit food portions; skip one meal in a day followed by reduced meals by adults in order to provide more food for children; and skipping every meal in one day. To a lesser extent, households sought alternative income sources, consumed seed stocks, or sold domestic and productive assets. Less then two percent of households in each livelihood group chose to remove children from school as a coping strategy.

Table 56. Use of coping mechanism by livelihood group

Use of coping mechanism over last 30 days (percentage of households)	Livelihood group			
	Daily wage labour (agri plus)	Non-farm + women	Diversified livelihoods	Agricultural production and labour
Households with problems meeting food needs	66.7	73.1	56.2	49.9
Households which used coping mechanisms	63.1	70.8	51.1	42.6
Rely on less preferred / expensive food	53.6	57.3	44.1	38.2
Limit meal portions	44.0	44.9	38.0	35.4
Skip meals	29.0	37.4	21.2	19.8
Reduce adult consumption, preference for small children	21.7	26.2	18.2	15.6
Skip meals for entire days	16.1	18.5	12.1	11.9
Seek alternative / additional income sources	9.9	11.6	9.7	7.1
Consume seeds stocks	4.4	9.5	3.8	4.9
Sell domestic assets	3.9	3.6	3.4	1.3
Sell productive assets	2.2	1.9	1.9	1.0
Remove children from school	1.8	1.3	1.9	1.6

ANNEX VII. DISTRICT TABLES

Table 57. Head of household by district

Province	District	Male-headed households	Married f emale-headed households	Widowed female-headed households
Sindh	Badin	81.7	1.9	16.4
	Benazirabad	81.8	1.1	17.1
	Dadu	84.9	9.0	6.1
	Ghotki	82.6	2.2	15.2
	Jacobabad	84.2	2.3	13.5
	Jamshoro	81.4	2.4	16.1
	Kashmoro	85.5	3.7	10.8
	Larnaka	92.3	1.9	5.8
	Mirpurkhas	83.9	2.7	13.4
	Qambara Shadadkot	90.6	4.5	4.9
	Sanghar	80.7	1.1	18.1
	Sikharpur	87.4	5.2	7.4
	Tharparkar	84.6	12.8	2.6
	Thatta	86.6	4.8	8.5
	Umerkot	84.0	4.9	11.2
Balochistan	Jhal Magsi	87.8	5.5	6.6
	Jafarabad	90.1	3.5	6.3
	Nasirabad	92.0	3.0	5.0
	Kallat	94.1	3.7	2.2
	Killa Abdullah	98.5	0.0	1.5
	Lasbella	86.9	8.2	4.9

Table 58. Livelihoods by district

Province	District	Daily wage labour (agri plus)	Non-farm / women's activities	Diversified livelihoods	Agricultural production and labour
Sindh	Badin	24.1	17.4	29.3	29.3
	Benazirabad	21.9	25.2	32.2	20.7
	Dadu	26.7	23.8	31.0	18.5
	Ghotki	25.9	22.6	33.3	18.1
	Jacobabad	10.8	29.6	23.5	36.2
	Jamshoro	30.0	10.2	47.4	12.4
	Kashmoro	15.9	31.1	25.9	27.0
	Larnaka	28.5	29.6	29.6	12.3
	Mirpurkhas	29.6	17.0	23.0	30.4
	Qambara Shadadkot	17.0	35.2	18.1	29.6
	Sanghar	44.8	17.0	36.7	1.5
	Sikharpur	25.2	54.4	14.1	6.3
	Tharparkar	42.6	35.2	18.5	3.7
	Thatta	23.2	23.0	35.4	18.4
	Umerkot	37.4	24.4	27.4	10.7
Balochistan	Jhal Magsi	10.0	3.7	16.2	70.1
	Jafarabad	11.7	7.1	34.0	47.3
	Nasirabad	7.4	2.4	24.1	66.1
	Kallat	19.4	8.8	66.3	5.5
	Killa Abdullah	8.2	0.0	51.9	39.9
	Lasbella	18.2	0.7	63.9	17.1

Table 59. Displacement by district

Province	District	Displacement (percentage of housholds)			Duration of displacement (percentage of displaced households)		
		Only 2010	Only 2011	Both floods	< 1 month	1 – 4 months	> 4 months
Sindh	Thatta	99.3	91.5	98.9	16.8	72.9	10.4
	Sikharpur	91.9			5.2	36.3	58.5
	Jamshoro		33.3	82.2	22.1	62.5	15.4
	Ghotki	34.4			30.1	33.3	36.6
	Dadu	86.3	74.4	85.5	19.8	40.0	40.2
	Benazirabad		43.7		18.6	32.2	49.2
	Larnaka	86.9			33.2	55.8	11.1
	Jacobabad	100.0			6.5	33.8	59.6
	Umerkot		90.7		17.1	71.0	11.8
	Badin		57.4		23.9	40.6	35.5
	Tharparkar		26.7		31.9	30.6	37.5
	Mirpurkhas		88.5		9.6	77.0	13.4
	Kashmoro	93.7			19.4	53.4	27.3
	Qambara Shadadkot	100.0			1.5	35.2	63.3
	Sanghar		80.7		18.3	52.8	28.9
Balochistan	Jhal Magsi	93.7			17.3	45.7	37.0
	Jafarabad	94.1		85.6	15.7	43.2	41.1
	Nasirabad	99.3		98.5	16.2	65.3	18.5
	Kallat		6.2		41.2	58.8	0.0
	Killa Abdullah		16.4		25.0	54.5	20.5
	Lasbella		8.2		45.5	31.8	22.7

Table 60. Hazards by district

Province	District	Households enduring hazards (percentage of households)	Hazards affected households' coping capacity (percentage of households)
Sindh	Thatta	80.6	93.0
	Sikharpur	30.4	100.0
	Jamshoro	8.1	87.0
	Ghotki	10.4	83.9
	Dadu	84.6	94.8
	Benazirabad	0.4	50.0
	Larnaka	25.8	76.3
	Jacobabad	38.1	98.0
	Umerkot	46.7	16.4
	Badin	67.8	90.3
	Tharparkar	93.0	98.1
	Mirpurkhas	27.8	21.8
	Kashmoro	27.0	88.6
	Qambara Shadadkot	92.2	93.4
	Sanghar	90.0	82.7
Balochistan	Jhal Magsi	27.7	74.6
	Jafarabad	23.6	70.3
	Nasirabad	38.6	90.9
	Kallat	46.2	44.7
	Killa Abdullah	71.3	75.9
	Lasbella	70.3	77.8

Table 61. Shocks by district

Province	District	Households enduring shocks over the last six months (%)
Sindh	Thatta	75.2
	Sikharpur	94.8
	Jamshoro	29.6
	Ghotki	94.8
	Dadu	90.4
	Benazirabad	77.8
	Larnaka	96.9
	Jacobabad	92.3
	Umerkot	68.9
	Badin	93.7
	Tharparkar	99.3
	Mirpurkhas	6.3
	Kashmoro	48.9
	Qambara Shadadkot	90.0
	Sanghar	61.5
Balochistan	Jhal Magsi	82.7
	Jafarabad	77.7
	Nasirabad	87.6
	Kallat	90.5
	Killa Abdullah	96.6
	Lasbella	95.9

Table 62. Ability to recover from shocks, district specific

Province	District	Shocks affected household's ability to recover from floods (percentage of households)			
		Very significant	Somewhat significant	Not very affected	Very little or no effect
Sindh	Thatta	70.0	26.9	2.6	0.5
	Sikharpur	84.8	14.1	1.2	0.0
	Jamshoro	35.6	50.0	14.4	0.0
	Ghotki	48.0	29.3	6.3	16.4
	Dadu	65.0	32.2	0.5	2.2
	Benazirabad	33.8	41.9	13.8	10.5
	Larnaka	95.2	3.6	0.8	0.4
	Jacobabad	69.6	17.5	8.8	4.2
	Umerkot	4.8	68.8	25.8	0.5
	Badin	91.7	7.9	0.0	0.4
	Tharparkar	66.4	32.5	0.4	0.7
	Mirpurkhas	5.9	17.6	23.5	52.9
	Kashmoro	78.8	21.2	0.0	0.0
	Qambara Shadadkot	64.2	35.8	0.0	0.0
	Sanghar	59.6	38.6	0.6	1.2
Balochistan	Jhal Magsi	75.9	21.0	1.8	1.3
	Jafarabad	76.4	21.0	1.0	1.7
	Nasirabad	69.9	27.5	0.6	1.9
	Kallat	72.5	25.9	0.8	0.8
	Killa Abdullah	78.8	19.3	0.8	1.2
	Lasbella	56.6	36.0	4.7	2.7

Table 63. Household head characteristics by district

Province	District	Education level of household head (years)	Education level of spouse (years)	Percentage of household heads with CNIC	Percentage of households with women with CNIC
Sindh	Thatta	2.1	0.8	94.4	90.3
	Sikharpur	3.0	0.7	98.1	87.7
	Jamshoro	1.9	1.5	96.7	94.8
	Ghotki	3.4	1.3	99.3	98.6
	Dadu	3.6	1.2	96.9	95.7
	Benazirabad	2.9	0.6	98.9	95.5
	Larnaka	3.2	1.8	99.2	95.4
	Jacobabad	2.5	2.0	98.1	94.5
	Umerkot	2.4	2.6	98.9	99.5
	Badin	1.4	1.2	97.0	78.0
	Tharparkar	2.5	0.5	94.1	92.9
	Mirpurkhas	2.6	0.3	97.8	97.3
	Kashmoro	2.8	1.3	99.6	91.2
	Qambara Shadadkot	2.0	0.4	99.3	91.6
	Sanghar	2.9	1.1	97.0	89.7
Balochistan	Jhal Magsi	2.0	0.1	100.0	91.1
	Jafarabad	2.0	0.1	99.6	91.7
	Nasirabad	2.3	0.1	100.0	87.4
	Kallat	4.4	0.8	100.0	92.3
	Killa Abdullah	1.0	0.3	100.0	79.9
	Lasbella	3.7	0.8	98.5	88.5

Table 64. Household constitution by district

Province	District	Household size	Households with pregnant lactating women (percentage)	Households with disabled member (percentage)
Sindh	Thatta	7.2	34.6	5.1
	Sikharpur	8.1	16.3	8.9
	Jamshoro	8.3	18.1	6.5
	Ghotki	9.9	31.5	12.2
	Dadu	10.3	37.7	7.5
	Benazirabad	8.2	34.1	11.1
	Larnaka	9.5	11.9	11.5
	Jacobabad	7.9	25.8	3.8
	Umerkot	6.9	17.4	3.0
	Badin	9.6	48.9	10.0
	Tharparkar	8.3	33.7	6.3
	Mirpurkhas	6.1	9.3	3.0
	Kashmoro	10.8	14.1	9.6
	Qambara Shadadkot	8.2	20.7	9.6
	Sanghar	7.2	33.3	8.9
Balochistan	Jhal Magsi	7.0	24.4	2.6
	Jafarabad	6.9	16.0	2.0
	Nasirabad	7.6	13.0	2.6
	Kallat	8.4	36.6	5.1
	Killa Abdullah	10.9	31.3	9.0
	Lasbella	7.5	19.7	5.6

Table 65. Kharif season parameters by district

Province	District	Households cultivating in Kharif season (%)	Households cultivating in Kharif 2011 (%)	Households cultivating rice crops in Kharif 2012 (%)	Households cultivating cotton in Kharif 2012 (%)	Households cultivating vegetables in Kharif 2012 (%)
Sindh	Badin	62.6	55.6	52.2	32.2	5.6
	Dadu	51.6	48.4	28.8	3.1	20.0
	Ghotki	33.0	31.1	28.5	12.2	6.4
	Jacobabad	88.8	56.9	63.8	1.2	5.6
	Jamshoro	24.3	18.1	10.9	17.2	10.7
	Kashmoro	63.7	59.3	53.0	2.2	14.2
	Qambara Shadadkot	80.4	78.5	76.7	1.9	3.7
	Benazirabad	54.8	52.6	43.7	48.1	12.3
	Sanghar	49.3	34.4	8.9	44.1	3.4
	Sikharpur	67.8	63.7	58.9	24.8	6.3
	Tharparkar	49.3	64.4	3.7	6.3	41.3
	Thatta	49.9	42.2	47.7	7.2	13.6
	Larnaka	53.5	47.3	33.5	3.1	16.6
	Umerkot	33.7	30.4	1.1	33.3	13.0
	Mirpurkhas	44.8	42.2	2.6	43.3	32.3
Balochistan	Killa Abdullah	80.2	73.5	74.6	2.2	6.0
	Kallat	45.8	39.9	43.2		18.7
	Lasbella	57.6	52.8	45.4	3.0	7.6
	Jhal Magsi	56.5	51.7	53.1		7.8
	Jafarabad	40.8	39.0	21.3	0.2	31.6
	Nasirabad	30.8	30.1	1.3	7.4	54.4

Table 66. Areas cultivated in Kharif season by district

Province	District	Average area cultivated in Kharif 2012 (acres / household)	Average area cultivated in Kharif 2011 (acres / household)
Sindh	Badin	5.0	5.0
	Dadu	6.5	6.0
	Ghotki	2.8	2.7
	Jacobabad	7.3	6.8
	Jamshoro	3.9	4.3
	Kashmoro	4.9	4.9
	Qambara Shadadkot	7.2	7.3
	Benazirabad	4.0	4.4
	Sanghar	3.8	3.6
	Sikharpur	5.0	5.3
	Tharparkar	7.2	5.8
	Thatta	5.5	5.2
	Larnaka	4.6	4.6
	Umerkot	3.3	3.5
	Mirpurkhas	5.0	5.1
Balochistan	Killa Abdullah	10.5	10.7
	Kallat	14.8	12.7
	Lasbella	12.2	12.0
	Jhal Magsi	15.9	14.3
	Jafarabad	8.1	7.8
	Nasirabad	5.8	4.3

Table 67. Rice and cotton production estimate for Kharif season 2012 by district

Province	District	Rice production in 2012 (monds / household)	Cotton production in 2012 (monds / household)
Sindh	Badin	51.7	23.0
	Dadu	50.6	84.6
	Ghotki	19.1	13.3
	Jacobabad	22.2	34.3
	Jamshoro	29.6	30.5
	Kashmoro	47.2	45.2
	Qambara Shadadkot	42.4	84.4
	Benazirabad	26.5	11.3
	Sanghar	31.5	23.1
	Sikharpur	28.3	13.3
	Tharparkar	22.0	18.8
	Thatta	62.5	40.9
	Larnaka	62.7	19.9
	Umerkot	32.0	27.2
	Mirpurkhas	26.3	26.9
Balochistan	Killa Abdullah	29.5	37.7
	Kallat	31.9	
	Lasbella	28.4	12.8
	Jhal Magsi	30.3	
	Jafarabad	30.7	10.0
	Nasirabad	29.3	11.0

Table 68. Rabi season parameters by district

Province	District	Households cultivating in Rabi 2011/12 season (percentage)	Households cultivating wheat in Rabi 2011/12 (percentage)	Households cultivating oil crops in Zaid Rabi 2012 (percentage)	Households cultivating vegetables in Rabi 2011/12 (percentage)
Sindh	Badin	42.6	28.5	39.1	0.9
	Dadu	50.9	46.0	8.7	13.1
	Ghotki	36.3	34.4	4.1	12.2
	Jacobabad	84.2	71.5	27.9	1.4
	Jamshoro	40.0	35.6	0.5	5.6
	Kashmoro	69.6	66.7	3.2	2.7
	Qambara Shadadkot	85.6	69.3	27.7	0.0
	Benazirabad	54.1	51.9	4.8	3.4
	Sanghar	38.9	35.9	5.7	1.9
	Sikharpur	64.1	61.9	9.2	3.5
	Tharparkar	14.1	10.7	13.2	36.8
	Thatta	47.5	35.9	45.5	15.1
	Larnaka	60.0	55.4	5.8	10.3
	Umerkot	32.6	26.7	15.9	6.8
	Mirpurkhas	27.0	22.2	4.1	16.4
Balochistan	Killa Abdullah	59.7	53.4	13.8	6.5
	Kallat	45.4	41.0	11.9	12.7
	Lasbella	67.3	57.2	22.7	6.5
	Jhal Magsi	60.1	59.4	5.5	3.6
	Jafarabad	43.2	39.1	6.8	16.0
	Nasirabad	33.6	31.4	3.9	38.3

