Pre-Crisis Market Mapping and Analysis:

The rice market system in the context of severe flooding

Badin District, Sindh Province, Pakistan

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Executive summary

Pre-Crisis Market Mapping and Analysis (PCMMA) is a relatively new approach to conducting market assessments prior to emergencies in order to anticipate how markets will respond after a shock occurs. The PCMMA in Pakistan was the first of three pilot PCMMA assessments that the IRC is conducting in 2015 in order to generate learning that can be used to refine the approach and the PCMMA guidance manual, while also providing information to humanitarian actors in Pakistan to feed into strategic and operational emergency planning efforts. This PCMMA exercise additionally served as an opportunity to build the capacity of humanitarian practitioners to carry out market analyses in humanitarian contexts.

The PCMMA took place from 18 May to 1 June 2015 in Sindh, Pakistan, covering Badin, Ghotki and Sanghar districts. The exercise was hosted by the IRC, with participation from eight other organizations. The analysis team followed the PCMMA guidance to apply an approach similar to that of the Emergency Market Mapping and Analysis (EMMA) Toolkit in a pre-crisis context. For the purpose of this PCMMA assessment, the severe floods of 2010 (for Ghotki) and 2011 (for Sanghar and Badin) were selected as the reference crises. The team examined how the floods impacted the function of four selected critical market systems in order to draw conclusions about the likely impact of future floods on those market systems and to propose appropriate market-based preparedness and response interventions. This report presents the findings and recommendations for the rice critical market system in Badin District.

The approximately 131,000 very poor, poor and middle-off households in Badin District who were affected by the 2011 floods comprised the focus population for this assessment. The poorest people in this group work as either daily laborers or as sharecroppers, many of whom live in perpetual debt to their landlords. Most of those who own land are relatively poor themselves, with only a few acres of land of their own and sometimes additional acreage that they rent from landlords. Most of these households live in perpetual debt to landlords and retailers that eases only slightly following each year's harvest.

Rice is the dominant crop and staple food in Badin, planted in May/June and harvested in September/October. As much as 90% of the rice produced in Badin is sent to other parts of Pakistan or exported internationally in a normal year, and the rest remains in the district to satisfy local demand. Though there are significant and complicated social issues and vulnerabilities related to the system of sharecropping and the constant debt in which many producers and other market actors operate, in non-flood times the rice market system in Badin is otherwise fairly robust, with production and capacity levels that far exceed local-level demand. The market is competitive and integrated, with little variation in prices along the market chain and throughout the year. Because the vast majority of rice produced in the district is exported, the market could likely respond to a significant increase in local demand without any trouble.

During a future flood emergency, the rice market system is likely to respond as it did in 2011; that is, prices will increase slightly, due mainly to transport issues but also to some damages to rice stocks and the anticipation of large-scale destruction of the nearly mature rice crop. Nonetheless, the rice market system in Badin should be able to provide the needed volume of rice during and after the flood emergency. Though some rice in wholesale and market-level storage facilities may be damaged during the floods, there will likely be sufficient stocks in other areas of Badin not affected by the flood. Meanwhile, even if the September/October harvest is severely affected by the floods, as long as even a small percentage

(10% +) of the normal harvest can be salvaged, the district should still have more than enough rice with which to meet local demand, provided that exports for that year are cancelled, as they were in 2011.

However, the flooding will likely lead to massive damage to and blockages of key transportation infrastructure that will impede the movement of rice from one part of the district to another and that will affect the entire market chain, from rice mills to market retailers to tenant farmers. These very serious transportation challenges must be addressed if the market is to effectively supply the flood-affected population with the rice that they require during and after the flood.

This report proposes the following recommendations for emergency preparedness:

- **A mapping and communication exercise**. Transport routes and land areas that are vulnerable to flooding should be mapped out, and designated gathering places and transport routes identified. This information should then be disseminated to market actors and populations living in expected flood zones.
- **The development and implementation of longer-term agricultural development/poverty eradication programs**. Such programs are necessary to ultimately address the underlying power inequality in rice production in Badin and thereby reduce the vulnerability of small-scale farmers to shocks. Further reflection by agencies with expertise in the development of farming cooperatives and value chain development will be necessary to flesh out the details of such of program
- **Advocacy at the national-level food security cluster for humanitarian actors to provide the complete caloric requirements for the poorest households in emergencies**, so that these households can avoid practicing negative coping strategies that could compromise their economic well-being for years to come.

This study recommends a three-pronged humanitarian response during future floods:

- **In-kind provision of rice to the most vulnerable households for the first month of intense flooding**. This rice should still be procured within Badin district, from wholesalers who have adequate stocks of rice remaining from the previous season.
- **Unconditional cash grants to cover rice needs until the wheat harvest in March/April**, unless needs assessments determine that vulnerable households no longer need this support.
- **Transport support for rice vendors**. Discussions should be initiated with retailers at district-level markets (and later at village-level markets) to assess capacity and challenges to resupply. NGOs should then decide upon the best means of supporting these retailers to transport the needed volumes of rice in an efficient way, whether through the temporary contracting of flood-appropriate delivery vehicles or through cash grants to retailers so that they can manage the contracting themselves.

I. Overview of assessment

The Pre-Crisis Market Mapping and Analysis (PCMMA) guidance document[1] is a practical, step-by-step resource to guide market analysis practitioners and team leaders to conduct market assessments prior to emergencies in order to anticipate how markets will respond after a shock occurs. PCMMA is designed to help agencies improve response preparedness, to feed into contingency planning efforts and to contribute to the design of disaster risk reduction programs by identifying certain parts of market systems which may be vulnerable to shocks. Ideally, pre-crisis analysis will help to increase the speed of emergency responses and provide guidance on how to strengthen market systems ahead of emergencies to reduce the impact of future disasters on lives and livelihoods. Because PCMMA is still a relatively new approach, the IRC has devoted resources to conducting three pilot PCMMA assessments in disaster-prone countries in 2015 in order to generate learning that can be used to refine the approach and the PCMMA guidance manual, while also informing the strategic and operational emergency planning efforts of humanitarian actors in Pakistan. This PCMMA exercise additionally served as an opportunity to build the capacity of humanitarian practitioners to carry out market analyses in humanitarian contexts.

The PCMMA analysis is based on comparing a baseline level of market functioning to the level of market functioning during an emergency, in order to anticipate how markets will be impacted in future emergencies. During this exercise, the baseline was established as August 2014, which was deemed a "normal" year, just before the onset of seasonal flooding. The emergency-affected market scenario was defined as the worst-case flood scenario in the three districts, which for Badin and Sanghar was agreed to be September 2010, and for Ghotki September 2011. The PCMMA team compared how market systems were functioning during the 2010/2011 flooding with how they functioned in August 2014 to model how markets will respond during future flooding. The resulting analysis is intended to provide evidence and information to help determine programming options in advance of an emergency. The recommendations of this analysis are based on market functioning, and would need to be further informed by operational feasibility and needs assessments following the onset of an emergency.

In summary, the specific objectives of the Pakistan PCMMA exercise were:

1. **Emergency response -** To recommend the most appropriate market-sensitive programming options (including both direct assistance to the affected population and indirect assistance to market actors) to respond to monsoon season flooding.

2. **Preparedness / DRR -** To identify program options to strengthen markets and address potential constraints in access or availability of essential items during floods.

3. **Capacity building -** To strengthen skills of humanitarian actors in Pakistan to conduct market analyses before and after emergencies.

[1] Available at http://emma-toolkit.org/practice/pre-crisis-market-mapping-and-analysis/

4. **To learn about the PCMMA approach itself -** to capture learning about the PCMMA approach in order to inform revisions and improvements to the PCMMA guidance manual.

Methodology

This analysis exercise followed the PCMMA guidance to apply an approach similar to that of the Emergency Market Mapping and Analysis (EMMA) Toolkit in a pre-crisis context. The EMMA toolkit is a mixed methods (qualitative and quantitative) approach that is based on 10 logical steps and is designed for non-specialists to rapidly conduct market assessments in a quick and low-cost manner. The approach includes three "strands" of analysis, including a gap analysis to understand the material needs at household level, a market analysis to evaluate the capacity of the market to respond to those needs, and a response analysis to identify appropriate options for programming.

The PCMMA took place from 18 May to 1 June 2015 in Sindh, Pakistan, covering three districts – Badin, Ghotki and Sanghar. The exercise was hosted by the IRC, with participation from eight other organizations – HWA Foundation, Takhleeq Foundation, Root Work Foundation, Care, ACTED, ACF, Concern Worldwide, WHH and Oxfam. The three districts of the assessment were selected based on (1) Geographic coverage of the north, central and southern parts of Sindh; (2) Proximity to partner agency offices to support the assessment teams; and (3) Having been seriously affected during the 2010/11 floods. In total, 18 national and 3 expatriate staff participated in data collection and analysis, including intensive mentoring support to 4 critical market team leaders. A training workshop was held at the beginning of the exercise from 19-21 May in order to introduce the PCMMA approach, train team members in market analysis and prepare fieldwork activities. This workshop was followed by 7 days of intensive field-level data collection in each district and a 3-day analysis workshop to review and analyze the data.