Table 69. Rabi 2011/12 cultivation areas by district

Province	District	Average area cultivated in Rabi 2011/12 (acres)	Average wheat area cultivated in Rabi 2011/12 (acres / household)	Average oil crop area cultivated in Zaid Rabi 2012 (acres / household)
Sindh	Badin	5.2	4.1	4.2
	Dadu	14.9	10.9	13.5
	Ghotki	5.6	4.3	3.8
	Jacobabad	10.1	7.8	6.4
	Jamshoro	8.9	6.9	2.0
	Kashmoro	10.9	7.3	4.0
	Qambara Shadadkot	12.4	11.0	8.0
	Benazirabad	5.7	5.2	3.9
	Sanghar	5.8	4.8	6.3
	Sikharpur	7.9	7.7	4.1
	Tharparkar	6.9	4.7	6.2
	Thatta	7.4	4.7	7.6
	Larnaka	12.2	9.3	5.3
	Umerkot	5.7	5.2	7.4
	Mirpurkhas	5.0	5.0	2.0
Balochistan	Killa Abdullah	10.1	9.8	7.2
	Kallat	15.5	15.0	11.1
	Lasbella	14.2	11.1	19.7
	Jhal Magsi	15.3	14.4	20.1
	Jafarabad	7.8	7.5	6.9
	Nasirabad	3.7	3.2	3.1

Table 70. Households cultivating oil crops by district

Province	District	Cultivated oil crops
Sindh	Badin	16.7
	Dadu	4.4
	Ghotki	1.5
	Jacobabad	23.5
	Jamshoro	0.2
	Kashmoro	2.2
	Qambara Shadadkot	23.7
	Benazirabad	2.6
	Sanghar	2.2
	Sikharpur	5.9
	Tharparkar	1.9
	Thatta	21.6
	Larnaka	3.5
	Umerkot	5.2
	Mirpurkhas	1.1
Balochistan	Killa Abdullah	8.2
	Kallat	5.5
	Lasbella	15.6
	Jhal Magsi	3.3
	Jafarabad	3.0
	Nasirabad	1.3

Table 71. Land tenure by district

Province	District	Owner	Tenant / sharecropper	Owner / tenant	Land leaser	Others
Sindh	Badin	26.1	48.9	24.4		0.6
	Dadu	42.3	50.4	6.9	0.2	0.2
	Ghotki	66.4	29.1	0.9	2.7	0.9
	Jacobabad	34.1	56.0	9.5	0.4	
	Jamshoro	62.5	37.1		0.4	
	Kashmoro	28.9	65.0	5.6	0.5	
	Qambara Shadadkot	18.9	75.3	4.5	0.4	0.8
	Benazirabad	10.3	72.3	15.5	0.6	1.3
	Sanghar	22.8	75.2	1.3	0.7	
	Sikharpur	33.2	58.4	2.1	5.3	1.1
	Tharparkar	53.5	38.3	7.8		0.4
	Thatta	64.5	33.4	1.4	0.7	
	Larnaka	22.7	57.1	20.2		
	Umerkot	13.0	87.0			
	Mirpurkhas	25.8	65.3	7.3		1.6
Balochistan	Killa Abdullah	7.4	89.8	2.8		
	Kallat	23.1	73.1	3.7		
	Lasbella	31.9	67.6	0.5		
	Jhal Magsi	50.9	47.9	1.2		
	Jafarabad	60.3	35.9	3.8		
	Lasbella	89.7	8.7	1.1	0.5	

Table 72 Irrigation fees by district

Province	District	Pay water fees (percentage of households)	Amount of water fees (PKR / season)	Irrigation functioning (percentage of households)
Sindh	Badin	57.2	1 808	88.3
	Dadu	68.3	2 080	73.2
	Ghotki	75.5	353	98.1
	Jacobabad	27.6	1 362	100.0
	Jamshoro	71.0	3 134	80.7
	Kashmoro	67.5	2 785	92.4
	Qambara Shadadkot	86.4	1 940	97.1
	Benazirabad	92.9	934	100.0
	Sanghar	91.3	1 732	94.0
	Sikharpur	91.1	1 846	29.5
	Tharparkar	8.7	6 028	89.1
	Thatta	73.3	2 579	84.7
	Larnaka	52.1	1 484	97.5
	Umerkot	48.9	1 897	54.3
	Mirpurkhas	82.3	3 655	95.2
Balochistan	Killa Abdullah	41.2	7 714	70.6
	Kallat	67.9	8 184	64.3
	Lasbella	26.4	3 507	66.0
	Jhal Magsi	57.6	7 787	59.3
	Jafarabad	62.3	8 321	84.1
	Nasirabad	70.5	5 334	57.7

Table 73 Type of agricultural land by district

Province	District	Irrigated land (percentage of total)	Rainfed land (percentage of total)	Katcha land (percentage of total)
Sindh	Badin	96.9	3.1	0.0
	Dadu	76.6	21.2	2.2
	Ghotki	71.8	0.9	27.3
	Jacobabad	100.0	0.0	0.0
	Jamshoro	72.8	9.8	17.4
	Kashmoro	92.0	0.8	7.3
	Qambara Shadadkot	97.9	1.6	0.4
	Benazirabad	100.0	0.0	0.0
	Sanghar	100.0	0.0	0.0
	Sikharpur	92.6	0.5	6.8
	Tharparkar	10.4	89.6	0.0
	Thatta	92.0	0.2	7.7
	Larnaka	57.9	1.2	40.9
	Umerkot	97.7	2.3	0.0
	Mirpurkhas	99.2	0.8	0.0
Balochistan	Killa Abdullah	86.7	13.3	0.0
	Kallat	80.3	19.7	0.2
	Lasbella	49.2	50.0	0.8
	Jhal Magsi	95.5	3.9	0.6
	Jafarabad	72.5	26.8	0.7
	Nasirabad	55.9	43.5	0.6

Table 74. Land ownership and cultivation by district

Province	District	Landowner (% of households)	Area of own land (acres)	Area of own agroland (acres)	Cultivate land (% of households)	Area Rabi normal (acres)	Area Kharif normal (acres)	Prepare land with tractor (% of households)
Sindh	Badin	25.6	6.4	4.2	66.7	4.6	5.2	98.3
	Dadu	34.2	8.9	7.9	62.2	5.5	5.7	99.0
	Ghotki	31.9	2.8	2.0	40.7	2.6	2.3	100.0
	Jacobabad	51.5	8.3	8.0	89.2	6.9	7.1	98.7
	Jamshoro	28.1	4.2	3.7	41.5	4.5	3.5	90.6
	Kashmoro	33.3	6.0	4.3	73.0	4.9	4.3	98.5
	Qambara Shadadkot	25.9	10.4	8.8	90.0	7.8	7.8	97.9
	Benazirabad	23.7	5.5	3.3	57.4	4.6	4.3	97.4
	Sanghar	14.4	9.4	5.2	55.2	4.1	4.2	98.7
	Sikharpur	27.0	4.1	3.3	70.4	4.6	4.8	94.2
	Tharparkar	61.9	7.5	7.2	85.2	1.7	7.6	42.6
	Thatta	39.1	6.8	4.8	53.6	4.8	5.1	98.2
	Larnaka	28.5	4.7	4.0	62.7	7.1	6.1	93.3
	Umerkot	8.5	19.2	5.8	34.1	3.2	3.3	97.8
	Mirpurkhas	15.6	41.8	39.0	45.9	4.9	5.0	99.2
Balochistan	Killa Abdullah	7.1	24.9	24.4	80.6	8.2	10.7	91.2
	Kallat	15.4	55.0	29.7	49.1	14.7	15.1	97.8
	Lasbella	29.0	25.2	24.1	68.8	14.0	10.9	95.1
	Jhal Magsi	39.1	55.5	37.8	61.6	15.0	14.1	100.0
	Jafarabad	36.0	23.0	16.1	44.0	7.7	7.9	97.5
		39.3	7.0	4.9	34.1	3.6	4.6	96.2

Table 75. Share of harvest given to land owner by tenant

Province	District	Share of harvest given to land owner by tenant			
		<25%	25 – 49%	50%	>50%
Sindh	Badin	81.1	6.1	10.6	2.3
	Dadu	5.5	14.9	75.8	3.8
	Ghotki	57.6	33.3	9.1	0.0
	Jacobabad	62.5	32.9	4.6	0.0
	Jamshoro	44.6	19.3	33.7	2.4
	Kashmoro	12.9	6.5	79.9	0.7
	Qambara Shadadkot	1.5	2.6	93.3	2.6
	Benazirabad	8.8	5.1	83.8	2.2
	Sanghar	6.1	10.5	83.3	0.0
	Sikharpur	14.8	66.1	18.3	0.9
	Tharparkar	33.0	14.2	52.8	0.0
	Thatta	88.1	7.9	3.3	0.7
	Larnaka	14.3	22.2	61.9	1.6
	Umerkot	32.5	2.5	65.0	0.0
	Mirpurkhas	4.4	7.8	85.6	2.2
Balochistan	Killa Abdullah	1.0	7.1	91.4	0.5
	Kallat	2.0	10.9	87.1	0.0
	Lasbella	0.0	14.5	84.7	0.8
	Jhal Magsi	1.2	19.5	78.0	1.2
	Jafarabad	3.2	14.9	81.9	0.0
	Nasirabad	44.4	0.0	44.4	11.1

Table 76. Change in income sources by district

Province	District	Permanent change (% households)	Will go back to pre-flood state (% house-holds)	Will restore previous along with new livelihood (% households)	No change in income source (% house-holds)
Sindh	Badin	5.9	20.7	7.0	66.3
	Dadu	4.2	5.1	4.6	86.2
	Ghotki	0.4	2.6	3.3	93.7
	Jacobabad	0.4	5.4	1.2	93.1
	Jamshoro	1.3	0.6	3.9	94.3
	Kashmoro	2.2	12.6	8.5	76.7
	Qambara Shadadkot	7.0	5.6	6.3	81.1
	Benazirabad	19.6	4.1	4.1	72.2
	Sanghar	5.6	10.4	6.3	77.8
	Sikharpur	14.1	1.5	1.1	83.3
	Tharparkar	4.8	4.8	5.6	84.8
	Thatta	3.3	1.6	1.6	93.5
	Larnaka	9.2	6.2	3.5	81.2
	Umerkot	1.5	1.5	3.7	93.3
	Mirpurkhas	1.5	1.5	1.1	95.9
Balochistan	Killa Abdullah	6.3	32.8	7.5	53.4
	Kallat	0.4	1.5	0.7	97.4
	Lasbella	0.4	3.7	0.4	95.5
	Jhal Magsi	0.0	0.7	0.4	98.9
	Jafarabad	0.2	0.0	0.0	99.8
	Nasirabad	0.9	0.2	0.2	98.7

Table 77. Bread winner by district

Province	District	Number of income earners per household	Number of women earners per household	Households with women income earners (%)	Women's income activity is home based (%)	Households with children >14 years earning income (% household)
Sindh	Badin	2.1	0.3	24.8	49.3	3.4
	Dadu	2.1	0.4	26.9	87.6	1.6
	Ghotki	1.5	0.1	11.1	90.0	5.3
	Jacobabad	2.7	1.2	85.4	59.9	6.2
	Jamshoro	1.9	0.3	21.3	69.6	2.1
	Kashmoro	2.8	0.9	51.1	63.8	3.4
	Qambara Shadadkot	1.8	0.4	29.3	48.1	4.1
	Benazirabad	2.2	0.5	32.2	66.7	3.3
	Sanghar	2.2	0.8	44.8	29.8	1.1
	Sikharpur	1.8	0.6	41.1	55.9	2.7
	Tharparkar	1.8	0.8	67.8	44.8	4.2
	Thatta	1.7	0.3	23.6	83.2	3.8
	Larnaka	2.1	0.5	35.8	86.0	3.8
	Umerkot	1.8	0.8	61.9	14.4	3.0
	Mirpurkhas	1.5	0.3	27.8	21.3	0.7
Balochistan	Killa Abdullah	2.5	0.0	1.1	66.7	9.7
	Kallat	1.4	0.1	12.1	75.8	0.7
	Lasbella	1.4	0.0	0.4	100.0	4.1
	Jhal Magsi	1.4	0.1	9.6	38.5	2.2
	Jafarabad	1.4	0.1	12.4	67.2	2.2
	Nasirabad	1.5	0.1	5.2	71.4	0.7

Table 78. Income and expenditures by district

Province	District	August income (PKR/household)	August expenditures (PKR/household)	Income less expenditures (PKR/household)
Sindh	Badin	8 137	18 823	-10 685
	Dadu	15 435	22 631	-7 196
	Ghotki	9 036	8 344	693
	Jacobabad	13 969	11 409	2 559
	Jamshoro	11 994	13 574	-1 580
	Kashmoro	12 422	15 189	-2 767
	Qambara Shadadkot	14 280	15 348	-1 068
	Benazirabad	15 876	19 831	-3 955
	Sanghar	8 038	17 514	-9 477
	Sikharpur	11 448	12 315	-868
	Tharparkar	8 281	12 915	-4 635
	Thatta	13 318	17 324	-4 006
	Larnaka	19 368	19 083	285
	Umerkot	7 750	10 265	-2 515
	Mirpurkhas	9 731	11 169	-1 438
Balochistan	Killa Abdullah	17 918	17 729	189
	Kallat	13 130	15 427	-2 297
	Lasbella	12 466	12 808	-342
	Jhal Magsi	11 463	12 030	-566
	Jafarabad	12 361	12 792	-431
	Nasirabad	14 811	16 885	-2 074

Table 79. Debt burden by district

Province	District	Households with debt (%)	Households with new debts (%)	Average actual amount of debt (PKR/ household)	Debt income ratio
Sindh	Badin	93.7	87.4	86 603	10.6
	Dadu	87.4	83.5	61 026	4.0
	Ghotki	60.7	58.9	54 088	6.0
	Jacobabad	76.9	72.7	42 355	3.0
	Jamshoro	67.2	51.9	33 080	2.8
	Kashmoro	70.4	63.3	72 463	5.8
	Qambara Shadadkot	90.7	88.1	64 833	4.5
	Benazirabad	73.0	69.6	78 670	5.0
	Sanghar	88.9	85.9	66 744	8.3
	Sikharpur	88.1	84.8	47 172	4.1
	Tharparkar	94.8	90.4	57 982	7.0
	Thatta	69.5	67.5	53 361	4.0
	Larnaka	67.7	63.5	49 280	2.5
	Umerkot	57.4	50.0	62 610	8.1
	Mirpurkhas	74.1	43.7	73 798	7.6
Balochistan	Killa Abdullah	41.8	37.3	25 725	1.4
	Kallat	51.6	45.1	29 006	2.2
	Lasbella	32.3	20.8	25 003	2.0
	Jhal Magsi	31.7	22.9	28 157	2.5
	Jafarabad	31.4	21.0	26 796	2.2
	Nasirabad	29.6	21.9	40 798	2.8

Table 80. Meals by district

Province	District	Number of meals for adults / day	Number of meals for children <5 years / day
Sindh	Badin	2.3	2.9
	Dadu	2.3	3.3
	Ghotki	2.1	3.1
	Jacobabad	2.6	3.8
	Jamshoro	2.7	3.3
	Kashmoro	2.3	3.2
	Qambara Shadadkot	2.7	3.8
	Benazirabad	2.1	3.7
	Sanghar	2.2	3.7
	Sikharpur	2.5	3.0
	Tharparkar	2.4	3.6
	Thatta	2.3	3.9
	Larnaka	2.5	3.5
	Umerkot	2.9	3.8
	Mirpurkhas	2.4	3.8
Balochistan	Killa Abdullah	2.9	4.2
	Kallat	2.9	4.6
	Lasbella	2.9	4.0
	Jhal Magsi	2.9	4.6
	Jafarabad	2.9	4.7
	Nasirabad	2.9	4.4