Data was collected from key informants and market actors using semi-structured interview tools and from communities through detailed focus group discussions and household interviews. For the water market system portion of this exercise, the sample included 7 households, 13 market vendors and 5 focus groups, as well as 4 key informants. Qualitative and quantitative data was inputted into databases for each critical market system on a daily basis and shared with the other districts to coordinate data collection efforts across districts.

The size and scope of this exercise, in terms of the geographic areas of coverage, the number of team members and the number of critical market systems studied, were quite ambitious, especially considering that this was a pilot study. In one sense, this breadth was extremely positive, as it reflected a strong interest in market assessments among a range of humanitarian actors in Sindh. However, it also made it difficult to allocate appropriate time to each of the study's four objectives. In addition, few of the team members, team leaders included, had any prior market analysis experience, which meant that leaders were learning key concepts and the methodology alongside the people they were leading. Finally, the assessment leaders were not always able to provide in-person support to the field team because of the geographic spread of the study (3 districts for 2 assessment leaders) and because of security concerns. Though a good effort has been made to discuss outstanding questions and clarify key findings with the field team, all of these factors had implications for the quality of data and the resulting analysis.

II. Crisis scenario

Severe floods recur on a regular basis in Pakistan; the country has experienced 12 particularly destructive flood years since its independence in 1947. Flooding of some form affects parts of the country almost every year, normally during the late monsoon months of August and September, and it is anticipated that climatic changes may mean floods of greater frequency and destructive force in the future. The consecutive flood years of 2010 and 2011 were the worst floods to date, affecting 20 million and 9.3 million people, respectively, throughout the country.[2]

Due to its flat topography and its location at the bottom of the Indus River basin, Sindh Province is particularly vulnerable to riverine floods, triggered by heavy monsoon rains. According to Pakistan's National Disaster Management Agency (NDMA), Sindh faces the added challenges of a lack of protective infrastructure or integrated flood management and inadequate awareness about monsoon hazards and responses among the vulnerable members of the population.

The 2010/11 floods led to loss of life and also damaged standing crops, household and livestock food stocks, health, education and road infrastructure, houses, irrigation and drainage facilities and protected drinking water sources. Millions of people were displaced for several months or more while waiting for the flood waters to subside. Unless there are major changes to protective infrastructure, it is likely that a similar flood in the future will have a similar impact.

The 2010/11 floods saw a massive humanitarian response in Sindh that spanned all of the usual emergency sectors, like shelter, food security, WaSH, health, education and nutrition.[3] The government of Pakistan and a multitude of Pakistani NGOs led the initial response and was later joined by the international humanitarian community. The government drew some criticism for restricting when, where and how NGOs could intervene; notably for this assessment, it sometimes discouraged NGOs from distributing unconditional cash grants to flood-affected people.[4] While some NGOs did utilize CTPs to deliver food assistance, the vast majority of the assistance provided was done in-kind. Sindh Province was and continues to be served by a range of humanitarian actors, including the nine agencies involved in this assessment and many more.

In response to the 2010/11 floods, the NDMA developed a contingency plan in an effort to be better prepared for such events in the future. In the plan, authority for all aspects of flood preparedness, including risk assessment, resource mapping and deployment, is delegated to the district-level authorities; however, at the provincial and district level it is not clear to what extent these measures have been undertaken.[5]

[2] http://www.ndma.gov.pk/Documents/Contingency_Plan/2012/CP_NDMA.pdf
[3] http://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/assessments/ACF_Nutrition_Causal_Analysis_Pakistan_2012.pdf
[4] https://www.oxfam.org/sites/www.oxfam.org/files/bn-pakistan-floods-emergency-16-02-12-en.pdf
[5] http://www.ndma.gov.pk/Documents/Contingency_Plan/2012/CP_NDMA.pdf

For the purpose of this PCMMA assessment, the floods of 2010 (for Ghotki) and 2011 (for Sanghar and Badin) were selected as the reference crises. Although less severe floods happen more regularly, it was decided to focus on a worst-case scenario, both because the impacts of the floods throughout our districts of focus were more evident during such a scenario and also because our conclusions about the market's capacity to deliver needed humanitarian assistance would err on the conservative side and be applicable even to less severe flood scenarios. This decision is consistent with NDMA's choice to utilize the worst-case scenario as the basis for its contingency plans.[6]

III. Scope of the assessment

Critical market systems

During the preparatory phase of this study, the IRC's team in Pakistan prepared a list of categories of goods and services that are crucial for the survival and livelihoods of vulnerable people in Sindh and that were heavily impacted by the 2010/11 floods. This list included staple foods; other agricultural commodities like fruits and vegetables; construction materials; livestock and livestock fodder; drinking water; daily labor (on farm/ off farm) and non-food items like soap, storage containers and buckets.

The IRC then consulted with representatives of agencies with which it partners via the PEFSA consortium[7] and the senior team members of the agencies participating in the assessment. The group identified specific commodities for each of the categories on the list and agreed upon a set of criteria to help determine which critical market systems to focus on in this study: (1) Critical to save or sustain lives of vulnerable people in the affected areas; (2) Significantly impacted during past floods; (3) Relevant to the expertise and past activities of participating organizations. Based on these criteria, the group identified the critical market systems listed in the table below. These were validated by assessment team members during the pre-assessment workshop.

Table 1: Critical Market Systems Selected for the PCMMA

Badin	**Ghotki**	**Sanghar**
Rice	Wheat flour	Wheat flour
Wheat straw	Wheat straw	Wheat straw
Drinking water	Drinking water	Drinking water

Separate reports have been produced for each of the critical market systems. This report focuses only on rice (specifically, the IRRI 6 variety, which is the most commonly grown and consumed by lower income people in Badin district). Whereas wheat flour is the dominant staple food in most of Pakistan, including Sindh Province, rice is much more popular in Badin, probably because of the district's saline soils that make wheat cultivation difficult.

Key Analytical Questions

In accordance with the EMMA approach, the assessment team developed and approved a set of key questions that guided the field research and analysis. The questions were the same for all of the critical

[6] http://www.ndma.gov.pk/Documents/Contingency_Plan/2012/CP_NDMA.pdf
[7] Pakistan Emergency Food Security Alliance, including ACF, ACTED, Care, IRC, Oxfam and Save the Children

market systems. These questions are answered at appropriate points in the analysis and recommendation sections of this report.

1. How is the critical market behaving today, and how will it behave during the flood emergency?
    a. Is it supplying the appropriate volume/quality of goods?
    b. Is it integrated and competitive?
    c. To what extent can it respond to an increase in demand?

2. Will the affected population be able to continue to access the need volume and quality of goods from the critical market system during the emergency?

3. What are the appropriate market-sensitive programming options to meet the needs of the affected population for each critical market system?

4. What are the most appropriate ways to reduce the possible impact of the floods on the rice market system and on the target population's access to markets?

Figure 1: Sindh Province, Badin District in the south (map courtesy http://www.sindh.gov.pk/)

IV. The target population

Aside from its manufacturing and financial centers near Karachi, Pakistan's Sindh Province is largely agricultural, growing rice, wheat, cotton, sugarcane, bananas, mangos and animal fodder. Though the province as a whole produces more agricultural goods than it consumes, the productivity of agriculture varies enormously by district, and 75% of Sindh's districts are actually deficit producers.[8]

Although 80% of Sindh's population engages in farming, less than 64% actually own land. The poorest people work as either daily laborers (including many near the coast who work as fishermen) or as sharecroppers, many of whom live in perpetual debt to their landlords. Most of those who own land are relatively poor themselves, with only a few acres of land of their own and sometimes additional acreage that they rent from landlords. Other

[8] http://practicalaction.org/docs/emma/EMMA-Pakistan-Sindh-report.pdf

development indicators for the province are quite stark; only about half of its youth attend primary school,[9] 50% of the population practices open defecation, and chronic malnutrition affects more than half of all residents.[10]

In 2011, the total population of Badin District was estimated at almost 1.5 million[11], and it has probably grown since then. With an average household size of 7[12], this is equal to approximately 214,000 households in the district. While no wealth ranking study could be found specifically for Badin District, a livelihoods assessment conducted in 2013 for Shikarpur, another district in Sindh Province, identified the following wealth breakdown: Very Poor: 32%; Poor: 30%; Middle: 28%; and Better Off: 10%. About two-thirds of Badin's population was affected by the 2011 floods[13]; these people were the subject of this study, as potential beneficiaries of humanitarian assistance in future floods. Table 2 presents an estimated breakdown of this affected population according to wealth level and livelihoods strategy, using the percentages from the aforementioned HEA report but descriptions of the sub-groups informed by data gathered during the PCMMA study's field research. Though this study will not propose humanitarian interventions to support the better off households in the affected population, they are included in the table in order to present a complete picture of the demographics in Badin District.