Table 81. Food group intake frequencies by district

Province	District	Freq. cereals (days / week)	Freq. pulses (days / week)	Freq. vegetables (days / week)	Freq. fruits (days / week)	Freq. meat and fish (days / week)	Freq. dairy products (days / week)	Freq. sugar or sweets (days / week)	Freq. oil or fat (days / week)
Sindh	Badin	6.8	3.8	4.1	0.2	0.7	5.1	6.7	6.6
	Dadu	6.9	2.5	5.0	0.3	0.9	6.0	6.8	6.9
	Ghotki	7.0	2.1	3.9	0.9	0.8	6.7	6.8	6.8
	Jacobabad	7.0	2.9	4.3	0.4	1.1	6.0	6.7	6.7
	Jamshoro	6.8	3.0	4.2	0.3	0.7	6.8	6.9	6.9
	Kashmoro	6.9	2.8	3.4	0.2	0.6	4.8	6.9	6.9
	Qambara Shadadkot	7.0	2.8	5.7	0.6	1.4	5.1	6.6	6.9
	Benazirabad	6.6	2.0	5.9	0.6	0.4	4.4	6.8	6.9
	Sanghar	7.0	2.7	4.2	0.5	0.2	3.2	4.4	6.9
	Sikharpur	7.0	2.8	3.6	0.2	0.7	5.5	6.0	6.3
	Tharparkar	6.8	2.9	3.5	0.2	0.3	6.5	6.9	6.9
	Thatta	6.7	3.0	4.4	0.4	1.9	6.3	6.3	6.2
	Larnaka	6.6	2.5	3.4	0.6	1.3	5.5	6.8	6.9
	Umerkot	6.9	3.5	3.5	0.2	0.2	4.3	6.9	7.0
	Mirpurkhas	7.0	2.7	4.1	0.8	0.7	4.9	7.0	6.9
Balochistan	Killa Abdullah	7.0	3.4	5.8	4.5	1.7	3.7	7.0	6.9
	Kallat	7.0	3.0	5.0	1.6	0.9	2.2	6.9	6.9
	Lasbella	7.0	2.6	4.8	0.7	0.7	2.2	7.0	7.0
	Jhal Magsi	7.0	2.8	4.8	0.3	0.6	2.8	6.9	7.0
	Jafarabad	7.0	3.0	5.2	0.3	0.5	2.4	7.0	7.0
	Nasirabad	7.0	2.8	5.6	0.4	0.5	2.3	6.9	6.8

Table 82. Coping mechanisms by district

Province	District	Unable to cover food needs (% households)	Use coping mechanisms (% households)
Sindh	Badin	81.1	78.5
	Dadu	90.9	90.7
	Ghotki	81.9	81.1
	Jacobabad	87.7	89.2
	Jamshoro	80.4	80.0
	Kashmoro	20.7	23.7
	Qambara Shadadkot	80.0	78.1
	Benazirabad	68.9	73.3
	Sanghar	46.7	43.7
	Sikharpur	76.7	75.9
	Tharparkar	86.3	85.9
	Thatta	64.9	62.0
	Larnaka	83.5	80.8
	Umerkot	60.4	59.3
	Mirpurkhas	31.1	29.6
Balochistan	Killa Abdullah	32.5	25.0
	Kallat	42.5	19.8
	Lasbella	26.0	15.2
	Jhal Magsi	18.1	9.6
	Jafarabad	30.1	17.6
	Nasirabad	36.8	14.7

Table 83. Actual coping mechanisms used over last months by district

Province	District	Skip meals (% households)	Day without meals (% households)	Less preferred food (% households)	Reduce food portion (% households)	Reduce adult portion for children (% households)	Eat seeds (% households)	Sell domestic assets (% households)	Sell productive assets (% households)	Children retrieving from school (% households)	Looking for other income source (% households)
Sindh	Badin	48.9	35.9	55.2	60.0	61.1	1.1	2.2	0.0	1.1	8.5
	Dadu	53.2	40.1	83.0	76.2	43.6	14.7	6.9	1.5	7.8	28.4
	Ghotki	32.2	25.2	75.2	68.5	38.9	2.2	0.7	0.7	3.3	30.4
	Jacobabad	48.8	30.4	81.9	66.5	63.1	17.7	2.7	0.4	0.4	1.5
	Jamshoro	27.2	13.0	77.4	73.3	18.7	1.3	1.1	0.4	0.0	1.3
	Kashmoro	7.0	2.6	15.2	15.2	0.4	6.7	1.9	0.0	0.4	9.3
	Qambara Shadadkot	37.8	16.7	31.1	35.6	33.7	21.5	1.5	0.4	0.7	1.1
	Benazirabad	13.3	4.4	58.5	35.2	3.7	0.4	3.7	3.3	0.4	1.1
	Sanghar	24.4	7.4	34.8	27.8	3.0	1.5	4.1	2.2	0.0	4.8
	Sikharpur	69.6	10.4	63.0	45.2	6.7	0.0	0.7	0.7	0.0	1.9
	Tharparkar	23.3	19.3	78.5	17.8	37.4	4.4	4.8	0.4	3.0	4.8
	Thatta	28.9	12.7	30.6	29.6	17.2	6.7	4.7	3.2	2.1	17.9
	Larnaka	43.1	31.9	55.4	60.4	45.4	21.9	17.7	21.5	5.0	30.8
	Umerkot	13.7	1.9	57.0	48.9	4.1	0.7	0.4	0.0	0.0	2.6
	Mirpurkhas	18.1	1.9	27.0	18.5	10.0	0.4	0.7	0.7	0.7	1.9
Balochistan	Killa Abdullah	7.8	5.2	28.7	24.6	5.2	1.5	4.5	2.6	0.0	5.2
	Kallat	2.6	1.1	31.1	26.0	5.5	0.4	1.5	0.4	0.0	4.4
	Lasbella	1.5	1.9	16.0	12.3	1.5	0.7	0.0	0.0	1.9	4.5
	Jhal Magsi	1.1	0.0	13.3	10.3	1.1	0.4	0.0	0.4	0.4	1.5
	Jafarabad	3.2	2.0	25.8	21.7	3.2	0.0	0.2	0.2	0.2	2.6
	Nasirabad	9.7	6.7	27.0	20.6	5.6	0.6	0.2	0.0	0.0	2.2

Table 84. Rabi 2011/12 season crop production per cultivating household by district

Province	District	Average wheat production Rabi 2011/12 (monds/ household)	Average oil crop production in Rabi 2011/12 (monds/ household)	Average fodder production in Rabi 2011/12 (monds/ household)	Average fruit production in Rabi 2011/12 (monds/ household)	Average vegetable production in Rabi 2011/12 (monds/ household)	Average barley production in Rabi 2011/12 (monds/ household)	Average pulse production in Rabi 2011/12 (monds/ household)
Sindh	Badin	41.5	17.5	24.7		1.0	7.0	
	Dadu	87.3	12.8	33.6	700.0	95.2	23.3	8.9
	Ghotki	28.4	10.0	17.0	70.0	7.7	5.0	9.0
	Jacobabad	75.1	10.2	53.3		8.5		13.0
	Jamshoro	125.7	90.0	33.3		55.7	58.8	58.9
	Kashmoro	94.4	14.4	22.5	886.7	433.3	2.0	50.0
	Qambara Shadadkot	101.8	17.6	80.0		9.0	9.0	
	Benazirabad	90.1	16.0	22.0	9.0	30.6	15.0	9.0
	Sanghar	51.0	21.0	60.5		6.0	30.0	
	Sikharpur	61.0	26.8	8.0		8.4	2.0	
	Tharparkar	19.7	6.4	9.5	2.1	3.7	0.7	5.5
	Thatta	52.6	51.3	77.4		88.0	42.1	14.0
	Larnaka	102.2	13.0	11.6	22.0	27.3	18.9	26.5
	Umerkot	37.4	10.6	39.5	9.0	32.8		
	Mirpurkhas	32.6	3.3			8.7		9.0
Balochistan	Killa Abdullah	214.5	178.1	25.0		67.7		
	Kallat	290.5	133.1		60.0	82.2	110.0	67.5
	Lasbella	247.5	200.7	20.3	1.0	62.7	373.7	34.5
	Jhal Magsi	365.5	262.9	5.0		10.0	142.3	
	Jafarabad	158.8	79.4	65.0		165.6	100.7	30.0
	Nasirabad	9.7	6.7	27.0	20.6	5.6	0.6	0.2

Table 85. Normal Rabi season crop production per cultivating household by district

Province	District	Average wheat production (monds/ household)	Average oil crop production (monds/ household)	Average fodder production (monds/ household)	Average fruit production (monds/ household)	Average vegetable production (monds/ household)	Average barley production (monds/ household)	Average pulse production (monds/ household)
Sindh	Badin	123.6	50.7	41.3		1.0	17.3	
	Dadu	119.1	24.4	52.6	409.7	124.7	55.3	54.3
	Ghotki	37.2	20.0	23.2	54.5	8.0	10.0	9.0
	Jacobabad	82.5	15.7	71.9		8.5		16.5
	Jamshoro	106.0	90.0	37.6	100.0	49.7	40.8	58.0
	Kashmoro	109.4	19.4	27.5	886.7	576.7	2.0	50.0
	Qambara Shadadkot	133.2	23.6	107.2				9.0
	Benazirabad	157.4	25.3	35.0	9.0	100.0	17.1	9.0
	Sanghar	97.6	56.0	107.5		10.0	70.0	
	Sikharpur	70.6	22.1	10.8		15.0	5.5	9.0
	Tharparkar	36.6	20.4	15.8	4.5	5.9	5.7	9.4
	Thatta	91.9	86.9	145.1		135.3	23.3	4.8
	Larnaka	107.8	19.3	12.8	20.3	36.5	20.3	60.3
	Umerkot	52.5	12.1	29.5		32.5		9.0
	Mirpurkhas	73.6	2.5		4.0	14.0		9.0
Balochistan	Killa Abdullah	226.9	184.1	25.0		71.3		9.0
	Kallat	248.5	136.4		54.5	85.8	116.3	67.5
	Lasbella	250.1	196.9	20.3	11.0	62.7	376.5	149.7
	Jhal Magsi	390.8	291.4	5.0		30.0	270.0	
	Jafarabad	168.3	81.8	90.0		162.5	369.3	50.0
	Nasirabad	39.2	10.0	31.8		23.5	19.0	

Table 86. Kharif main crops cultivated in percentage of households by district

Province	District	Rice	Maize	Fruits	Vegetables	Tobacco	Sugarcane	Cotton	Pulses	Sunflower	Millet	Other
Sindh	Badin	84.3	0.6	0.0	0.6	0.0	0.6	13.4	0.0	0.6	0.0	0.0
	Dadu	84.1	3.3	0.2	3.8	0.2	2.9	3.8	0.2	0.5	0.5	0.5
	Ghotki	76.1	0.0	0.0	2.2	0.0	5.4	15.2	1.1	0.0	0.0	0.0
	Jacobabad	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Jamshoro	13.4	0.6	0.6	12.8	0.6	0.0	69.2	2.3	0.0	0.0	0.6
	Kashmoro	98.9	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0
	Qambara Shadadkot	99.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
	Benazirabad	22.1	1.4	0.0	0.7	0.0	7.1	67.9	0.0	0.0	0.7	0.0
	Sanghar	11.1	0.7	0.0	0.0	0.0	2.1	86.1	0.0	0.0	0.0	0.0
	Sikharpur	98.9	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0
	Tharparkar	0.9	0.5	0.9	4.5	0.5	0.0	6.4	10.5	0.9	74.5	0.5
	Thatta	96.0	0.5	0.0	0.0	0.2	1.2	1.2	0.5	0.5	0.0	0.0
	Larnaka	64.9	2.3	1.5	7.6	0.0	1.5	1.5	3.8	1.5	1.5	13.7
	Umerkot	2.2	1.1	0.0	4.4	0.0	0.0	92.3	0.0	0.0	0.0	0.0
	Mirpurkhas	2.4	0.0	0.0	1.6	0.0	2.4	92.7	0.0	0.0	0.0	0.8
Balochistan	Killa Abdullah	94.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Kallat	81.8	15.9	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Lasbella	71.9	26.3	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Jhal Magsi	87.0	13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Jafarabad	51.8	9.5	33.6	4.1	0.0	0.0	0.9	0.0	0.0	0.0	0.0

Table 87. Rabi main crops cultivated in percentage of households by district

Province	District	Wheat	Barley	Maize	Fruits	Vegetables	Sugar-cane	Cotton	Sorghum	Berseem	Pulses	Sun-flower	Canola	Other
Sindh	Badin	83.2	2.7	0.0	0.0	0.7	0.7	0.0	2.0	1.3	2.7	4.0	2.7	0.0
	Dadu	88.2	5.1	0.7	0.2	1.1	0.0	0.0	1.1	0.0	0.0	1.6	0.7	1.3
	Ghotki	95.2	0.0	0.0	0.0	1.0	1.9	0.0	1.9	0.0	0.0	0.0	0.0	0.0
	Jacobabad	81.6	0.5	0.0	0.0	0.9	0.0	0.0	1.4	8.8	1.4	5.1	0.5	0.0
	Jamshoro	93.2	1.4	1.8	0.0	0.9	0.0	0.0	0.9	0.0	1.8	0.0	0.0	0.0
	Kashmoro	97.4	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0
	Qambara Shadadkot	82.7	0.8	0.0	0.0	0.0	0.0	0.0	0.8	0.4	0.0	8.0	0.0	7.2
	Benazirabad	98.6	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0
	Sanghar	98.6	0.0	0.7	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0
	Sikharpur	97.1	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.6
	Tharparkar	54.0	0.0	0.0	2.0	12.0	0.0	0.0	14.0	0.0	18.0	0.0	0.0	0.0
	Thatta	76.5	2.4	1.3	0.0	2.6	0.3	0.0	0.8	0.0	0.0	10.6	4.7	0.8
	Larnaka	97.4	0.0	0.0	0.0	1.3	0.6	0.0	0.0	0.0	0.0	0.6	0.0	0.0
	Umerkot	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Mirpurkhas	95.1	2.4	0.0	0.0	0.8	0.0	0.8	0.8	0.0	0.0	0.0	0.0	0.0
Balochistan	Killa Abdullah	90.6	0.0	0.0	0.0	0.7	0.0	0.0	0.7	0.0	0.0	0.0	0.0	8.1
	Kallat	92.6	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.7
	Lasbella	85.6	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.9
	Jhal Magsi	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Jafarabad	93.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.9	0.0	4.8

Table 88 Sources of Kharif crop seeds, district specific

Province	District	Own stock	UN / NGO	Government	Market	Borrowed / credit	Landowner	Other
Sindh	Badin	4.1	1.2	0.0	46.7	3.0	44.4	0.6
	Dadu	8.6	0.0	0.7	64.6	14.6	11.2	0.2
	Ghotki	7.9	0.0	0.0	74.2	12.4	5.6	0.0
	Jacobabad	2.6	2.6	0.0	32.5	15.2	46.8	0.4
	Jamshoro	22.9	0.8	2.3	48.1	2.3	23.7	0.0
	Kashmoro	7.6	0.6	0.0	55.2	5.2	31.4	0.0
	Qambara Shadadkot	10.6	0.5	2.3	18.0	12.9	55.8	0.0
	Benazirabad	14.9	0.0	0.7	14.9	8.8	60.8	0.0
	Sanghar	4.5	5.2	0.0	13.4	3.0	73.9	0.0
	Sikharpur	0.5	15.4	0.0	32.4	4.4	46.7	0.5
	Tharparkar	45.9	0.8	0.0	19.5	1.5	32.3	0.0
	Thatta	22.3	0.5	0.0	44.6	16.8	15.8	0.0
	Larnaka	10.8	0.0	0.7	30.2	10.8	43.9	3.6
	Umerkot	0.0	0.0	0.0	11.0	4.4	83.5	1.1
	Mirpurkhas	5.0	5.8	0.0	23.1	6.6	59.5	0.0
Balochistan	Killa Abdullah	10.2	0.5	0.0	42.6	0.0	46.3	0.5
	Kallat	17.2	2.2	0.7	62.7	0.0	9.7	7.5
	Lasbella	15.8	0.5	0.5	51.9	0.5	16.9	13.7
	Jhal Magsi	7.9	0.0	0.0	78.7	0.0	8.5	4.9
	Jafarabad	26.4	0.4	0.0	60.0	0.4	4.3	8.5
	Nasirabad	15.9	0.0	1.1	75.8	1.1	1.1	4.9