Table 2: Focus population: Flood-affected population in Badin District

Focus population sub-groups	Number of HHs	Characteristics
Very poor (32%)	46,688	Landless households with limited/no access to subsistence agricultural production. Rely heavily on unskilled labor for income, including agricultural labor on other people's land. Many landless households also earn income from fishing activities, in the ocean or rivers. Some very poor households own livestock, but generally only 1-2 small ruminants at most.
Poor (30%)	43,770	Tenant farmers/sharecroppers with little or no land of their own. They generally farm a small number of acres, no more than 5, and are heavily dependent on their landlords for loans of agricultural inputs. They live in near-constant debt and surrender up to 75% of their rice harvest in order to repay these and other loans. Almost all poor households own at least 1 small ruminant, and some own 1 or more buffalo, which provide dairy products for the household and can be sold in times of need.
Middle (28%)	40,852	Small landowners/ farmers with most land holdings, up to 12 acres in size. Sometimes these households increase the acreage they farm through sharecropping. Like poor households, they rely heavily on loans and credit before and during the agricultural season; however, because they own most of their land they are

[9] http://tribune.com.pk/story/759232/international-literacy-day-only-half-of-sindh-goes-to-primary-school/
[10] http://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/assessments/ACF_Nutrition_Causal_Analysis_Pakistan_2012.pdf
[11] OCHA/UNDP Badin District Profile, April 2012
[12] PEFSA-IV Baseline report
[13] OCHA/ UNDP Badin District Profile, April 2012

		able to keep or sell more of their harvest. Most of these households own 1-3 buffalo, and only some only small ruminants.
Better off (10%)	14,590	Larger-scale landowners/ landlords. These households own larger tracts of land (often *very* large tracts of land) than smallholder farmers. They may manage some of the land themselves, but much of it is occupied by tenant farmers who pay them with a portion of their harvest. These households own larger herds of livestock, mainly buffalo.
TOTAL: 145,900 households (1,021,300 individuals)		

The agricultural calendar in Badin is dominated by the rice crop, which is planted in May/June and harvested in September and October, in line with the rainy season. Because many households use a large portion of the harvest to repay debts, the volume of rice kept in household stocks is generally only enough to last for three to five months, running out sometime between January and May. Most households with access to land cultivate wheat during the winter season, from November to March/April, though the amount produced is modest and supplies the household only for a month or two. Therefore the normal hunger period lasts from June until the rice harvest, several months later; during this time, poorer households purchase rice from village-level retailers, buying on credit if they lack cash.

Figure 2: Seasonal calendar for the rice market system in Badin District

Activity/ Occurrence	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rice Cultivation					Planting				Harvest			
HHs have rice stocks from own production												
Hunger period												
Highest consumer demand for rice												
Wheat crop cultivation			Harvest								Planting	
Low Water Availability (for Irrigation)					Low	none						
High water availability (for irrigation)								Maximum availability				
Wind storms												
Livestock Diseases												
Festivals												

V. Market-system maps and analysis

Reference Time (August 2014)

Rice (specifically the IRRI 6 variety) is the dominant crop in Badin, well adapted to the district's saline soils, and Badin consistently produces rice in surplus. Unfortunately, it was difficult to track down an estimate for the amount of rice produced within the district in an average year; however, according to a

representative from the government agricultural office in Badin city, as much as 90% of the rice produced in Badin is exported in a normal year, and the rest remains in the district to satisfy local demand. Because of this, there seems to be little demand for imported rice within the district.

The behavior of the rice market system in Badin district is highly seasonal. During a normal August, there is less activity overall in the rice market system than in other times of year, since the large-scale exports and rice processing that dominate the market system in Badin are on hold until the next harvest, beginning in September. However, flows of rice from different-sized retailers towards district households actually increase during this time of the year, since households depend almost exclusively on the market for rice while awaiting the harvest.

Agricultural practices are quite industrialized, with all farmers, regardless of their wealth, using inputs such as fertilizer and pesticides, along with tractors, for land preparation and management. However, while **large-scale landowners** generally own tractors and can afford to buy inputs outright, the **smaller-scale landowners** and especially **tenant farmers** generally "purchase" these inputs and services on credit, both from retailers at the district-level market and from wealthier landowners. Because of this, as much as 75% of the rice that they produce each year is given directly to their creditors as repayment for their loans. These poorer households keep some of the rest of the rice for their own consumption. Some households also sell a portion of their harvest, either to brokers or directly to large rice mills, in order to access cash. Most households prefer to eat rice in both grain form and as flour; to produce the latter, they grind the rice into flour at **village-level mills** for a modest fee. Larger-scale landowners produce more rice and receive additional volumes from their tenants. During the months when their stocks from their harvest have run out, they purchase rice from retailers at larger markets within the district.

As mentioned, **village-level retailers** are the main suppliers of rice for poor rural households in Badin. They buy rice from retailers at one of six larger markets in the district the market level, normally during the harvest period, when prices are lower, and hire local transport such as rickshaws to deliver it to their shops. They purchase as much stock as possible during harvest time, though they are limited by their finite capital and storage capacity. Because August occurs during the lean period, demand for rice is high this time of year; however, because many poorer households lack the cash, village retailers often sell small quantities of rice to them each time and offer rice on credit. They have limited capital themselves with which to restock and sometimes take loans either from suppliers or from friends.

Market-level retailers operate in much the same way as village-level retailers, just at a larger scale. They purchase their stocks from wholesalers in district-level markets, often on credit, and sell to both village-level retailers and large-scale landowners. They often sell rice on credit as well, normally to established customers. They complained of rising transport costs, which are increasing the pressure on their already limited capital.

Within Badin, **wholesalers** operate only in the two district-level markets. They purchase their stocks from large rice mills and store it in warehouses until there is demand for it, usually many months after the harvest. They store enough rice to meet the demand within the district until the next year's harvest. Like other retailers, they regularly buy and sell on credit. Like market retailers, they are constrained by limited capital, rising transport costs linked to high fuel prices and the poor quality of some district roads, which

they use as transport routes. Wholesalers typically buy and sell rice in munds, the local term for sacks of 40 kg.

Most **larger-scale rice mills** operate in the areas surrounding the district-level markets. The milling process for rice at this stage does not involve grinding the rice into flour but rather the removal of the grain's husk so that it is ready to be sold and can be readily cooked. This step adds about 10 rupees' worth of value to each kilogram of rice, more than at any other step in the market chain. These mills buy rice mainly from brokers, though they also purchase some directly from farmers. The majority (approximately 90%) of the processed rice is then sold to **exporters** (including both international exporters and those serving other parts of Pakistan), the remainder going to wholesalers that supply the district. Because rice mills only process rice from within the district, they are busiest right after the harvest time and deal with no rice at all during the months leading up to the harvest. They offer credit both to customers, and, critically, to some growers, for the agricultural inputs needed to produce the following season's harvest.

Because virtually all rice produced in Badin district that enters the market system goes through these large mills, they offer perhaps the best opportunity to estimate the market's capacity during the harvest season. Based on a conservative interpretation of the data collected during the study, there are approximately 20 large rice mills in Badin that each sell an average of 4000 tons of rice per month, for a total of 80,000 tons sold within the district every month. To put that in perspective, that is four times the amount of rice consumed by *all* households in Badin each month, and many of those households rely on their own stocks of rice, and not the market, for several months of the year.

The final player in the rice market chain in Badin is the **broker**, the crucial link between producers and rice mills. Brokers purchase rice from larger-scale farmers and sell it to mills, saving producers the trouble of organizing transportation of their harvest. As with the rice mills, brokers are dependent on the local harvest and so are extremely busy during harvest time and trade no rice at all during the month of August. Brokers generally deal with multiple crops throughout the year.

Crisis Time (August 2011)

The floods of 2011 came during the month of August, when the rice crop was just a month or two away from harvest. Many fields in Badin were completely inundated for several months, killing the plants and reducing the harvest for most producers to zero, with major ramifications. According to a representative from the National Rural Support Programme in Badin city, the rice volumes harvested throughout the district in 2011 were only 10-20% of those in a normal year. The full impact of the flood on the market system was not felt immediately but became more evident in September and October, when the harvest would have taken place had the flood not occurred. However, because Badin normally produces so much surplus rice, apparently even with these very significant losses the district still produced enough to satisfy district-level demand until the 2012 harvest; however, exports outside of the district that year were virtually nil.

Throughout the market chain, the price of rice increased, though only by about 10-15%. The floods damaged some stocks of rice throughout the market chain, from the wholesale to the village retail level, slightly reducing the supply in the district. More significantly, however, floods damaged and blocked roads and transportation infrastructure that inhibited resupply of rice. Most market actors said that restocking to normal volumes would have been possible but slow during the flood period (e.g., over a 1-3 month

timeframe due to the problems with transport routes); however, they universally reported that demand and therefore the volume of rice traded had declined significantly during the floods. The number of each type of market actor also dropped during the floods, likely because many were displaced to other parts of the district or beyond.