Table 89. Intervention coverage recovery phase for 2011 flood-affected households by district

Province	District	Agro inputs	Livestock inputs	Cash, Watan or government compensation	School feeding	Zakat support	Remittances	Cash transfer (various)	CFW / FFW also with vouchers	General food distribution or food vouchers	Complementary feeding	Irrigation repair
Sindh	Thatta	7.8	8.3	45.6	15.0	0.9	0.2	7.0	4.1	14.6	1.9	0.0
	Jamshoro	0.4	0.4	18.2	0.7	0.0	0.4	0.6	0.9	0.0	0.0	0.0
	Dadu	5.0	3.3	24.9	5.9	1.1	0.0	0.7	2.6	3.2	2.4	0.7
	Benazirabad	0.0	0.0	15.9	0.4	2.2	0.4	0.4	0.0	0.0	0.0	0.0
	Umerkot	7.0	3.0	8.5	7.8	0.0	0.7	0.4	10.4	5.2	3.3	4.1
	Badin	1.9	0.0	11.5	0.7	0.7	0.0	0.4	8.1	8.9	2.2	1.1
	Tharparkar	5.6	4.4	31.1	35.6	1.1	1.5	1.5	8.1	83.7	13.3	0.0
	Mirpurkhas	1.5	0.0	1.1	0.0	0.4	0.0	1.5	12.6	0.7	0.4	0.0
	Sanghar	3.0	0.0	0.0	0.0	0.0	0.0	0.4	11.5	9.3	0.7	1.5
Balochistan	Jafarabad	0.0	0.0	0.4	0.0	0.0	0.0	1.9	0.0	7.0	0.0	0.0
	Nasirabad	0.0	0.0	3.7	0.0	0.4	0.0	0.0	0.0	12.6	0.0	0.0
	Kallat	0.0	0.0	0.0	0.4	0.4	0.0	0.0	4.0	56.4	2.6	0.0
	Killa Abdullah	0.0	0.0	7.8	0.0	1.5	2.2	0.0	0.4	24.3	0.7	0.0
	Lasbella	0.4	0.0	2.6	1.1	1.1	0.0	0.0	0.4	0.0	0.0	0.0

Table 90. Intervention coverage emergency phase after 2011 floods – percentage of households by district

Province	District	Agro inputs	Livestock inputs	Cash, Watan or gover-ment compen-sation	School feeding	Zakat support	Remit-tances	Cash transfer (various)	CFW / FFW also with vouchers	General food dis-tribution or food vouchers	Comple-mentary feeding	Irrigation repair
Sindh	Thatta	14.1	6.7	65.9	19.6	2.8	0.4	12.6	8.0	23.7	3.3	0.6
	Jamshoro	23.9	3.2	76.6	27.3	0.9	0.4	3.5	18.2	52.9	22.1	0.7
	Dadu	18.0	4.8	52.1	15.4	1.3	0.7	4.6	1.7	27.1	6.3	0.9
	Benazirabad	4.4	4.8	91.9	3.0	6.3	0.7	1.9	0.7	70.4	2.6	0.4
	Umerkot	9.6	7.0	75.9	11.9	0.0	0.0	0.7	6.3	91.1	4.8	4.8
	Badin	12.2	0.0	94.1	2.2	0.7	0.7	3.0	3.3	78.9	26.7	14.4
	Tharparkar	5.9	8.1	43.7	40.7	1.1	3.0	14.1	16.3	79.3	19.3	0.4
	Mirpurkhas	23.3	3.3	64.8	2.2	0.4	0.4	5.2	7.4	100.4	5.2	0.0
	Sanghar	3.7	2.6	74.4	0.7	0.0	1.1	7.8	7.0	67.8	3.0	0.4
Balo-chistan	Jafarabad	1.1	0.0	79.6	0.4	1.9	0.7	6.7	0.4	98.5	10.4	0.0
	Nasirabad	15.2	0.0	67.3	1.9	0.7	0.7	8.9	0.0	87.0	4.8	0.0
	Kallat	24.9	0.0	0.7	0.4	0.7	0.0	0.7	2.9	68.9	7.3	0.0
	Killa Abdullah	14.2	0.4	14.2	23.5	2.6	11.2	7.5	4.9	63.8	20.9	1.1
	Lasbella	0.7	1.9	5.6	2.6	0.4	0.0	1.1	0.7	46.8	0.4	0.0

Table 91. Intervention coverage recovery phase second year after 2010 floods – percentage of households by district

Province	District	Agro inputs	Livestock inputs	Cash, Watan or government compensation	School feeding	Zakat support	Remittances	Cash transfer (various)	CFW / FFW also with vouchers	General food distribution or food vouchers	Complementary feeding	Irrigation repair
Sindh	Dadu	7.0	1.1	57.8	26.3	1.9	0.0	5.2	2.6	40.0	8.1	5.6
	Jacobabad	64.2	6.5	61.2	20.4	9.6	1.2	3.1	25.4	83.8	29.6	24.6
	Kashmoro	2.2	13.0	54.8	35.2	0.4	0.0	9.3	23.3	27.4	6.7	21.5
	Qambara Shadadkot	27.0	2.6	70.4	4.4	3.0	7.4	4.4	35.2	77.0	6.7	1.9
	Sikharpur	10.7	0.7	81.9	24.4	10.4	1.1	8.1	14.1	65.6	1.5	0.4
	Thatta	7.8	5.2	68.5	23.7	1.5	0.7	8.1	0.4	34.1	8.1	0.0
	Larnaka	16.5	1.5	58.5	8.5	0.0	0.4	6.2	3.8	30.8	7.7	2.7
Balochistan	Killa Abdullah	4.5	0.0	100.0	6.8	1.5	1.1	3.0	6.8	90.9	1.5	0.0
	Kallat	1.6	0.0	98.4	0.0	0.0	0.0	1.2	2.8	82.5	9.5	0.0
	Lasbella	17.5	0.0	0.7	0.0	0.0	0.4	0.7	2.6	63.9	2.6	0.0

Table 92. Main agricultural needs by district

Province	District	Seeds	Fertilizer	Storage	Tools	Repair irrigation tertiary	Repair irrigation secondary	Agriculture services	Credit	Draught animals	Land reclamation	Clear land use rights	Repair tub wells	Other
Sindh	Badin	37.41	11.11	4.81	2.96	0.74	4.07	2.22	0.74	0.37	0.00	0.00	0.00	0.37
	Dadu	39.75	15.31	4.20	0.12	0.00	0.00	0.49	0.49	0.86	0.00	0.12	0.37	0.00
	Ghotki	28.89	7.41	0.37	0.37	0.00	0.00	0.37	1.48	0.00	0.00	0.37	0.00	0.37
	Jacobabad	35.00	25.77	0.38	0.38	0.00	0.00	3.08	23.08	0.38	0.38	0.00	0.00	0.77
	Jamshoro	33.70	3.70	0.19	1.11	0.74	0.19	1.11	0.00	0.00	0.00	0.00	0.00	0.37
	Kashmoro	29.63	26.67	5.19	1.48	0.74	0.00	5.19	2.22	0.00	0.00	0.00	0.00	0.74
	Qambara Shadadkot	42.96	45.93	0.00	0.00	0.00	0.00	0.37	0.74	0.00	0.00	0.00	0.00	0.00
	Benazirabad	7.04	27.78	1.48	7.78	0.00	0.37	8.15	0.00	0.37	0.00	1.48	0.00	1.48
	Sanghar	41.85	4.07	0.00	2.22	0.37	0.00	1.48	1.11	0.37	0.00	0.37	0.00	1.11
	Sikharpur	42.59	22.96	0.00	0.00	0.00	0.37	0.37	2.22	0.00	0.00	0.00	1.11	0.37
	Tharparkar	17.04	9.63	15.19	1.11	0.37	0.37	5.56	27.04	3.33	1.11	0.00	0.00	0.00
	Thatta	20.00	27.16	2.10	0.49	0.49	0.12	0.12	1.85	0.25	0.00	0.00	0.00	0.25
	Larnaka	46.15	11.54	0.77	0.77	0.00	0.00	1.15	1.54	0.00	0.00	0.00	0.38	0.00
	Umerkot	27.04	2.22	2.96	0.00	0.00	0.74	0.00	0.74	0.00	0.00	0.00	0.00	0.00
	Mirpurkhas	39.26	2.59	0.74	0.37	0.00	0.37	1.48	0.00	0.74	0.00	0.00	0.00	0.00
Balochistan	Killa Abdullah	47.76	25.75	1.49	2.24	0.00	0.00	0.75	0.37	0.37	0.00	0.00	0.00	0.00
	Kallat	34.07	8.79	0.37	2.93	0.00	0.00	1.10	0.00	0.37	0.37	0.00	0.37	0.00
	Lasbella	52.79	10.04	0.74	1.12	0.37	0.00	0.37	0.00	0.00	0.00	0.00	0.37	0.37
	Jhal Magsi	49.82	7.01	0.00	0.74	0.74	0.37	1.48	0.00	0.00	0.00	0.37	0.00	0.00
	Jafarabad	22.45	8.35	0.37	1.67	0.93	0.56	0.93	2.78	0.00	4.82	0.19	0.37	0.19
	Nasirabad	17.25	5.19	0.00	1.11	1.11	0.19	2.60	1.86	0.19	2.23	0.00	1.67	0.37

Table 93. Main needs six months from now by district

Province	District	Building materials	Cash grants	Food aid	Drinking water	Credit	Health services	Functioning schools	Agriculture inputs / services	Employment	Debris removal	Repair feeder roads / community infrastructure
Sindh	Badin	22.6	10.7	7.8	2.6	0.7	24.1	2.6	4.1	19.3		1.5
	Dadu	6.3	9.9	49.5	1.9	1.9	16.5	1.0	3.0	4.6	0.2	0.1
	Ghotki	16.7	16.7	17.8	1.1	2.6	21.1	2.6	3.0	11.5		0.4
	Jacobabad	28.1	13.1	13.1	4.2	21.9	11.5	1.2	1.2	2.7	0.8	
	Jamshoro	20.2	21.3	23.5	5.9	1.1	9.1	1.7	3.7	10.4		0.9
	Kashmoro	11.9	20.7	30.4	0.4	8.5	7.0	4.1	5.9	8.1	0.4	0.7
	Qambara Shadadkot	10.4	11.9	17.4	11.5	0.7	26.7	1.5	4.1	10.0		0.7
	Benazirabad	18.9	27.4	26.7	0.4	0.0	7.0		3.7	9.6		
	Sanghar	10.4	20.7	23.3	9.3	4.1	8.9	0.7	1.9	9.6		
	Sikharpur	7.8	27.4	15.9	0.7	9.3	18.9	0.4	1.1	15.2	0.4	1.1
	Tharparkar	6.7	5.2	10.4	7.8	11.9	25.2	5.6	4.4	7.8	11.5	0.7
	Thatta	6.3	26.4	19.6	1.7	5.7	15.7	3.2	3.5	7.2	0.2	0.6
	Larnaka	25.8	5.0	14.2	0.4	5.0	24.6	3.5	6.9	12.3		1.2
	Umerkot	29.6	11.9	16.3	1.9	1.1	24.8	3.0	4.1	3.3		3.0
	Mirpurkhas	33.7	20.7	18.1	2.2	1.1	10.4	1.5	4.8	2.2		2.2
Balochistan	Killa Abdullah	1.5	14.9	4.5	4.1	3.0	26.9	13.8	10.1	9.3	1.9	10.1
	Kallat	12.5	30.4	20.5	5.5	2.9	13.9	4.0	0.0	9.2	0.4	0.7
	Lasbella	8.2	20.4	15.6	11.9	2.2	21.2	7.1	1.1	8.6		3.7
	Jhal Magsi	11.4	25.8	11.1	15.5	4.4	20.7	2.6	2.2	5.5	0.4	
	Jafarabad	12.4	24.7	19.1	13.4	4.5	15.4	2.0	1.1	6.3	0.2	0.9
	Nasirabad	16.1	27.0	15.7	12.6	7.4	8.0	1.5	3.7	4.6	1.1	1.3

Table 94. Main actual needs by district

Province	District	Building materials	Cash grants	Food aid	Drinking water	Credit	Health services	Functioning schools	Agriculture inputs / services	Employment	Debris removal	Repair feeder roads / community infrastructure
Sindh	Badin	26.3	20.4	47.4	1.1		1.9		0.7	2.2		
	Dadu	59.5	28.1	5.8	0.4	0.2	3.3	0.2		2.1	0.1	0.1
	Ghotki	34.1	28.1	20.4	0.7	1.1	8.1	0.7	1.1	5.6		
	Jacobabad	32.3	33.8	30.4	0.4	0.4	0.4	0.4	0.4	1.5		
	Jamshoro	44.1	34.1	8.3	3.9		1.9	0.2	2.6	4.6		0.4
	Kashmoro	39.6	41.5	15.2		0.4	0.4	1.1	0.4	1.1		0.4
	Qambara Shadadkot	34.8	38.5	15.6	2.6		4.4		0.7	3.0		0.4
	Benazirabad	51.1	34.1	4.4		0.7	2.6	0.4	3.3	2.6		0.7
	Sanghar	65.2	23.0	7.8		0.4	0.7		0.4	2.6		
	Sikharpur	21.9	37.8	37.0		0.4	1.5		0.7	0.7		
	Tharparkar	18.9	43.7	17.0	0.4	1.1	12.2	4.8		1.5	0.4	
	Thatta	13.7	39.8	21.0	2.6	6.7	7.7	1.6	1.1	4.9		0.4
	Larnaka	33.8	46.2	3.5	0.0	0.4	3.5	0.8	1.2	9.2	0.4	0.4
	Umerkot	22.2	42.2	16.7	2.6	0.4	4.1	0.4	5.6	5.9		
	Mirpurkhas	34.1	47.8	10.7			2.6		3.7	1.1		
Balochistan	Killa Abdullah	6.7	42.5	9.0	4.9	1.1	11.6	10.8	6.3	4.9		2.2
	Kallat	22.0	52.4	17.9	2.2	0.7	1.1	0.7		2.6		0.4
	Lasbella	36.1	39.0	14.1	2.2	0.4	2.6	2.2	0.7	1.9		0.7
	Jhal Magsi	16.2	56.8	22.1	0.7		2.2		1.1	0.7		
	Jafarabad	26.3	43.2	22.8	3.3		3.3		0.4	0.4		0.2
	Nasirabad	23.5	46.5	23.1	4.4	0.4	1.1	0.4	0.2			

Table 95. Labour wages by district

Province	District	Agro unskilled male wage (PKR/Day)	Agro skilled male wage (PKR/Day)	Non-agro unskilled male wage (PKR/Day)	Non-agro skilled male wage (PKR/Day)	Agro unskilled female wage (PKR/Day)	Agro skilled female wage (PKR/Day)	Non-agro skilled female wage (PKR/Day)	Non-agro unskilled female wage (PKR/Day)
Sindh	Badin	239	260	284	575	207	216	196	141
	Dadu	208	318	311	573	157	187	243	161
	Ghotki	242	300	228	361	114	169	175	123
	Jacobabad	142	161	300	665	118	121	283	158
	Jamshoro	208	348	284	587	141	206	262	176
	Kashmoro	229	625	229	642	138	281	246	127
	Qambara Shadadkot	146	189	269	636	109	129	241	142
	Benazirabad	267	492	279	635	200	207	243	147
	Sanghar	236	350	236	375	191	264	241	176
	Sikharpur	225	258	244	297	112	117	141	121
	Tharparkar	192	244	216	342	61	69	85	64
	Thatta	255	418	277	473	129	228	226	143
	Larnaka	204	330	259	539	181	173	210	134
	Umerkot	118	155	261	478	63	87	189	117
	Mirpurkhas	181	364	256	419	147	219	182	179
Balochistan	Killa Abdullah	303	604	307	602				
	Kallat	274	506	297	753				
	Lasbella	225	365	293	552				
	Jhal Magsi	241	336	301	680				
	Jafarabad	232	313	304	683				
	Nasirabad	237	299	307	684				

Table 96. Rating of emergency assistance from September 2012 to March 2012 (only 2011 and both flood cohorts) – overall and intervention specific by district

Province	District	A great help	Some help	Little help	No help	Made situation worse
Balochistan	Kallat	2%	56%	42%	0%	0%
	Killa Abdullah	4%	45%	47%	4%	0%
	Lasbella	2%	34%	62%	3%	0%
	Naseerabad	18%	53%	28%	1%	0%
	Jafferabad	23%	53%	24%	0%	0%
Sindh	Badin	34%	43%	19%	3%	0%
	Dadu	12%	48%	40%	0%	0%
	Jamshoro	25%	47%	27%	1%	0%
	Mirpurkhas	3%	85%	12%	0%	0%
	S. Banazirabad	18%	63%	19%	1%	0%
	Sanghar	11%	87%	2%	0%	0%
	Tharparkar	19%	69%	9%	1%	2%
	Thatta	13%	72%	15%	0%	0%
	Umerkot	11%	84%	4%	0%	0%

Table 97. Rating of emergency assistance from September 2011 to March 2012 (only 2011 and both floods cohorts) – intervention specific by district

Province	District	Agri inputs	Live-stock support	Watan card	School feeding	Zaka	Remit-tances	Gover-ment compen-sation	CFW/ FFW	General food dis-tribution	Comple-mentary feeding	Irrigation repair
Sindh	Badin	2.0		1.9	2.2	1.0	2.0	2.1	1.7	1.8	2.2	1.8
	Benazirabad	2.6	2.7	2.0	2.1	2.0	2.0	2.2	2.0	1.9	2.6	4.0
	Dadu	2.2	2.3	2.2	2.4	2.1	2.3	2.5	2.5	2.4	2.3	1.2
	Jamshoro	2.2	1.9	2.0	2.5	2.4	2.5	2.2	1.9	2.0	2.1	1.8
	Mirpurkhas	2.1	2.0	2.0	2.5	2.0	3.0	2.3	2.1	2.1	2.1	
	Sanghar	1.7	2.2	2.0	2.0		2.0	2.0	1.6	1.9	1.8	2.0
	Tharparkar	2.2	2.4	1.6	2.0	1.7	2.0	1.7	2.1	2.0	1.8	1.0
	Thatta	2.0	1.9	2.0	2.1	1.4	1.5	2.0	1.8	2.3	2.1	1.0
	Umerkot	2.0	1.9	1.9	2.1			1.6	1.9	2.0	2.0	2.0
Balo-chistan	Jafarabad	2.0		1.8	2.0	2.8	2.5		2.0	2.1	2.2	
	Kallat	2.2			3.0	1.5		2.0	2.0	2.4	2.3	
	Killa Abdullah	2.1	3.0	2.4	2.9	2.1	2.7	2.6	2.0	2.5	2.7	1.7
	Lasbella	3.0	1.8	2.8	3.4	2.0		2.7	3.0	2.6	2.0	
	Nasirabad	2.2		1.9	3.0	2.0	2.5	2.6		2.2	2.6	

Scale 1= great help, 2 = some help, 3 = little help, 4 = made situation worse

Table 98. Rating of early recovery assistance from March to September 2012 (only 2011 and both floods cohorts) – intervention specific by district

Province	District	Agri inputs	Live-stock support	Watan card	School-feeding	Zakat	Remit-tances	Govern-ment compen-sation	CFW/ FFW	General food dis-tribution	Comple-mentary feeding	Irrigation repair
Sindh	Badin	1.3			1.5	2.0		1.8	1.6	1.7	1.7	2.0
	Benazirabad			2.5	3.0	2.3	2.0	2.2				
	Dadu	2.4	2.7	2.0	2.6	2.3		2.5	2.6	2.3	2.2	2.0
	Jamshoro	1.0	1.0	2.0	2.8		3.0	2.2	2.3			
	Mirpurkhas	2.0				2.0		2.7	2.0	2.0	2.0	
	Sanghar	1.9							1.9		1.0	1.3
	Tharparkar	2.2	2.1	1.7	2.0	2.0	2.0	1.7	2.0	2.0	2.0	
	Thatta	2.1	1.8	2.1	2.3	2.2	3.0	2.0	1.8	2.5	2.0	
	Umerkot	2.0	2.0	2.0	2.0		2.0	1.4	1.9	1.8	2.0	2.0
Balo-chistan	Jafarabad							3.0		2.2		
	Kallat				2.0	2.0			2.1	2.0	2.0	
	Killa Abdullah			2.0		2.3	2.5	3.4	2.0	2.2	2.0	
	Lasbella	3.0		3.0	4.0	3.0		2.2	3.0			
	Nasirabad			1.0		1.0		3.0		2.4		

Scale 1= great help, 2 = some help, 3 = little help, 4 = made situation worse

Table 99. Rating of recovery assistance from August 2011 to September 2012 (only 2010 flood cohort) by district

Province	District	A great help	Some help	Little help	No help	Made situation worse
Balochistan	Jhal Magsi	18%	53%	27%	1%	0%
	Naseerabad	18%	47%	31%	3%	0%
	Jafferabad	23%	53%	24%	0%	0%
Sindh	Dadu	10%	68%	22%	0%	0%
	Ghotki	63%	31%	6%	0%	0%
	Jacobabad	30%	57%	13%	0%	0%
	Kashmore	22%	55%	24%	0%	0%
	Larkana	36%	57%	2%	4%	0%
	Qambar Shadadkot	21%	30%	49%	1%	0%
	Shikarpur	10%	46%	42%	2%	0%
	Thatta	17%	70%	12%	0%	0%

Table 100. Rating of recovery assistance by type

Province	District	Agricultural inputs	Livestock support	Watan card	School feeding	Zakat	Remittances	Government compensation	CFW FFW	General food distribution	Complementary feeding	Irrigation repair 2010
Sindh	Dadu	1.9	2.0	2.1	2.2	1.8		2.7	2.2	2.1	2.0	1.9
	Ghotki			1.8		1.8	2.0	1.1				
	Jacobabad	1.9	2.3	1.8	1.9	1.3	2.0		1.6	1.7	1.7	1.6
	Kallat	3.0		1.7				1.0	1.9	2.3	2.1	
	Kashmoro	2.0	2.0	1.7	2.4	2.0		2.2	2.1	2.1	2.1	1.9
	Killa Abdullah	2.1		1.8	2.5	2.3	2.0	3.0	2.4	2.2	2.8	
	Larnaka	1.4	1.0	1.7	1.7		2.0	1.9	1.4	1.6	1.9	1.7
	Lasbella	2.4					2.0	3.0	2.8	2.3	2.7	
	Qambara Shadadkot	1.8	1.8	2.6	2.4	2.3	2.0	1.7	2.0	1.9	2.2	1.0
	Sikharpur	2.4	3.0	1.9	2.5	2.6	2.0	2.0	2.8	2.7	3.0	2.0
	Thatta	2.1	2.0	1.9	2.1	1.8	2.0	2.0	1.0	2.0	1.6	

scale 1= great help, 2 = some help, 3 = little help, 4 = made situation worse

Table 101. Expectation of changes in situation by district

Province	District	Worsen (% households)	Remain the same (% households)	Improve (% households)	Don't know (% households)
Sindh	Badin	30.4	48.9	10.7	10.0
	Dadu	22.5	23.6	4.8	49.1
	Ghotki	1.5	5.2	13.3	80.0
	Jacobabad	42.3	45.0	10.0	2.7
	Jamshoro	25.7	48.9	13.3	12.0
	Kashmoro	62.6	24.4	9.6	3.3
	Qambara Shadadkot	5.6	36.7	56.7	1.1
	Benazirabad	21.5	50.0	3.7	24.8
	Sanghar	1.1	60.7	13.3	24.8
	Sikharpur	2.2	87.0	3.3	7.4
	Tharparkar	43.3	34.4	15.6	6.7
	Thatta	17.4	41.5	12.2	28.9
	Larnaka	35.0	41.9	12.7	10.4
	Umerkot	2.2	38.9	40.7	18.1
	Mirpurkhas	12.2	76.3	5.9	5.6
Balochistan	Killa Abdullah	7.8	62.7	16.0	13.4
	Kallat	18.3	57.5	7.3	16.8
	Lasbella	6.3	16.7	1.1	75.8
	Jhal Magsi	14.4	42.8	4.8	38.0
	Jafarabad	14.8	30.1	2.2	52.9
	Nasirabad	26.3	25.2	4.1	44.4

Table 102. Pre-flood, post-flood and actual number of large ruminants for only 2011 affected households by district

Province	District	Pre-2011 flood (heads / household)	Post-2011 flood (heads / household)	September 2012 (heads / household)
Balochistan	Kallat	0.35	0.35	0.32
	Killa Abdullah	1.97	1.15	1.22
	Lasbella	0.56	0.49	0.53
Sindh	Badin	2.70	1.44	1.14
	Dadu	2.29	1.71	1.52
	Jamshoro	1.58	1.37	1.30
	Mirpurkhas	1.98	1.09	1.03
	S. Banazirabad	1.71	0.89	0.85
	Sanghar	2.46	1.06	1.02
	Tharparkar	1.37	1.05	0.85
	Thatta	2.68	2.08	1.76
	Umerkot	1.26	0.89	0.89

Table 103. Pre-flood, post-flood and actual number of small ruminants for only 2011 affected households by district

Province	District	Pre-2011 flood (heads/household)	Post-2011 flood (heads/household)	September 2012 (heads/household)
Balochistan	Kallat	9.65	6.35	6.57
	Killa Abdullah	11.36	7.85	8.78
	Lasbella	5.92	5.25	5.38
Sindh	Badin	5.57	1.37	0.97
	Dadu	2.83	1.57	1.37
	Jamshoro	4.56	2.80	2.82
	Mirpurkhas	6.29	1.89	1.90
	S. Banazirabad	4.13	1.26	1.41
	Sanghar	4.88	1.26	1.54
	Tharparkar	17.66	10.47	10.39
	Thatta	0.96	0.57	0.50
	Umerkot	3.73	1.84	1.69

Table 104. Pre-flood, post-flood and actual number of poultry for only 2011 households by district

Province	District	Pre-2011 flood (heads/household)	Post-2011 flood (heads/household)	September 2012 (heads / household)
Balochistan	Kallat	2.00	1.57	1.51
	Killa Abdullah	4.14	2.24	2.73
	Lasbella	1.82	1.36	1.39
Sindh	Badin	2.98	0.18	0.20
	Dadu	1.53	0.70	0.47
	Jamshoro	0.60	0.38	0.26
	Mirpurkhas	1.88	0.65	0.31
	S. Banazirabad	2.69	0.57	0.36
	Sanghar	2.26	0.43	0.49
	Tharparkar	2.65	0.15	0.19
	Thatta	1.54	0.95	0.71
	Umerkot	0.09	0.02	0.02

Table 105. Pre-flood, post-flood and actual number of large ruminants for households affected by both floods

Province	District	Pre-2011 flood (heads/household)	Post-2011 flood (heads/household)	September 2012 (heads/household)
Balochistan	Naseerabad	3.18	2.23	2.16
	Jafferabad	3.41	2.31	2.41
Sindh	Dadu	2.88	1.75	1.64
	Jamshoro	2.26	1.83	1.74
	Thatta	2.51	1.89	1.83

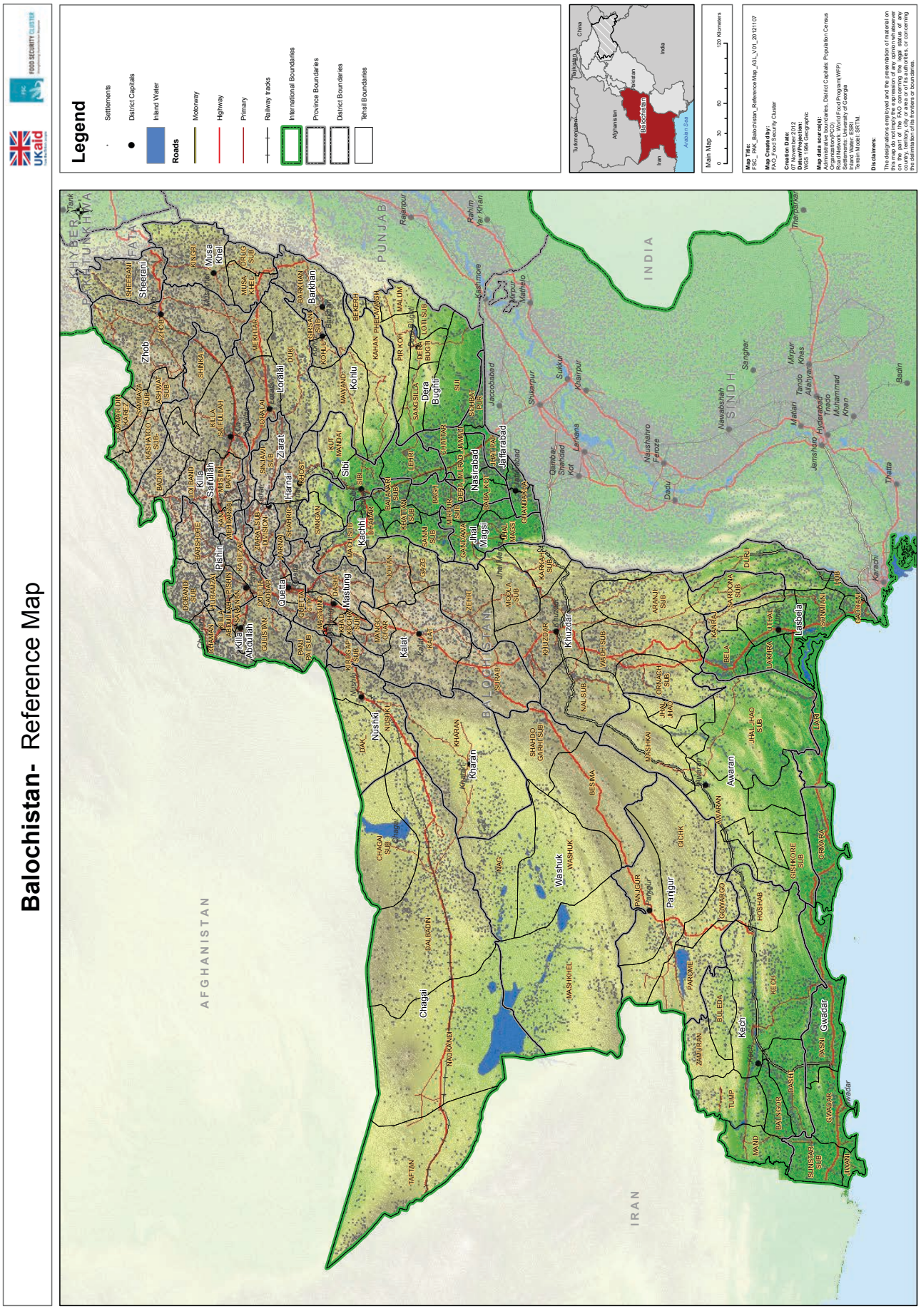
Table 106. Pre-flood, post-flood and actual number of small ruminants for households affected by both floods

Province	District	Pre-2011 flood (heads/household)	Post-2011 flood (heads/household)	September 2012 (heads/household)
Balochistan	Naseerabad	4.84	3.22	2.82
	Jafferabad	3.19	1.82	2.50
Sindh	Dadu	2.81	1.28	1.10
	Jamshoro	2.98	1.94	1.81
	Thatta	0.70	0.57	0.61

Table 107. Pre-flood, post-flood and actual number of poultry for households affected by both floods

Province	District	Pre-2011 flood (heads / household)	Post-2011 flood (heads / household)	September 2012 (heads / household)
Balochistan	Naseerabad	0.81	0.15	0.32
	Jafferabad	1.74	0.85	0.93
Sindh	Dadu	5.06	0.66	0.65
	Jamshoro	0.39	0.17	0.14
	Thatta	0.59	0.25	0.25