Many of the market actors in the rice market system fell into greater debt as a result of the 2011 floods. Perhaps the worst-affected in this regard were the brokers who had loaned agricultural inputs to rice producers for repayment during the harvest, which, as mentioned, was largely destroyed before it left the field. Not surprisingly, many market actors reported that it was difficult or impossible to access credit in the wake of the floods, as business people struggled to recover financially. All growers were obviously impacted as well; whatever minimal portion of their normal harvest they were able to salvage was quickly swallowed up by debt repayments and immediate needs, and they became much more reliant on the market for their rice supply than in a normal year. Particularly for the poorer farming households, who had minimal resources with which to purchase rice, this created a significant gap.

A number of NGOs launched large-scale rice distribution programs following the 2011 floods to help meet this gap, some through food voucher programs. It is possible that the presence of some in-kind distribution programs help explain why demand for rice stayed so low and the price of rice did not increase more substantially. Though the EMMA team did not perform a comprehensive assessment of the 2011 humanitarian response in Badin, it seemed that the immense access issues made voucher programs challenging, and beneficiaries sometimes trekked with great difficulty to retailers only to find their rice stocks empty due to challenges in resupply.

Future floods

Because there have been no reported changes in relevant government policy or large-scale improvements to storage, transportation or flood control infrastructure, it seems that the rice market system in Badin will respond in a similar fashion should a comparable flood occur in the future.

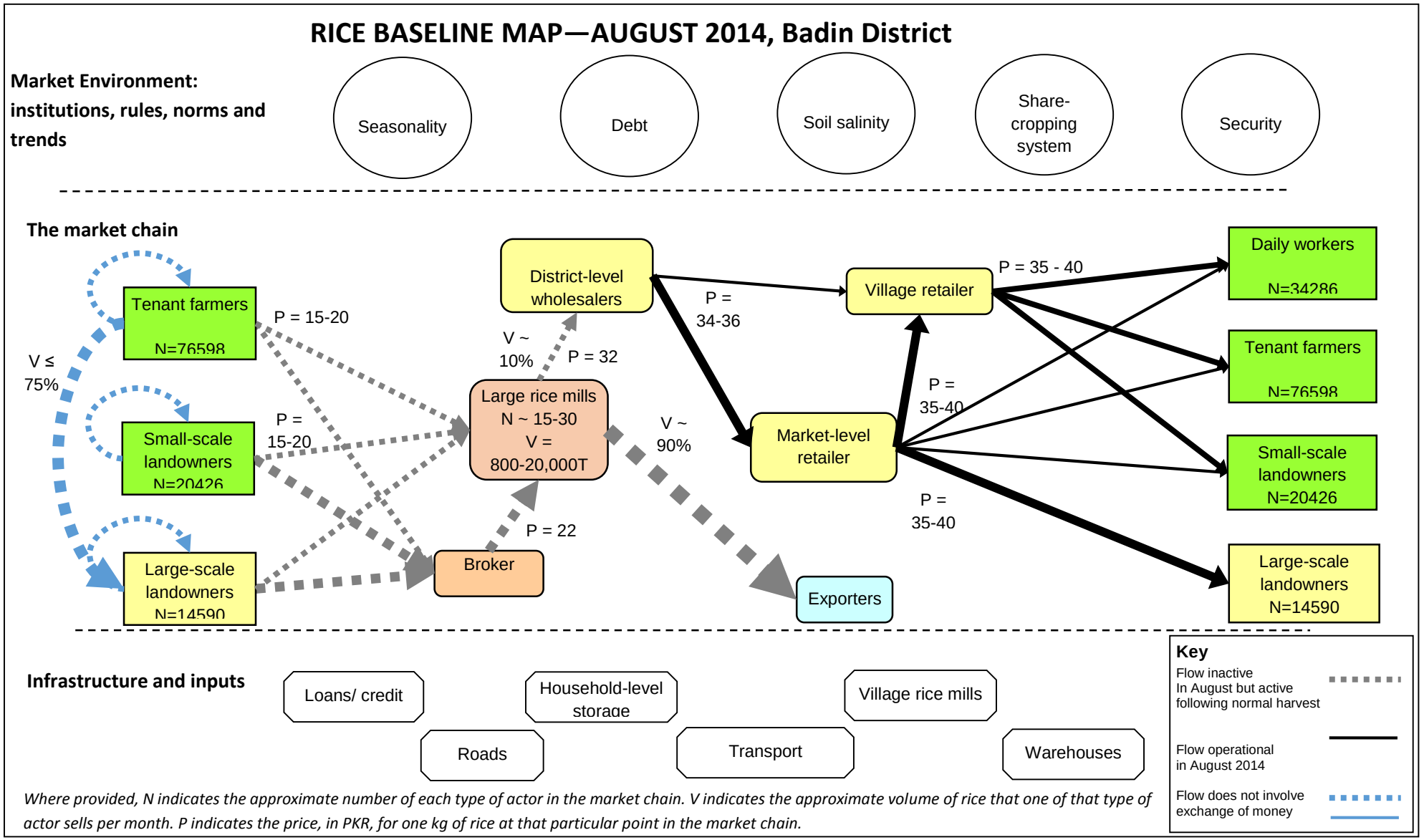
Response to Key Analytical Question #1

How is the critical market behaving today, and how will it behave during the flood emergency?

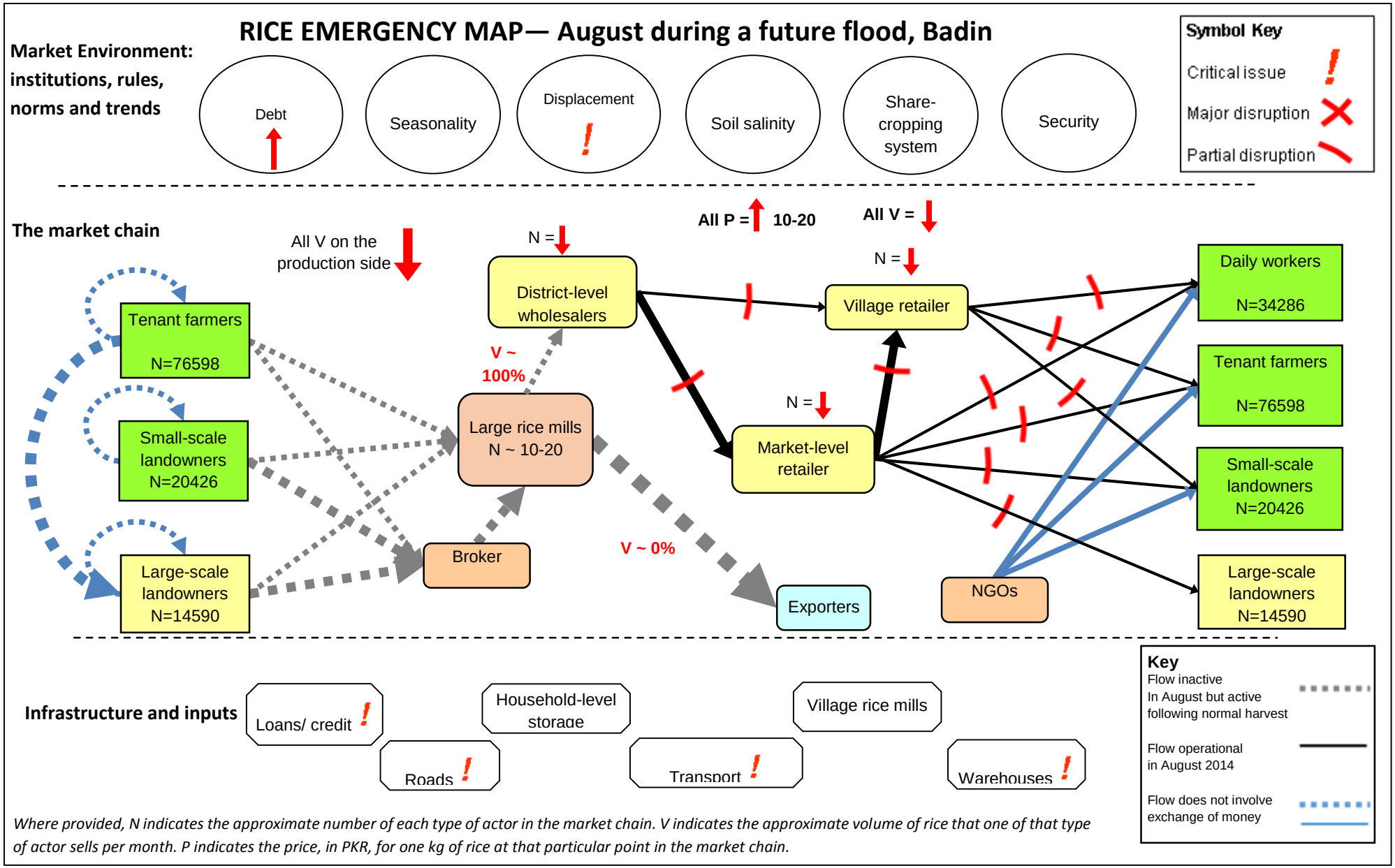
Though there are significant and complicated social issues and vulnerabilities related to the system of sharecropping and the constant debt in which many market actors operate, in non-flood times the rice market system in Badin is otherwise fairly robust, with production and capacity levels that far exceed local-level demand. The market is competitive and integrated, with little variation in prices along the market chain and throughout the year. Because the vast majority of rice produced in the district is exported, the market could likely respond to a significant increase in local demand without any trouble.

During a future flood emergency, the rice market system is likely to respond as it did in 2011; that is, prices will increase slightly, due mainly to transport issues but also to some damages to rice stocks and the anticipation of large-scale destruction of the nearly mature rice crop. Nonetheless, stocks within the district are likely to be adequate to meet the district-level demand for rice for several months, provided that affected households are somehow able to access those stocks.

RICE BASELINE MAP—AUGUST 2014, Badin District



Where provided, N indicates the approximate number of each type of actor in the market chain. V indicates the approximate volume of rice that one of that type of actor sells per month. P indicates the price, in PKR, for one kg of rice at that particular point in the market chain.



Where provided, N indicates the approximate number of each type of actor in the market chain. V indicates the approximate volume of rice that one of that type of actor sells per month. P indicates the price, in PKR, for one kg of rice at that particular point in the market chain.

VI. Comparing the gap in needs with the market capacity

As mentioned, rice is the principal staple grain for the population of Badin District. Households rely on their own production for as much of the year as possible, and those who grow wheat switch to that for 1-2 months following the wheat harvest. During the 3-4 months before the rice harvest, households must rely on the market for their rice supply. When cash is short, as it often is that time of year, they utilize coping strategies like selling livestock or taking loans from friends, landlords or shopkeepers in order to purchase rice. Table 3 summarizes the consumption of rice of the different target groups for this study during August 2014, estimated as accurately as possible based on the field research. 100 kg was determined to be the standard amount needed to sustain a family of 7 for one month based on standard ration sizes, and this largely corresponds to the amounts most households claimed to be consuming.

Table 3: Gap analysis of households in Badin District, August 2014 (baseline)

Focus Population	# of HHs	Amount needed per HH/month (in kg)	Amount provided by HH (in kg)	Other aid or coping strategies (in kg)	Amount each HH provides for itself (in kg)	HH-level gap (in kg)	Total gap (for all HHs) (in kg)
Daily workers (landless)	46,688	100	30	70	100	0	0
Tenant farmers/ sharecroppers	43,770	100	30	70	100	0	0
Small landowners/ farmers	40,852	100	70	30	100	0	0

All households rely on taking loans or buying on credit in order to access a portion of their rice supply in a normal August; though they are able to increase their caloric intake this way, increased debt compromises their future food security and livelihoods, as future earnings and/or harvest will have to be used to repay the debt. Those who sell livestock may be less able to cope with future shocks. All categories of households seem to be able to access the amount of rice that they need during a normal August; that said, their heavy reliance on debt in order to access this food highlights the deeply entrenched nature of poverty in this part of Sindh.

During the 2011 floods, all households became much more dependent on loans and outside, NGO assistance to access rice. Market access routes that would allow people to sell livestock and agricultural and fishing activities that would normally provide wage earning opportunities were interrupted, cutting off the principal sources of income for this time of year. As mentioned previously, NGOs launched massive food distribution campaigns in 2011, and indeed all of the villages interviewed during this assessment has benefited from food aid, generally in the form of cash or vouchers. Perhaps because of their exposure to cash-based programming, most households interviewed indicated a preference for cash or voucher assistance rather than in-kind support in the case of a future flood. Though the amounts received varied quite a bit, the median volume seemed to be 60 kg per family for a 3-month period, 40 kg less than the standard monthly ration. Households accessed cash to purchase the rest by selling livestock that had survived the floods or by sending family members to find casual work outside of the worst-hit flood

affected areas. Despite the humanitarian assistance and the ramped-up coping strategies efforts, the very poor and poor households still faced a gap of 20 kg of rice per month for 3 months. Presumably the gap continued for 4 additional months until the wheat harvest and possibly increased, since most food aid stopped after 3 months. Table 4 summarizes the gap analysis for vulnerable households in Badin during the 2011 floods. It suggests a total gap of nearly 2 million kg of rice per month for the 3 months following the peak of the floods.

Table 4: Gap analysis of households in Badin District, August 2011 (emergency)

Target Pop	# of HHs	Amount Needed per HH/ month (in kg)	Amount provided by HH (in kg)	Other aid or coping strategies (in kg)	Amount each HH provides for itself (in kg)	HH-level gap (in kg)	Total gap (for all HHs) (in kg)	Duration	Preferences for Aid
Daily workers (landless)	46,688	100	0	80	80	20	933,760	3	Cash or vouchers
Tenant farmers/ sharecroppers	43,770	100	0	80	80	20	875,400	3	Cash or vouchers
Small landowners/ farmers	40,852	100	0	100	100	0	0	3	Cash or vouchers
TOTAL: 1,809,160 kg (45,229 munds) per month for 3 months									

Response to Key Analytical Question #2

Will the affected population be able to continue to access the needed volume and quality of goods from the critical market system during the emergency?

The rice market system in Badin should be able to provide the needed *volume* of rice during and after the flood emergency. Though some rice in wholesale and market-level storage facilities may be damaged during the floods, there will likely be sufficient stocks in other areas of Badin not affected by the flood. Meanwhile, even if the September/October harvest is severely affected by the floods, as long as even a small percentage (10% +) of the normal harvest can be salvaged, the district should still have more than enough rice with which to meet local demand, provided that exports for that year are cancelled, as they were in 2011.

However, the flooding will likely lead to massive damage to and blockages of key transportation infrastructure that will impede the movement of rice from one part of the district to another and that will affect the entire market chain, from rice mills to market retailers to tenant farmers. These very serious transportation challenges must be addressed if the market is to effectively supply the flood-affected population with the rice that they require during and after the flood.

VII. Main findings

Table 5: Summary of main findings on the rice market system

Key actors	Key Findings	Implications for response
Small-scale producers (Tenant farmers and smallholder farmers)	*Tenant farmers operate in perpetual debt to landlords and vendors, even in non-emergency years*	*Long-term, more development-oriented programming is needed to address the chronic nature of poverty in Badin*
	The negative coping strategies of selling livestock and taking additional debt that these households adopt following floods increase their financial vulnerability for years to come	*Agencies should help to ensure that vulnerable households' basic needs are met while minimizing reliance on negative coping strategies*
Large-scale landowners	*These actors benefit the most from the current feudal system, as they control the means of production, including much of the land*	*Any long-term poverty eradication program must recognize the power dynamics of rice production in Badin and find ways to transfer some power to smaller-scale farmers*
	Large-scale landowners also suffer financially during floods, since the many people who owe them money or goods cannot repay them	*Agencies should examine to what extent landlords are still able to provide crucial inputs to smallholder farmers following floods and should consider helping to fill gaps if necessary*
Village retailer	*Village retailers suffered enormously following the floods due to a severe drop in demand*	*Where and when practical, village rice retailers should be included and supported as vendors in market-based humanitarian response programs*
Wholesaler	*In August, wholesalers are generally selling the last of the previous year's harvest that they still have in stock*	*The market's capacity to supply rice needed during an emergency could be quickly assessed by conducting a survey of wholesalers' rice stocks*
Learning from past seasons	*Cash and voucher programs in the 2011 flood response were not always effective because some vendors, mainly market retailers, struggled to resupply quickly given flooded transport routes*	*Cash and voucher programs may not be appropriate during the early days of the flood*
		NGOs should explore how transportation infrastructure can be supported in order to help restore market function expediently during and after floods
	The rice rations provided during the 2011 response, though helpful, were not enough to meet the consumption requirements of vulnerable households	*Rations should be increased to the full SPHERE standard amount, especially for poor and very poor households.*
	Enough rice was available within the district to meet the needs of the population; however, challenges in access because of flooded/ damaged transportation infrastructure impeded the flow of rice to flood-affected areas	*Transportation of rice and access to flood-affected populations will be a challenge regardless of the delivery modality that is chosen*
	The greatest impact of the floods is their destruction of standing rice crops and a greatly reduced rice harvest in Sept/Oct	*The affected population may need support in accessing rice for up to four additional months, until the wheat harvest in March/April, since they will harvest little-no rice in flood years, though additional research is needed to explore this*
		If possible, efforts should be made to analyze and reduce the impact of floods on the standing crops