ANNEX VIII. MAPS



Sindh- Reference Map

Map Title:
FSC_ PAK_Sindh_Reference Map_A0L_V01_20121108

Map Created by:
FAO_Food Security Cluster

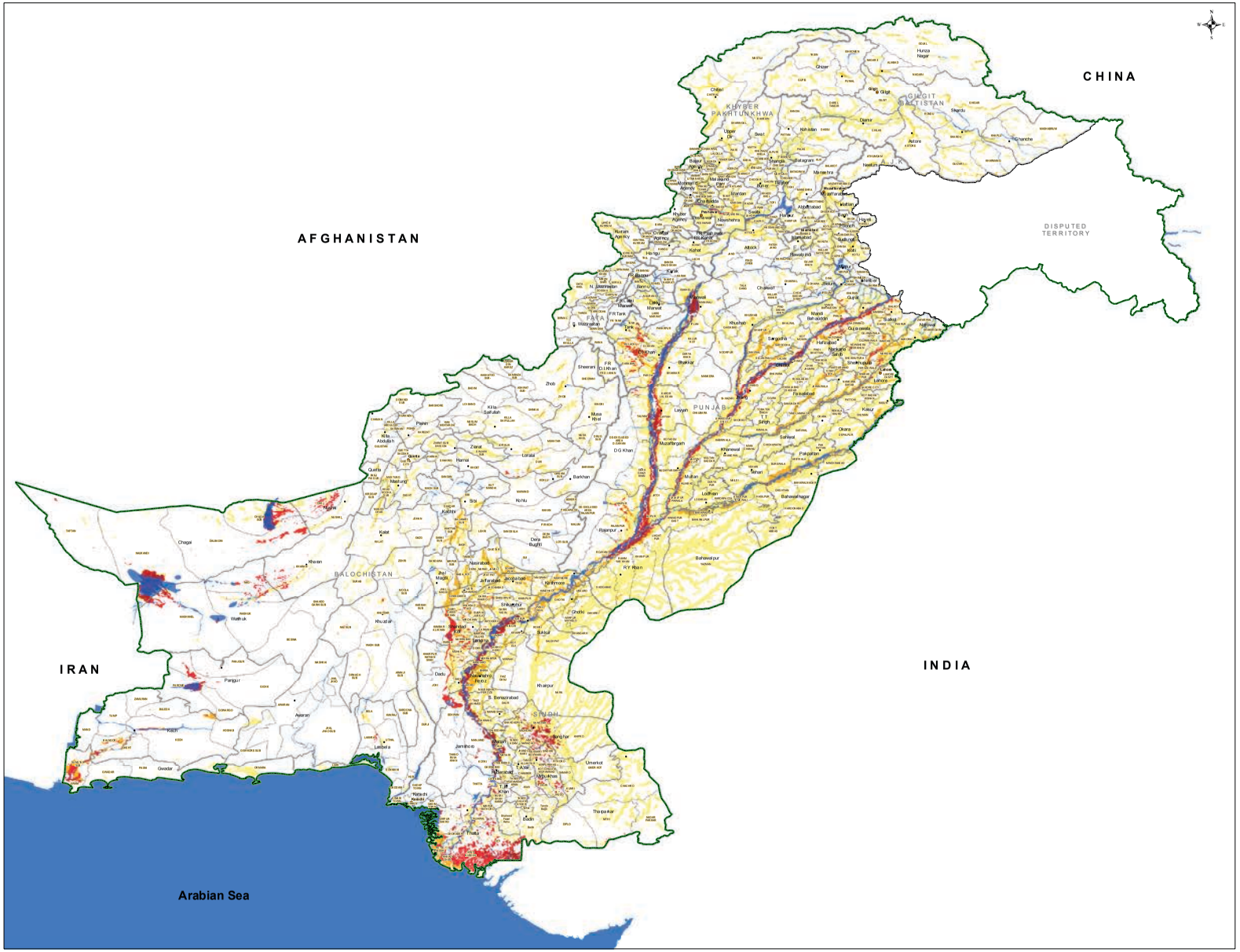
Creation Date:
08 November 2012
Datum/Projection:
WGS 1984 Geographic

Map data source(s):
Administrative boundaries, District Capitals: Population Census Organization(PCO)
Road Network: World Food Program(WFP)
Settlements: University of Georgia
Inland Water: ESRI
Terrain Model: SRTM.

Disclaimers:

The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the FAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Pakistan- Flood Risk Zones (UNEP)



Legend

- Provincial Capitals
- District Capitals
- Inland Water

Flood Risk (UNEP)

- Low risk
- Medium risk
- High risk
- Very high risk
- Tehsil Boundaries
- District Boundaries
- Province Boundaries
- International Boundaries

Main Map

0 55 110 220 Kilometers

Map Title:
FSC_ PAK_Flood Risk Zones (UNEP)_A0L_V01_ 20121119

Map Created by:
FAO_Food Security Cluster

Creation Date:
19 November 2012

Datum/Projection:
WGS 1984 Geographic

Map data source(s):
Administrative boundaries, Distt Capital, Provincial Capital: Population Census Organization(PCO)
Flood Risk Model: UNEP
Inland Water: ESRI

Disclaimers:

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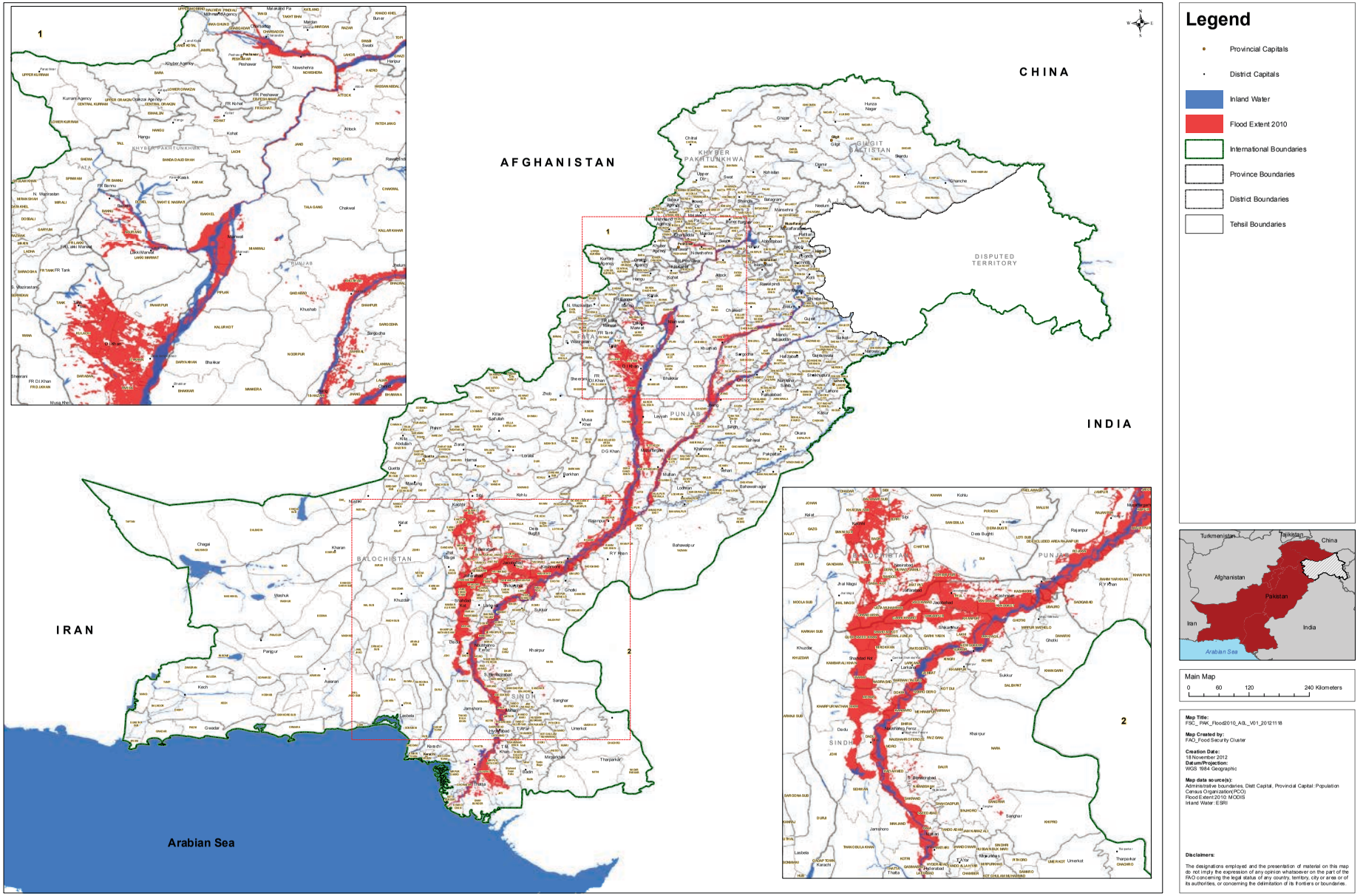
Pakistan- Flood 2010



Legend

- Provincial Capitals
- District Capitals
- Inland Water
- Flood Extent 2010
- International Boundaries
- Province Boundaries
- District Boundaries
- Tehsil Boundaries

Main Map

0 60 120 240 Kilometers

Map Title:
FSC_ PAK_Flood2010_A0_ V01_20121118

Map Created by:
FAO_Food Security Cluster

Creation Date:
18 November 2012

Datum/Projection:
WGS 1984 Geographic

Map data source(s):
Administrative boundaries, Distt Capital, Provincial Capital: Population Census Organization(PCO)
Flood Extent 2010: MODIS
Inland Water : ESRI

Disclaimers:

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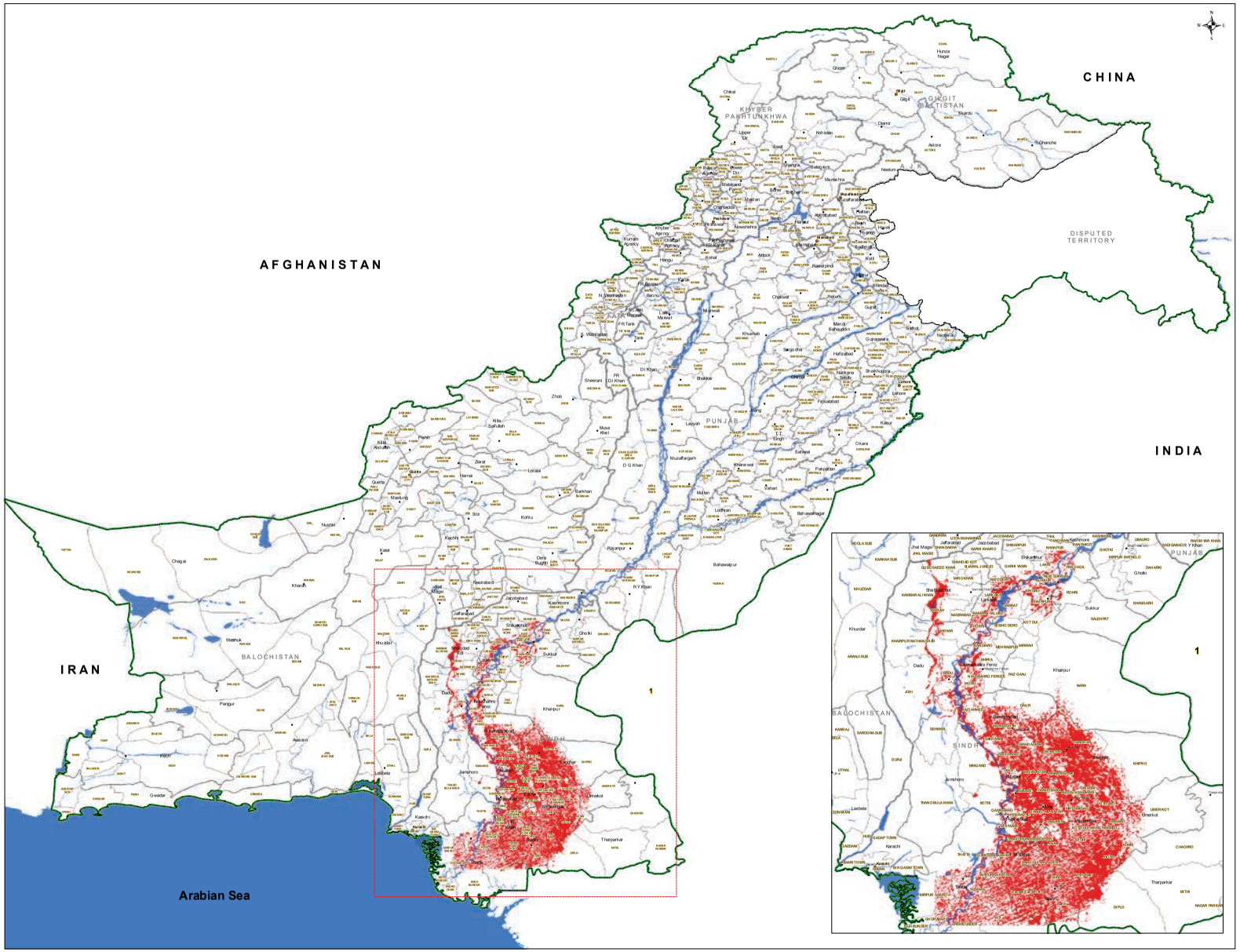
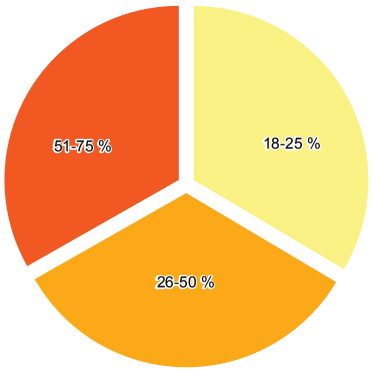
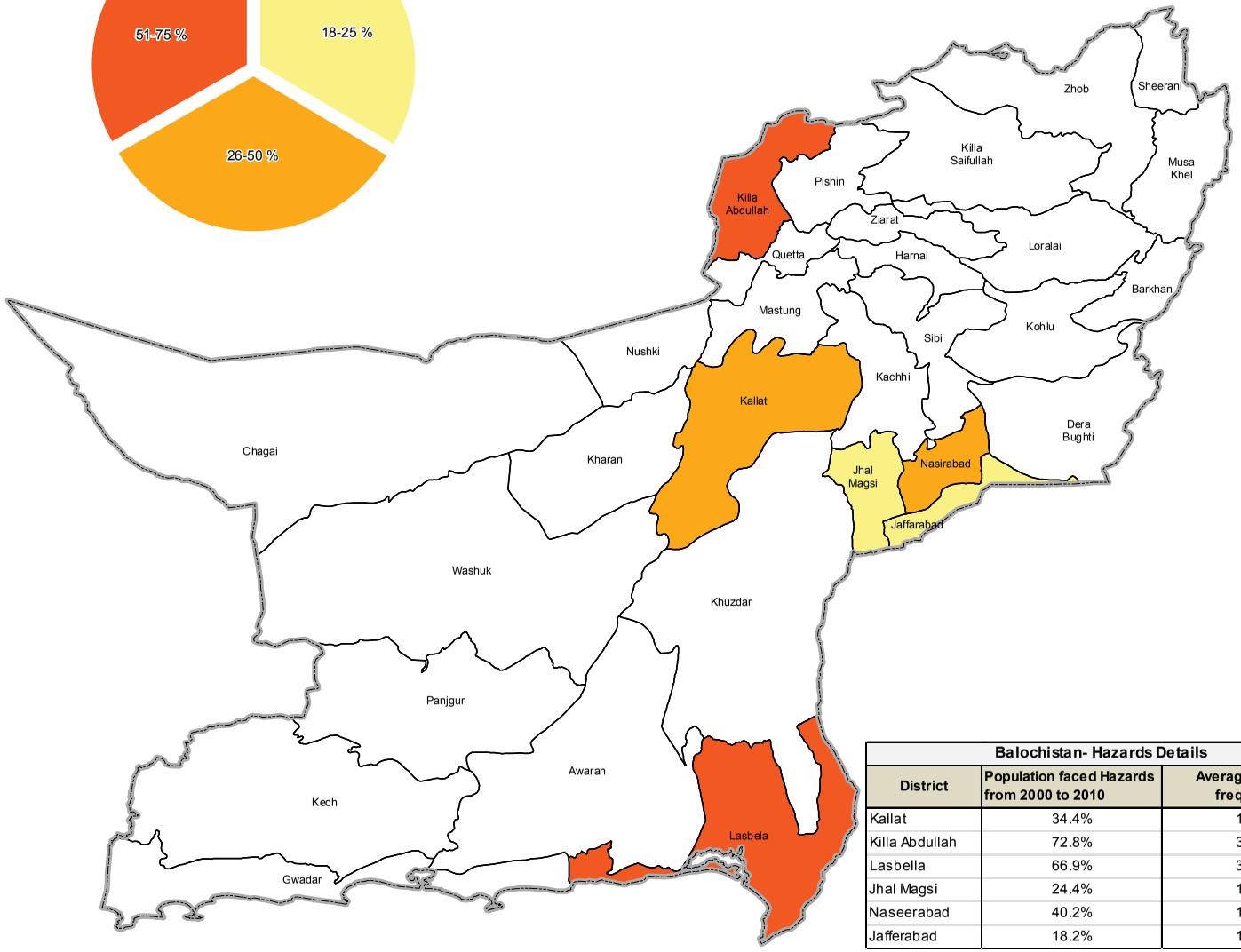
Pakistan- Flood 2011