VIII. Main recommendations

Table 6: Response Recommendations for the Rice Market System in Badin

Response recommendation	Responsible	Key risks and assumptions	Likely effect of the intervention on the market system and target group	Timing issues
Mapping of key market access routes and evacuation points; communication of this information to flood-affected populations and market actors.	NGOs and government, logistics cluster	NGOs and government have time and resources to contribute and will work cooperatively on mapping. Some routes to district-level markets remain relatively accessible even during bad floods. Information will be effectively communicated to the people who need it in a timely fashion.	Some affected households will have easier access to markets and/or to needed rice supplies even during bad floods. Vendors and transporters will be able to resupply more efficiently, especially at the start of flooding.	Should be completed at least 1 month before floods begin.
Longer-term development programs for poor and very poor households aiming to increase their access to and control of agricultural inputs (e.g., cooperatives)	Local and international NGOs with expertise in long-term development	Capacity exists to design and implement quality agricultural cooperative programs or similar. Programs will be funded adequately, and small-scale farmers will be motivated to participate in programs.	Could lead to a gradual but steady reduction in debt and increase in wealth among small-scale producers.	Long-term project (3-5 years minimum), to be started during non-flood times
Advocacy to food security actors for a food ration that takes household size into account and provides the full caloric requirements for cereals, especially for poor and very poor households (100 kg/family of 7/month)	NGOs in the food security cluster, relevant government authorities	The FS cluster will accept this as a topic for debate.	Flood-affected households will rely less on negative coping strategies during floods.	2-3 months before an expected bad flood season

Provision of locally-procured rice to flood-affected households for the first month of flooding, followed by unconditional cash grants to same households and coupled with support to market vendors (especially at the district market level but possibly at the village level, later) to transport rice, through cash grants and/or through the provision of flood-appropriate boats/trucks.	NGOs and WFP	The government will allow for the distribution of unconditional cash grants. Cash will be used for food and other basic needs and not for repaying debts or other purposes. Effective and reliable transportation solutions that are acceptable to market vendors can be found.	Flood-affected households will access sufficient rice for their consumption needs until the following wheat harvest. Rice vendors at the district market and village levels will resume their normal business activities and be able to resupply quickly.	In-kind support for the 1st month, followed by cash support for at least 2 more months. If funding allows, cash + transport support should be continued for 5-6 more months, through the wheat harvest, though the amount distributed could be reduced.

Table 6 presents the key recommendations that resulted from the PCMMA's findings and implications. For the full list of response options considered, see Annex C. This table directly responds to Key Analytical Questions 3 and 4; the fourth recommendation addresses market-sensitive programming options, while the first three recommendations suggest ways to reduce the potential impact of floods on the market system. Each recommendation is explained in further detail here.

There are numerous actions that should be taken before the onset of floods in order to reduce the impact of those floods on the population of Badin District. The first of these is a mapping and communication exercise. Certain transport routes and land areas are more vulnerable to flooding than others; these should be mapped out and designated gathering places and transport routes identified. This information should then be disseminated to market actors and populations living in expected flood zones. This activity should be a joint effort between the logistics cluster and the government, which have the best macro-level knowledge of supply routes and the ability to map them, and NGOs, who can gather more community-level information. If the district-level government is willing and able to lead this effort, it should, with input from the other two actors; otherwise, a group of NGOs operating within Badin may want to take the lead. Information about designated transport routes should be disseminated at district-level markets through locally appropriate means; information about evacuation sites should be shared with affected villages via NGOs and/or radio broadcasts or other appropriate means.

While longer-term agricultural development/poverty eradication programs go a bit beyond the scope of this study, they are necessarily to ultimately address the underlying power inequality in rice production in Badin and thereby reduce the vulnerability of small-scale farmers to shocks. Further reflection by agencies with expertise in the development of farming cooperatives and value chain development will be necessary to flesh out the details of such of program. The goal would be to make smallholder farmers more self-sufficient in terms of agricultural inputs in order to decrease their debt levels and increase the amount of the harvest with which they can improve their standard of living.

The third recommendation involves advocacy at the food security cluster to establish a fixed standard monthly ration of 100 kg of rice per 7-person flood-affected household per month for sharecropping and

landless households. This essentially means that humanitarian actors would commit to providing the complete caloric requirements for the poorest households in emergencies, so that these households can avoid practicing negative coping strategies that could compromise their economic well-being for years to come. If resistance is encountered for whatever reason, advocacy efforts should still aim to increase the standard ration as much as possible towards 100 kg per month. This discussion should take place in the months leading up to an anticipated flood season.

The final recommendation involves a three-pronged emergency response that utilizes and supports the rice market system in Badin. Because of the immense transport challenges at the height of a flood, in-kind provision of rice to the most vulnerable households (rather than a cash-based response) is recommended for the first month or so; however, this rice should still be procured within Badin district, from wholesalers who have adequate stocks of rice remaining from the previous season. Transportation of the rice to affected households will be challenging but will be managed by humanitarian actors. During this initial month, however, preparations should be underway to transition from in-kind distribution over to unconditional cash grants. Discussions should be initiated with retailers at the district-level markets to assess capacity and challenges to resupply. NGOs should then decide upon the best means of supporting these retailers to transport the needed volumes of rice in an efficient way, whether through the temporary contracting of flood-appropriate delivery vehicles or through cash grants to retailers so that they can manage the contracting themselves. Once transport at the district-level markets has been organized, NGOs should then continue the same transport evaluation and support process at the village level so that village-level retailers can also benefit from the cash distribution program. A needs assessment should be conducted during the second month of cash distribution to determine the need for continued cash support; following this assessment, the distribution level should be adjusted or terminated as appropriate. It is expected that households will be in need of some level of humanitarian support for rice until the wheat harvest in March/April of the year following the flood.

Annex

Annex A: PCMMA Team Member List

Name	Organization	Job title	Critical Market Team
Gregory Matthews	IRC	Senior Technical Advisor for Livelihoods	Assessment Leader
Emily Sloane	IRC	Emergency Markets Officer	Assistant Assessment Leader
Muhammad Attiq	IRC	Head of Office, Sindh Province	Markets Focal Point
BADIN DISTRICT			
Juergen Mika	WHH	Emergency Response Coordinator	water - **TEAM LEADER**
Muhammad Ali	ACF	Survey DPM	rice - **TEAM LEADER**
Sajan Dass	IRC	Sr. Training Officer	rice
Waqar Ali	Oxfam	MEAL Officer	fodder
Khalid Khan	ACF	Nutrition Surveys Data Analyst	water
Naseem Khan	Oxfam	DPM EFSL	fodder
Zeeshan Ahmed	ACTED	Community Mobilizer	rice
GHOTKI DISTRICT			
Muzafar Hussain	IRC	M&E Manager	fodder - **TEAM LEADER**
Ayaz Lakho	HWA Foundation	P.O.	water
Hafiz Manzoor	HWA Foundation	CEO	wheat flour
Himat Ali	Takhleeq Foundation	A.C.C.	fodder
Wasim Kolachii	Takhleeq Foundation	District Coordinator	fodder
Asif Imdad	IRC	Database Assistant	water
SANGHAR DISTRICT			
Khan Zada	Concern WW	Cash Project Coordinator	wheat flour - **TEAM LEADER**
Mehar Ali	IRC	Cash Transfer Officer	wheat flour
Nizakat Ali	IRC	Sr. CMO	fodder
Fida Hussain Bozdar	IRC	Community Mobilization Officer	water
Raza Ali Daudpota	RWF	Databar Officer	fodder
Umair Said	CARE	FSL Monitoring Officer	fodder

Annex B: Summary of interviews conducted, rice market system in Badin District

Type of interview	Location of interviewee		Number of interviews
	UC	Village	
Household	Seerani	Haji Soomar Mallah, Ishaq Mallah, Haroon Samejo, Misri Mandhro	4
	Boghra Memon	Khan Muhammad, Gagi Mallah	2
	Ahmed Rajo	Mehar Dhadal	1
TOTAL, Household interviews			**7**
Vendor	Seerani	Seerani, Kazia Wah	2
	Golarchi	Golarchi	3
	Kadhan	Kadhan	3
	Badin	Badin, Badin (Seerani Road)	4
	Ahmed Rajo	Ahmed Rajo	1
TOTAL, Vendor interviews			**13**
Key informant	Badin	Badin	2
	Seerani	Kazia Wah Stop, Karim Dino Jungo	2
TOTAL, Key informant interviews			**4**
Focus Group Discussion	Seerani	Haji Soomar Mallah, Haroon Samejo, Misri Mandhro	3
	Ahmed Rajo	Ahmed Rajo, Mehar Dhadal	2
TOTAL, Focus Group Discussions			**5**
GRAND TOTAL, Interviews Conducted			**29**

Annex C: TOR for the PCMMA in Pakistan

Pakistan Pre-Crisis Market Mapping and Analysis PCMMA Terms of Reference

Assessment dates: May 18-June 3, 2015

Host agency: International Rescue Committee

Participating agencies: This will be a multi-agency endeavor to which staff from selected NGOs that operate in the assessment area will be invited to participate. Please express interest in participating in this PCMMA by contacting Emily Sloane, Emergency Markets Officer, IRC (Emily.Sloane@rescue.org)

PCMMA Overview and Objectives:

The Pre-Crisis Market Mapping and Analysis (PCMMA) is a practical, step-by-step resource to guide market analysis practitioners and team leaders to conduct market assessments prior to emergencies in order to anticipate how markets will respond after a shock occurs. The PCMMA was developed in 2014 by the IRC and Oxfam with the support of the European Union through the Enhanced Response Capacity Mechanism and the American People through the United States Agency for International Development (USAID), and builds on earlier experiments with market baseline mapping and analysis conducted in pre-crisis settings. Although based loosely on the EMMA methodology, the PCMMA does not replace existing market analysis tools, rather it is intended to provide a guide to applying those tools in pre-crisis contexts, particularly in contexts that are prone to recurring humanitarian crises.

PCMMA is designed to help agencies to improve preparedness, feed into contingency planning efforts and contribute to the design of disaster risk reduction programs by identifying certain parts of market systems which may be vulnerable to shocks. Increasing the speed of emergency responses or strengthening market systems ahead of emergencies would potentially reduce the disaster impact on lives and livelihoods, and begin to address the longer term or chronic nature of poverty and vulnerabilities. As it is still a relatively new approach, the IRC has devoted resources to conducting three pilot PCMMA assessments in disaster-prone countries in 2015 in order to generate learning that can be used to refine the approach and the guidance document, while providing information that can help various humanitarian agencies' strategic and operational planning efforts. The pilots will also serve as opportunities to develop market analysis capacity within the humanitarian community.

In Pakistan, monsoon-related flooding leads to humanitarian crises of varying scale on an almost annual basis, at the bottom of the Indus River basin. Since 2010, flooding has adversely affected at least half a million people *per year* in Sindh Province, located at the bottom of the Indus River Basin. Some years are particularly devastating; 2011 saw almost 5 million Sindh residents affected. Flooding destroys crops, livestock and agrarian infrastructure and in a highly agriculture-dependent region, results in loss of human life and damages homes and public infrastructure. Thus far, markets have by and large managed to continue supplying goods following floods, albeit at inflated prices.

The IRC has actively responded to flood-related humanitarian crises since 2010 in the FSL, WASH and Health sectors, and will continue to do so in the future. In 2010, the IRC participated in a multi-agency EMMA exercise in Sindh with an eye to developing more market-aware programming. This PCMMA will build on that effort to help identify ways to help prepare markets and residents to better withstand floods in the future. This PCMMA will focus specifically on those markets that are critical for supporting the basic needs and livelihoods recovery of vulnerable Pakistani people whose lives may be disrupted by future flooding.

The objective of the analysis will be to identify appropriate market-based programming options for emergency and longer-term basic needs and livelihood assistance for both IDP and host community populations alike. The analysis will focus on identifying both direct programming options targeting IDPs or host community members as well as indirect responses targeting key market actors to improve capacities to provide basic needs and livelihoods opportunities to IDPs and host community families. The specific market systems to be analyzed during the assessment will be determined based on inputs and level of interest from participating agencies, feasibility of undertaking the analysis and potential programming, and appropriateness to the context in Pakistan. The exercise will further explore ways to better integrate gender considerations in the emergency market assessment process.

Main Objectives:

- To identify through a pre-crisis market analysis appropriate responses to meet early livelihood recovery and other basic emergency needs, with a particular emphasis on market support activities.
- To strengthen the market analysis capacity of both national and international IRC staff and of relevant members of the broader humanitarian community
- To build the IRC's experience in applying market analysis to response analysis and design within contingency planning
- To generate substantive, practical learning on how to integrate gender into market analyses

Desired Results of the PCMMA

- Market Maps of selected critical markets
- Seasonal calendar for critical markets
- Report of key findings and recommendations for each critical market system analyzed
- Brief report on learning related to the PCMMA approach and guidance document and on the integration of gender in market analysis

Key findings and recommendations will be presented widely at the close of the assessment. Presentations by assessment team members at field and Islamabad-level coordination structures will be encouraged, and the final reports will be made available online through the UNHCR Web portal, EMMA website (emma-toolkit.org), and the Markets in Crises Dgroup list serve.

Geographical Area of Assessment

The PCMMA assessment will take place in district and sub-district-level markets in selected areas of Sindh Province that are likely to be affected by future flooding. Specific locations and markets to be assessed will be identified in further consultation with both the country team and the different agencies participating in the exercise.

Critical Markets for Analysis

Due to the logistical, financial, and analytical limitations, the number of critical markets to be analyzed during this exercise will be limited to 3 different market systems. Before the start of the PCMMA, participating agencies will decide on 2 to 4 critical markets to be the focus of the fieldwork and analysis. The type of critical markets to analyze depends on the sectoral interests of participating agencies and the number of participants available to partake throughout the

assessment process. If necessary, different critical markets can be selected for different parts of Pakistan based on the specific market realities in each geographical area.

Potential market systems for analysis include:

- Construction materials
- Manual labor (agricultural and/or non-agricultural)
- Agricultural inputs (e.g., seeds for key crops)
- Staple food items
- Livestock

Assessment team members

The assessment team composition will reflect the fairly ambitious scope of the exercise. The assessment will be co-led by two technical staff from HQ. It is expected that 10-20 additional people will participate in the exercise; these people will be divided into 2-3 sub-teams to analyze the specific market systems identified. Each critical market team will be led by a critical market team leader and a national or expatriate mentee (to be identified by ERD staff). Market team members should have a good understanding of humanitarian programming and basic market principles, analytical and writing skills and experience with field-level data collection. Crucially, a member of IRC's Pakistan country team will serve as a market focal point leading up to and during the exercise; this individual will oversee the country team in preparatory analysis before the assessment and will apply his/her local knowledge to assist guide the assessment design and data analysis and interpretation processes. Finally, a gender specialist from the IRC's HQ will participate in the assessment to ensure that gender-related learning objectives are met.

Each market-specific sub-team will be expected to analyze assessment data and to prepare a draft report of findings and recommendations in line with the PCMMA Methodology (see below). Significant support for this analysis will be offered by the critical market team leaders; however staff or personnel participating in the assessment must be strong in data analysis and capable of writing complete assessment reports independently.

Having previously attended an EMMA training is not a requirement to participate in this assessment, but previous market analysis training or experience is highly desired. The training and facilitation will take place in English.

Agencies interested in participating in the PCMMA are asked identify staff members to be a part of the assessment. Agencies and individual staff must be willing and able to commit to being a part of the PCMMA team for the duration of the assessment, including pre-assessment training, field-based data collection, and analysis stages of the process. Additionally, agencies providing staff are asked to cover the costs of personnel (including salaries, per diems, etc.) and contribute to logistical support for those personnel (communications, vehicles and fuel, field overnights, etc.).

Duration of assessment and working Hours

- 18 days from mid-late May 2015. Please see schedule below.
- Participants should anticipate long working hours and be prepared to work outside normal business hours.
- All participants should agree to work the length of assessment, without a break if necessary to complete the work on time. Team members should expect to work weekends. Please inform us immediately if this is likely to be difficult or if there are any outstanding issues that need addressing.

Methodology

The assessment will use the methodology in the PCMMA guidance document, comprising 15 steps. To the extent possible, Steps 1-6 will be conducted before the full field team assembles in country. While a plan for Step 13 will be outlined during the PCMMA, it will be the responsibility of in-country staff to ensure that monitoring continues after the official exercise ends.

1. *Understanding the context*	Identify the likely crisis scenario; target population needs & profiles
2. *Setting scope and objectives*	Set objectives and operational questions for PCMMA; identify knowledge gaps; ensure relevance of PCMMA
3. *Ensuring managerial and organizational buy-in*	Determine composition of assessment team, including Market Focal Point; identify and confirm availability of in-country resources needed for assessment; secure country team management approval of the exercise and resulting potential response strategies; confirm that results will be integrated into contingency planning
4. *Critical market selection and key analytical questions*	Pre-selection of critical market-systems; identification of draft key analytical questions for each system; select geographic area to be covered by the assessment
5. *Mapping and gathering existing information*	Gather information on selected critical markets, target groups, livelihoods in assessment areas; identify information gaps
6. *Preparing and planning for the market assessment and analysis*	Confirm team composition; develop timeframe and draft agenda; set budget; finalize TOR
7. *Finalizing the frame of the analysis*	Review and validate steps 1-6 with full assessment team; finalize assessment locations with team; identify markets to visit and market actors to interview with team
8. *Preliminary analysis and mapping*	Production of initial profiles, seasonal calendars, maps of the market-system; identification of key informants or leads.
9. *Data collection*	Develop questionnaires; conduct fieldwork activities and regular debriefings
10. *Final mapping*	Finalize baseline & emergency maps, seasonal calendars; description of key features, bottlenecks, constraints
11. *Gap and market analysis*	Comparison of household economic profiles, analysis of priority needs, access and gaps
12. *Selection of response options*	Exploration of response options, cash and other intervention feasibility; response recommendations and their logic
13. *Market monitoring*	Determine different market indicators to monitor; develop monitoring plan
14. *Communication of results*	Prepare and disseminate results via report and in-person presentation(s)
15. *Updating a PCMMA*	Conduct follow-up assessments as needed

Communications

Most national staff have local mobile phones, and these will be used during the exercise. Team leaders will be provided with phone credit. International participants will seek the necessary SIM cards and/or will be provided phones by the IRC's Pakistan office as needed. At the start of the field work, all participant mobile numbers shall be collected and shared.