Balochistan- Population faced hazards between 2000 and 2010 and average frequency of hazards





Legend

Population Faced Hazards (%)

- 18 - 25
- 26 - 50
- 51 - 75
- Province Boundary
- District Boundary

Main Map
0 30 60 120 Kilometers

Balochistan- Hazards Details

District	Population faced Hazards from 2000 to 2010	Average Hazard frequency
Kallat	34.4%	1.45
Killa Abdullah	72.8%	3.33
Lasbella	66.9%	3.02
Jhal Magsi	24.4%	1.52
Naseerabad	40.2%	1.62
Jafferabad	18.2%	1.31

Map Title:
FSC_Bal_Hazard Frequency and Population Faced Hazards_A3L_V01_20121122

Map Created by:
FAO_Food Security Cluster

Creation Date:
22 November 2012
Datum/Projection:
WGS 1984 Geographic

Map data source(s):
Administrative boundaries: Population Census Organization(PCO)
LRA Data: FSC-FAO

Disclaimers:

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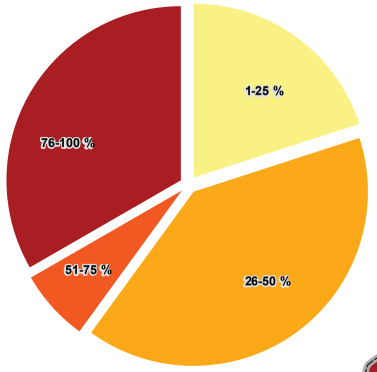
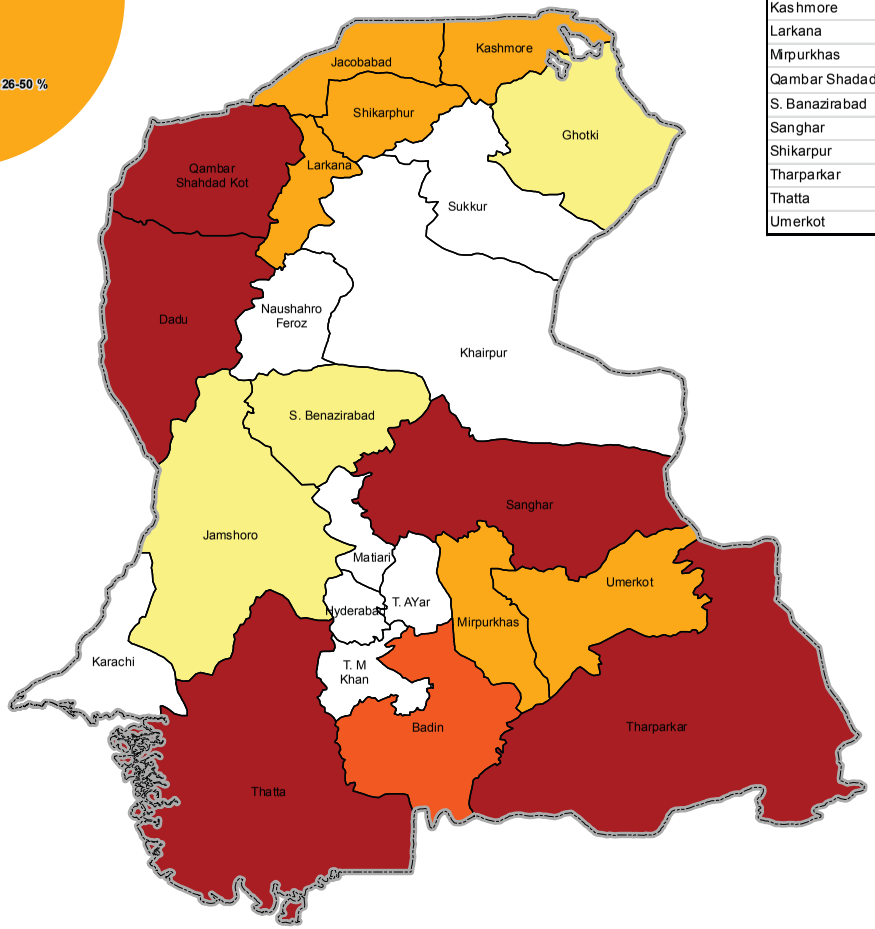
Sindh- Population faced hazards between 2000 and 2010 and average frequency of hazards



Sindh- Hazards Details		
District	Population faced Hazards from 2000 to 2010	Average Hazard frequency
Badin	72.6%	3.4
Dadu	89.6%	6.64
Ghotki	11.5%	1.61
Jacobabad	40.4%	1.5
Jamshoro	8.5%	2.96
Kashmore	29.3%	2.72
Larkana	29.2%	1.18
Mirpurkhas	28.9%	1.58
Qambar Shadadkot	95.9%	2.46
S. Banazirabad	0.4%	1
Sanghar	94.1%	2.52
Shikarpur	31.9%	5.49
Tharparkar	100.0%	5.23
Thatta	84.7%	3.08
Umerkot	48.1%	1.93



Legend

Population Faced Hazards (%)

- 0.4 - 25
- 26 - 50
- 51 - 75
- 76 - 100
- Province Boundary
- District Boundary

Main Map

0 25 50 100 Kilometers

Map Title:
FSC_Sindh_Hazard Frequency and Population Faced Hazards_ASL_V01_20121122

Map Created by:
FAO_Food Security Cluster

Creation Date:
22 November 2012
Datum/Projection:
WGS 1984 Geographic

Map data source(s):
Administrative boundaries: Population Census Organization(PCO)
LRA Data: FSC-FAO

Disclaimers:

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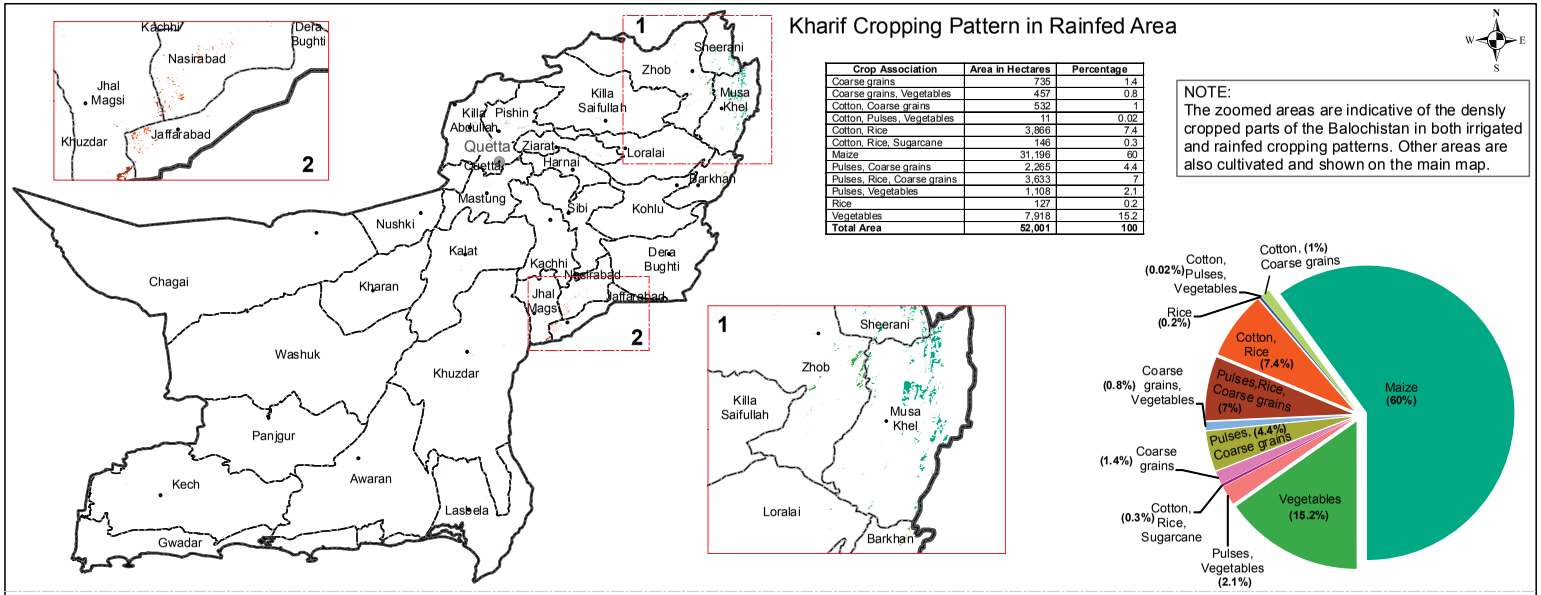
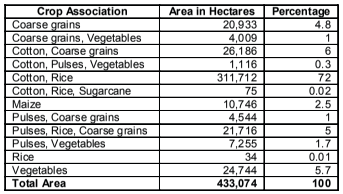
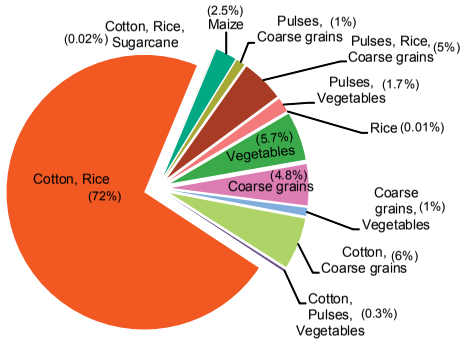
Balochistan - Kharif Cropping Pattern By Irrigated and Rainfed Agriculture

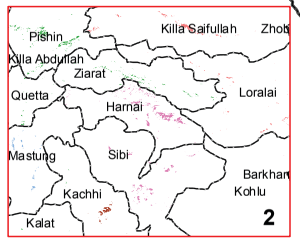


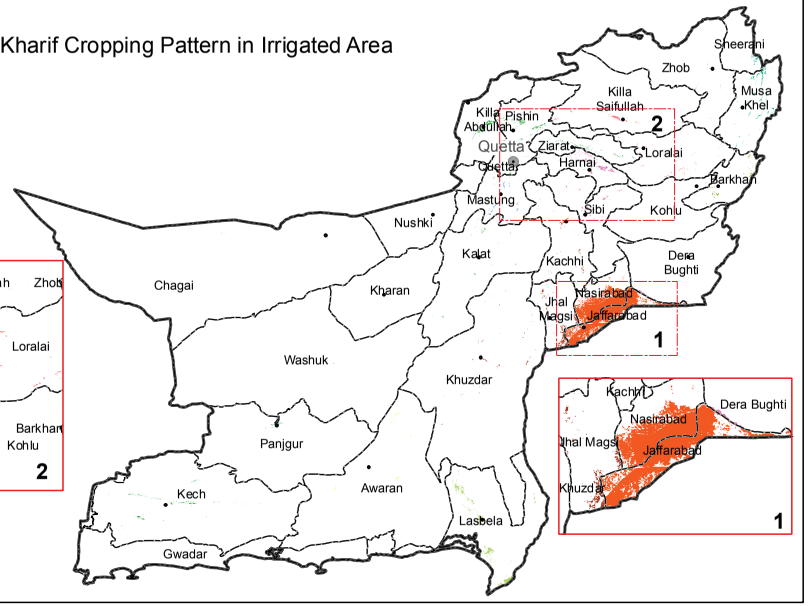
Crop Association	Area in Hectares	Percentage
Coarse grains	735	1.4
Coarse grains, Vegetables	457	0.8
Cotton, Coarse grains	532	1
Cotton, Pulses, Vegetables	11	0.02
Cotton, Rice	3,866	7.4
Cotton, Rice, Sugarcane	146	0.3
Maize	31,196	60
Pulses, Coarse grains	2,265	4.4
Pulses, Rice, Coarse grains	3,633	7
Pulses, Vegetables	1,108	2.1
Rice	127	0.2
Vegetables	7,918	15.2
Total Area	**52,001**	**100**

NOTE:
The zoomed areas are indicative of the densly cropped parts of the Balochistan in both irrigated and rainfed cropping patterns. Other areas are also cultivated and shown on the main map.









Legend

- Province Capital
- District Capital
- Province boundary
- District boundary

Crop Association

- Coarse grains
- Coarse grains, Vegetables
- Cotton, Coarse grains
- Cotton, Pulses, Vegetables
- Cotton, Rice
- Cotton, Rice, Sugarcane
- Maize
- Pulses, Coarse grains
- Pulses, Rice, Coarse grains
- Pulses, Vegetables
- Rice
- Vegetables

Main Map 0 60 120 240 Kilometers

Map Title:
FSC_PAK_Bal_KharifCropPattemMap_A3L_V01_121023

Map Created by: FAO_Food Security Cluster

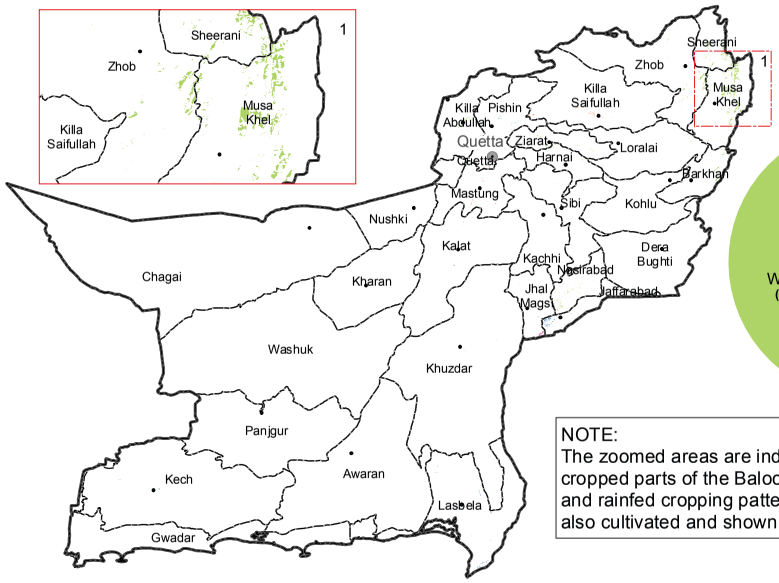
Creation Date:23 October 2012

Datum/Projection:WGS 1984 Geographic

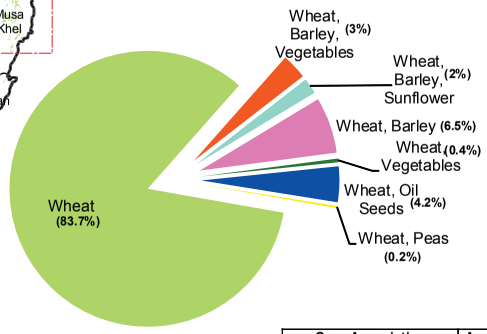
Map data source(s):
Administrative boundaries: Population Census Organization(PCO)
Cropping Pattern: Food and Agriculture Organization (FAO)
Irrigated Area : Global Land Cover Network (GLCN)

Disclaimers:

Balochistan - Rabi Cropping Pattern By Irrigated and Rainfed Agriculture



Rabi Cropping Pattern in Rainfed Area

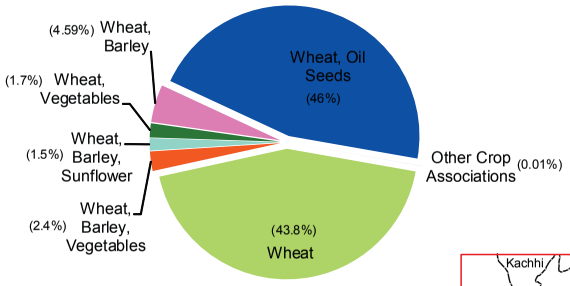


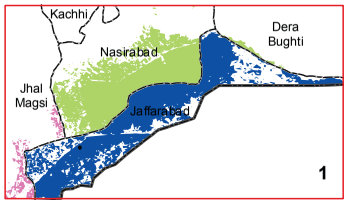
Crop Association
- Wheat
- Wheat, Barley
- Wheat, Barley, Sunflower
- Wheat, Barley, Vegetables
- Wheat, Oil Seeds
- Wheat, Peas
- Wheat, Vegetables

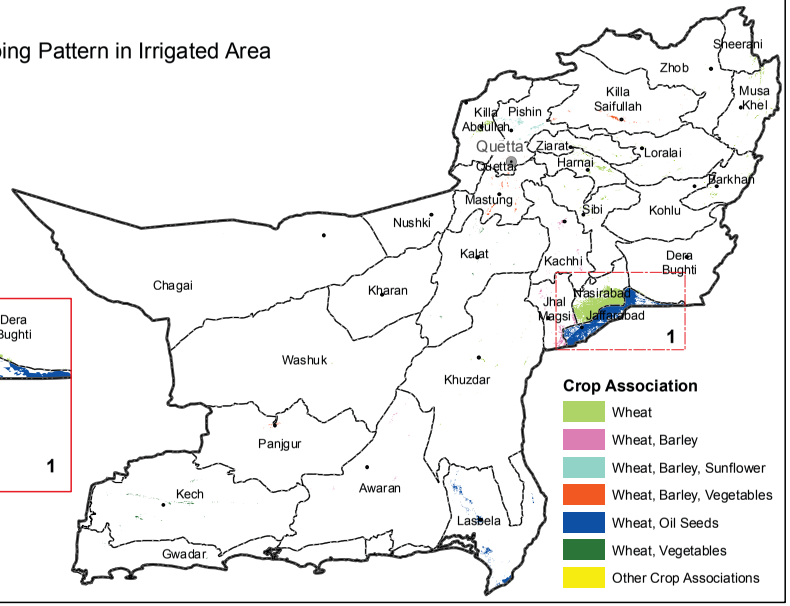
NOTE:
The zoomed areas are indicative of the densly cropped parts of the Balochistan in both irrigated and rainfed cropping patterns. Other areas are also cultivated and shown on the main map.

Crop Association	Area in Hectares	Percentage
Wheat	4,3547	83.7
Wheat, Barley, Vegetables	1,545	3
Wheat, Barley, Sunflower	963	2
Wheat, Barley	3,417	6.5
Wheat, Vegetables	225	0.4
Wheat, Oil Seeds	2,174	4.2
Wheat, Peas	127	0.2
Total Area	**52,001**	**100**

Rabi Cropping Pattern in Irrigated Area







Crop Association
- Wheat
- Wheat, Barley
- Wheat, Barley, Sunflower
- Wheat, Barley, Vegetables
- Wheat, Oil Seeds
- Wheat, Vegetables
- Other Crop Associations

Crop Association	Area in Hectares	Percentage
Wheat	189,918	43.8
Wheat, Barley, Vegetables	10,464	2.4
Wheat, Barley, Sunflower	6,648	1.5
Wheat, Vegetables	7,554	1.7
Wheat, Barley	20,221	4.59
Wheat, Oil Seeds	198,809	46
Other Crop Associations	54	0.01
Total Area	**433,668**	**100**

Legend

- Province Capital
- District Capital
- Province boundary
- District boundary

Main Map 0 60 120 240 Kilometers

Map Title: FSC_PAK_Bal_RabiCropPatternMap_A3L_V01_20121109

Map Created by: FAO_Food Security Cluster

Creation Date: 09 November 2012

Datum/Projection: WGS 1984 Geographic

Map data source(s):
Administrative boundaries: Population Census Organization(PCO)
Cropping Pattern: Food and Agriculture Organization (FAO)
Irrigated Area : Global Land Cover Network (GLCN)

Disclaimers:

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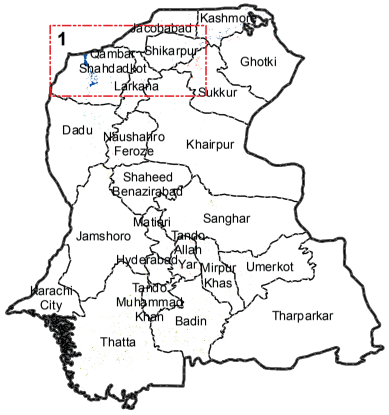
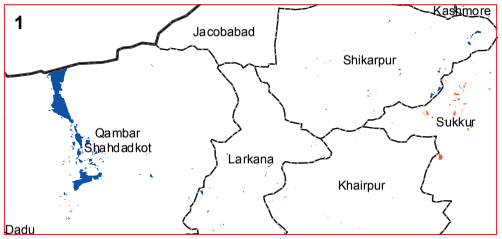
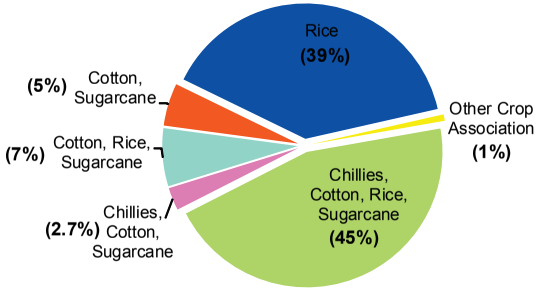
Sindh - Kharif Cropping Pattern By Irrigated and Un-irrigated Agriculture

Kharif Cropping Pattern in Un-irrigated Area

Crop Association	Area in Hectare	Percentage
Chillies, Cotton, Rice, Sugarcane	19,139	45.3
Chillies, Cotton, Sugarcane	1,149	2.7
Cotton, Rice, Sugarcane	2,927	7
Cotton, Sugarcane	2,153	5
Rice	16,585	39
Other Crop Association	325	1
Total Area	**42281.0**	**100.0**

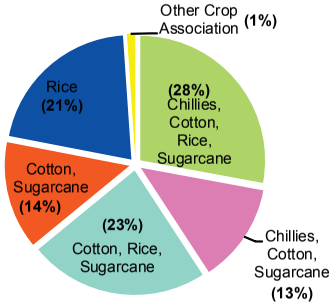


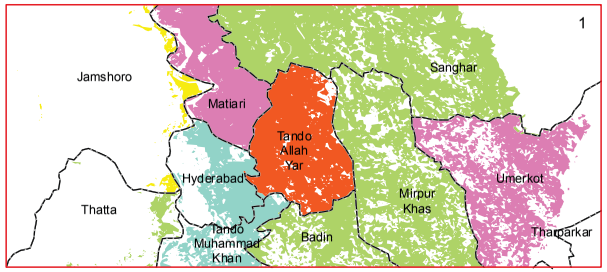




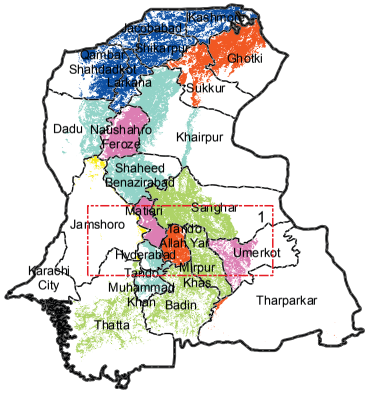
Kharif Cropping Pattern in Irrigated Area

Crop Association	Area in Hectares	Percentage
Chillies, Cotton, Rice, Sugarcane	1,197,245	28
Chillies, Cotton, Sugarcane	553,017	13
Cotton, Rice, Sugarcane	997,208	23
Cotton, Sugarcane	600,403	14
Rice	895,225	21
Other Crop Association	46,299	1
Total Area	**4,289,398**	**100**





NOTE:
The zoomed areas are indicative of the densly cropped parts of the Sindh in both irrigated and rainfed cropping patterns. Other areas are also cultivated and shown on the main map.



Legend

- Province boundary
- District boundary

Crop Association

- Chillies, Cotton, Rice, Sugarcane
- Chillies, Cotton, Sugarcane
- Cotton, Rice, Sugarcane
- Cotton, Sugarcane
- Rice
- Other Crop Association

Main Map 0 60 120 240 Kilometers

Map Title: FSC_PAK_Sindh_KharifCropPatrnMap_A3L_V01_20121116

Map Created by: FAO_Food Security Cluster

Creation Date:16 November 2012

Datum/Projection:WGS 1984 Geographic

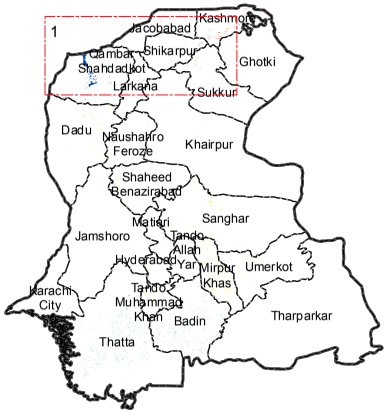
Map data source(s):
Administrative boundaries: Population Census Organization(PCO)
Cropping Pattern: Food and Agriculture Organization (FAO)
Irrigated Area : Global Land Cover Network (GLCN)

Disclaimers:

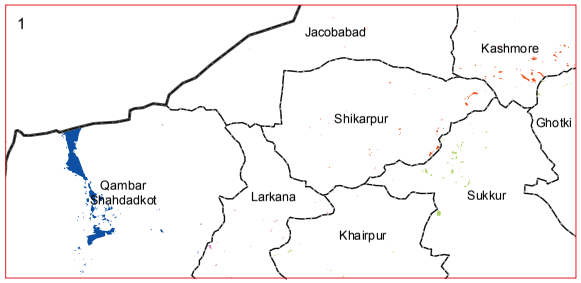
The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the FAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

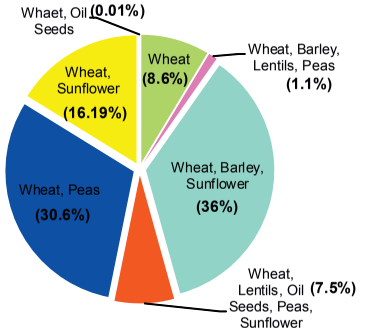
Sindh - Rabi Cropping Pattern By Irrigated and Un-irrigated Agriculture

Rabi Cropping Pattern in Un-irrigated Area

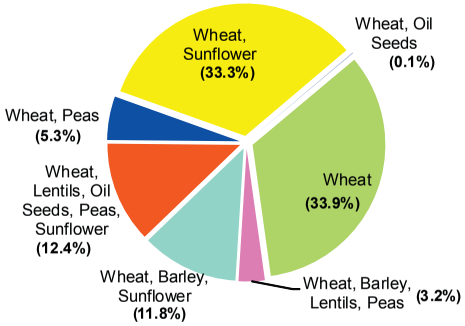


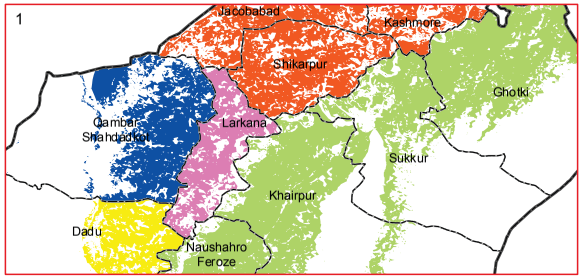
Crop Association	Area in Hectares	Percentage
Wheat	3,638	8.6
Wheat, Barley, Lentils, Peas	470	1.1
Wheat, Barley, Sunflower	15,212	36
Wheat, Lentils, Oil Seeds, Peas, Sunflower	3,161	7.5
Wheat, Peas	12,953	30.6
Wheat, Sunflower	68,42	16.19
Wheat, Oil Seeds	2	0.01
Total Area	**42281**	**100**

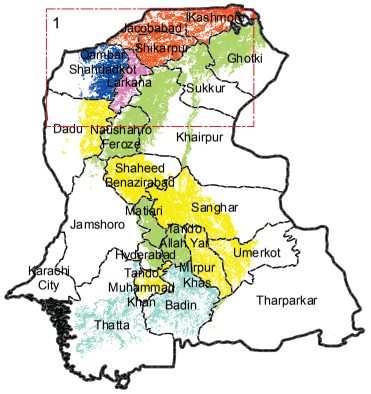




Rabi Cropping Pattern in Irrigated Area







Crop Association	Area in Hectares	Percentage
Wheat	1,454,524	33.9
Wheat, Barley, Lentils, Peas	136,481	3.2
Wheat, Barley, Sunflower	506,582	11.8
Wheat, Lentils, Oil Seeds, Peas, Sunflower	530,097	12.4
Wheat, Peas	228,647	5.3
Wheat, Sunflower	1,429,460	33.3
Wheat, Oil Seeds	3,606	0.1
Total Area	**4289399**	**100.00**

NOTE:
The zoomed areas are indicative of the densly cropped parts of the Sindh in both irrigated and rainfed cropping patterns. Other areas are also cultivated and shown on the main map.

Legend

- Province boundary
- District boundary

Crop Association

- Wheat
- Wheat, Barley, Lentils, Peas
- Wheat, Barley, Sunflower
- Wheat,Lentils,Oil Seeds,Peas,Sunflower
- Wheat, Oil Seeds
- Wheat, Peas
- Wheat, Sunflower

Main Map 0 60 120 240 Kilometers

Map Title: FSC_PAK_Sindh_RabiCropPatternMap_A3L_V01_20121116

Map Created by: FAO_Food Security Cluster

Creation Date:16 November 2012

Datum/Projection:WGS 1984 Geographic

Map data source(s):
Administrative boundaries: Population Census Organization(PCO)
Cropping Pattern: Food and Agriculture Organization (FAO)
Irrigated Area : Global Land Cover Network (GLCN)

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ANNEX IX. TERMINOLOGY

Flood cohort – Refers to the three types of households which were sampled for the LRA. Cohort 1 represents households affected only by the 2010 floods; cohort 2 represents households affected only by the 2011 floods; and cohort 3 represents households affected by floods in both 2010 and 2011.

Food consumption score – Food consumption score (FCS) is one of the main indicators for analysing food security at the household level. It is derived from food items eaten during one week (7 days prior to the survey date) at the household level. Food items are grouped into nine categories based on their nutritional characteristics and each of these food groups has a standard (see Annex IVb).

Food security – Exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life. Household food security is the application of this concept to the family level, with individuals within households as the focus of concern. For the purpose of the LRA, food security results are estimated based on the combination of FCS and food expenditure.

Gender – Refers to the gender composition of the LRA sampled households in terms of two factors: (a) sex of household head; and (b) type of female-headed household (i.e. married or widowed).

Hazards – A dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage, which affects the whole community.[32] For the purpose of the LRA, the household questionnaire defined "hazards" as adverse events historically faced by households over the past ten years, whereas "shocks" are recent adverse events faced by households within the last six months.

Household head type – Refers to the gender of the household head. The LRA looks at three household head types: (i) male-headed households; (ii) married female-headed households; and (iii) widowed female-headed households.

Livelihood groups – Refers to the four main types of livelihoods, which are classified based on a number of different activities engaged in by the people living in rural Sindh and Balochistan. These include: (i) agricultural production and labour; (ii) daily wage labour (agriculture plus); (iii) diversified livelihoods; and (iv) non-farm and labour.

Wealth index – Refers to the classification of the LRA survey respondents into five groups (quintiles) based on two sets of indicators: (i) income and expenditures; and (ii) productive and non-productive assets.

32 Source: UNISDR 2009 Terminology on Disaster Risk Reduction

ANNEX X. REFERENCES

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