Administration and resources required:

The IRC's ERD unit will cover the cost of international travel and per diem of international IRC staff participants. It will also pay for accommodation of all international participants, including mentees, if IRC expatriate housing is not available. The agencies sponsoring any mentees involved will be responsible for the mentees' international travel and per diem while in Pakistan.

The IRC's Pakistan office will provide logistical and administrative support related to procuring visas, arranging for accommodation, training spaces, food and refreshments for the assessment team and in-country transportation. While the ERD unit has some limited funds available for in-country costs such as training supplies and transportation, these funds are insufficient to cover the full cost of the assessment, and so the country team will be asked to contribute to these needs to the best of its ability. The ERD may request documentation of any financial or in-kind contributions to the assessment from the IRC country team for donor reporting requirements.

Other participating agencies are asked to contribute staff and logistical support to defray the costs of the assessment. In addition to personnel costs (salary, per diems, etc.), the assessment will depend on contributions of vehicles, drivers and fuel from participating agencies to transport personnel for data gathering.

If your agency will be able to provide personnel or logistical support to the assessment, please indicate the level of support available when expressing interest in being a part of the PCMMA. To express interest, please contact Emily.Sloane@Rescue.org.

Tentative Assessment Schedule

Date	Agenda
1 April-16 May	Identification of assessment team; desk research and initial analysis
17 May	Assessment team arrives at training site
18-20 May	Introduction to PCMMA; training on PCMMA in practice; Developing data collection tools and preparing for fieldwork
21-28 May	Data collection at field level – household, market actor, and key informant interviews
29 May-1 June	Preliminary Analysis of field data and development of recommendations
2-3 June	Presentations of key findings and recommendations

Annex D: Response Options Framework

	Response Option	Advantages	Disadvantages	Feasibility	Timing issues
Preparedness-focused	Support to vendors to improve and possibly relocate storage facilities at the village, market and wholesale levels	Fewer losses of rice district-wide, and greater availability of rice in markets in the flood-affected area	Large-scale infrastructural improvements could be quite costly. Losses of stored rice were not enormous during the 2011 floods.	Low	Before flood
	Mapping of key market access routes and evacuation points	Could speed delivery and increase efficiency of food assistance, regardless of modality.	Fairly complex; requires high-level coordination and communication with government and other humanitarian actors throughout the district.	High – in line with government and NGO priorities	Before flood
	Construction of flood-control infrastructure to reduce the impact of floods on standing crops	Addresses the greatest impact of floods on the rice market system – losses of standing crops	Complex to map and prioritize actions; likely to be extremely expensive and politically charged undertaking.	Low – involves government and large-scale landowner buy in	Before flood – long-term project
	Conduct research on ways to reduce the impact of floods on rice yields (e.g., flood-resistant varieties or agricultural techniques) + education on these practices	Within the scope of many NGOs' existing programming. Relatively low cost.	Unclear how effective such practices could be. May have limited impact,	Medium	Before flood –integrated into other agricultural training programs
	Longer-term development programs for poor and very poor households aiming to increase their access to and control of agricultural inputs (e.g., cooperatives)	Could help address the long-term nature of poverty and vulnerability in Badin District.	Complex and time-consuming to implement. Requires development expertise. Requires long-term funding and support for a relatively small number of beneficiaries. Could meet significant political opposition.	Medium	Before flood – very long-term project (3-5 years, minimum)
	Advocacy to food security actors for a larger food ration, especially for poor and very poor households (100 kg/family of 7/month)	Households less likely to rely on negative coping strategies in order to access the full quantity of rice that they require.	Could be politically complex to change this standard at the national/provincial levels. Larger rations will increase the cost of the response.	Medium	Before and during early phases of flood

Response-focused	Provision of rice to flood-affected households, using rice procured within Badin district	NGOs assume responsibility for supply and delivery, guaranteeing that affected households receive the needed goods in a timely fashion. Ensures that the most isolated households receive food assistance.	Logistically complex given the huge access issues in Badin District during floods.	High	1-7 months once flooding has started
	Unconditional cash grants to flood-affected households	Benefits for a wider variety of market actors, plus multiplier effects. Households have the choice to purchase the food (or other goods) they prefer and need the most.	Local market actors may face supply/ resupply challenges. Some vulnerable households may not be able to access markets at all.	High	1-7 months once flooding has started
	Distribution of food vouchers	NGOs have slightly more control over what kind of assistance households receive.	Can be administratively complex to implement. Only those vendors officially registered in the program can benefit.	Medium	1-7 months once flooding has started
	Support to market vendors (especially at the district market level but possibly at the village level, later) to transport rice, through cash grants and/or through the provision of flood-appropriate boats/trucks	Helps the market system to resume normal operations; Facilitates a market-based response. Provides benefits to a greater range of local actors.	Could be logistically complex to organize and administer, especially in the early days of flooding.	Medium	In conjunction with a cash or voucher program
	Food for work, undertaking rehabilitation of roads/bridges and dewatering of important roadways and fields.	Could ensure that flood-affected populations have access to sufficient rice while rehabilitating essential infrastructure.	Flood-affected households may have other priorities for their time during and after floods. Unclear of the lasting value of the infrastructural projects undertaken through FFW.	Medium	1-3 months once flooding has started

Annex E: Semi-Structured Interview Data Recording Sheet - Vendors

Location:

Date:

Critical market item:	**Business location:**	**Type of market actor :**
Time period in question (e.g. one, two or three months):		

Type of information	**Current Situation (baseline)**			**Emergency Situation (2010 floods for Ghotiki ; 2011 floods for Badin and Sanghar)**		
1. Which products/items do you sell? How much of each per week?	**Product**	**Quantity**	**Units**	**Product**	**Quantity**	**Units**
	1. 2. 3.	1. 2. 3.	1. 2. 3.	1. 2. 3.	1. 2. 3.	1. 2. 3.
2. What is the selling price for each product/item?	**Product**	**Quantity**	**Price**	**Product**	**Quantity**	**Price**
	1. 2. 3.	1. 2. 3.	1. 2. 3.	1. 2. 3.	1. 2. 3.	1. 2. 3.
3. During the 2010/2011 floods, did the selling price change ? why?						
4. If the same level of flooding happens again, do you think the prices will change the same way as 2010/2011 ?						

5. How much of each product do you have available?		
6. How long will it take you to replace your supply of each item?		
7. Where do you purchase your supply from (who, where?)		
8. Do you have any problems replenishing your stocks? (Transportation/shortages/ government restrictions/ increased prices, etc.)		
9. Are there any restrictions on where you can move goods for sale or buy goods? Are these restrictions related to the flooding?		
10. How many customers do you have ? (number of transactions per week)		
11. Do you provide any of your customers with credit ?		

12. Do you get credit from your suppliers?		
13. Did the emergency affect your customers' demand for particular products/items ?		
14. After the flooding, how quickly could you stock-up to provide : **a.) The same quantity of goods as before the emergency?** **b.) Double the quantity?** **c.) Triple the quantity?**	a.) b.) c.)	
15. Would you say that price competition exists in the market?		
16. How many traders are selling similar items in the same local area as you?		
17. Are there any areas nearby that are not getting regular market supplies?		

Annex F: Data Recording Sheet, Consumer/Household

PCMMA –May 2015

Location: Date:

Critical market item: IRRI 6 rice Supply chain		**Location:**
	Time period in question (e.g.2011 Rain Flood):	

Type of information	**Units**	**In the normal year (August with no floods)**	**During 2011 Flood**
1. What type(s) of rice do you prefer?			
2. How much rice do you require for your HH? Per week?			
3. Where do you normally get your rice? What are the different sources? (save from own production, purchase from market, gifts, food assistance, etc.)			
4. Roughly how much (kg) do you get from each source now per week (or per month)? And did you get from each source in 2011 floods?	kg		
5. Is your HH able to access enough rice to meet its needs now, and during the 2011 floods?			

6. When there is shortage of rice, how do you cope that situation?			
7. During the 2011 floods, did the amount of rice your HH consumed change? If so, how? Why?			
8. Do you cultivate paddy? **9. If yes, how much rice does your HH produce?**			
10. If no. Why?			
11. If yes, what variety do you prefer to cultivate?			
12. What portion of your production do you sell?			
13. Do you have secure place to store the harvest?			
14. Can you sell your products? If so to whom ?			
15. What is selling price of your production, now and in 2011?	Per kg		
16. What difficulties do you face to reach market during /after flood to sell rice?			
17. If you buy rice, what types of rice you prefer? **18. Why?**	-		

19. Where do you buy IRRI 6 rice and from whom? (Get contact information of rice sellers!)			
20. What is the price to buy IRRI 6 rice to eat? now and during 2011 floods	Price per Kg		
21. How do you pay for the rice? Cash or on credit? Please explain the terms of the credit?			
22. Who used to go market for buying rice or other food items? (male/ female)			
23. What should be done to improve access to market/rice?			
24. If you were to receive assistance to help your household access rice in a future flood, what form of assistance would you prefer?			