

A Rapid Food Security Assessment at Satkhira in the Context of Recent Flood and Water Logging

August 2011



The assessment is jointly conducted by the
World Food Programme (WFP), Food and Agricultural Organization (FAO) and
Shushilan



1. Context of the assessment:

Heavy rainfall during end of July and early August 2011 caused severe localized flooding in southern districts of Bangladesh namely Satkhira, Jessore, Khulna and Cox's Bazar. As flood waters begin to recede, some unions of Satkhira, Jessore and Khulna remain under water, a situation referred to as prolonged water logging. This has caused displacement of the affected population, disruption of livelihoods, and damage to agricultural crops and housing. There is the potential that the flood waters will recede slow and the inundation will continue till the end of October/November 2011 as the runoff in the in the two major rivers of Satkhira Kapotakho and Betrabati are obstructed by shrimp farms, irrigation dams/barrages and high river levels due to raised river beds and effects of tide. Field observations and rapid assessments from Government and private sources suggest that Satkhira is the most affected districts in terms of extent and duration of inundation and internal displacement of affected population. Therefore the current food security assessment focuses on the severely affected upazilas of Satkhira district.

2. Methodology:

The rapid assessment was carried out from 25 to 27 of August 2011. Findings are based on Focus Group Discussions (FGD), key informant interviews and a market survey. Twenty FGDs were conducted with vulnerable groups namely marginal farmers and day labourers, female groups and local representatives such as UP chairmen, UP members and various other elites. Five market surveys were conducted in large and small markets. The selection of the upazilas for the assessment was purposive, the worst affected upazilas of Satkhira. The field staff of Shushilan conducted the FGDs and market surveys, while WFP and FAO conducted the key informant interviews.

District	Area/Upazila	Targeted Union	Stakeholders Assessment				Total
			FGD: Vulnerable Mixed Group including affected farmers/day labour	FGD: Local Representatives (including UDMC members, UP, local leaders, Imam, teachers)	FGD: Vulnerable affected poor Female / women group	Market holders/ traders/ foria	
Satkhira	Tala	Jalalpur	√	√	-	-	2
		Tetulia	√	√	√	√	4
		Islamkathi	√	√	-	√	3
	Satkhira Sadar	Labsha	√	√	√	-	3
	Satkhira Pourashava	Pourashava	√	√	-	√	3
	Kalaroa	Dewara	√	√	-	-	2
	Debhata	Kulia	√	√	√	√	4
	Assasuni	Dargapur	√	√	√	√	4
Total	5 Upazila + 1 Paurashava	8 Unions	8	8	4	5	25

3. Area and population severely affected and displaced:

Based on the initial assessment by local NGOs and authorities reporting five upazilas including Satkhira paurashava in Satkhira district were identified as the worst affected areas. One of the major impacts of this disaster is the internal displacement of the population from the water logging and flooded areas. Around 90 percent of the affected population were temporarily forced to leave their homesteads as they were inundated by 3 to 4 feet of water. The majority of the displaced population took shelter in road sides, embankments and schools.

Population affected and in shelters					
Upazila	*Total Population	**Population affected	% affected	Households affected	**Households in Shelter
Tala	294,400	225,400	76.6	50,089	10,012
Satkhira sadar	410,355	220,600	53.8	49,022	3,906
Paurashava		110,000		24,444	2,828
Debhata	118,944	72,500	61.0	16,111	4,322
Assasuni	249,244	62,850	25.2	13,967	1,630
Kalaroa	221,596	40,774	18.4	9,061	156
Total		732,124		162,694	22,854
* BBS population census 2001 projected till 2011					
** Source: Loss and Relief Information Report, Date: 22/08/2011 by DRRO Satkhira, DC Office, Satkhira					

FGD result on location and extent of severe flooding & water logging

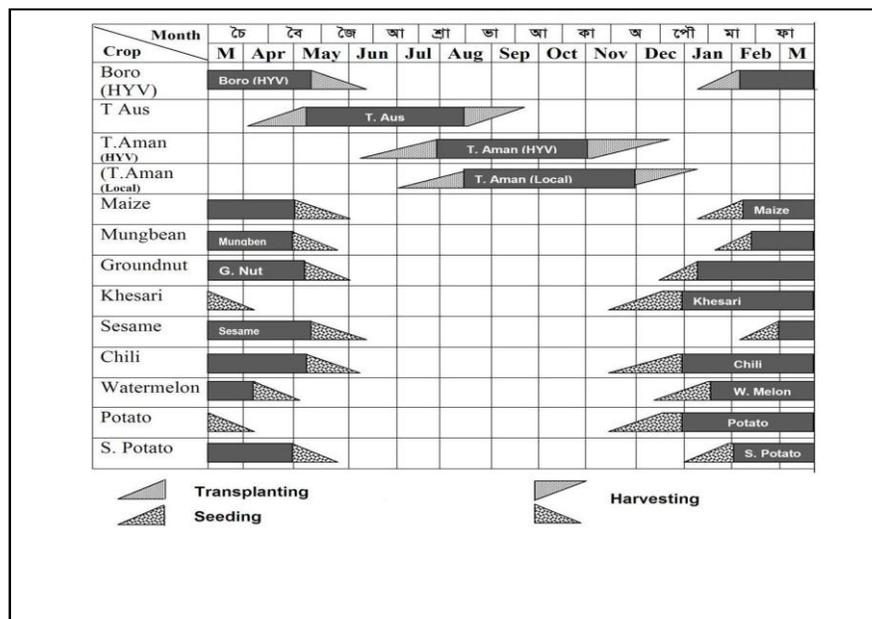
Upazila	Worst affected unions	Percentage of area inundated in the unions	Population severely affected
Tala	Jalalpur, Islamkathi, Khalil nag, Tetulia, Khalishakhali, Tala Sadarar	90-100%	85%
Satkhira Sadar	Labsa Sadar, Balli, Brahmarajpur Paurashava	70-80%	70%

Assasuni	Kulla Kachua Dargapur Somnali Budhata	50-60%	60%
Debhata	Kulia, Subarnabad, Ticket, Hirer chak	60-70%	80%
Kalaroa	Dewara , Joynagar, Jukikhali	50-60%	70%

4. Agriculture:

- The predominant rice crops in Satkhira are the rain fed Aman (60%) followed by the winter rice Boro (35%) and Aus (5%)¹. During the occurrence of the recent flood, the majority of the agricultural lands in the affected upazilas and unions either had Aus crop in the field to be harvested in August September or Aman seed beds just planted. The rainfall induced flood and water logging submerged the agricultural fields with 4 to 6 feet of water for over 20 days, which is sufficient time to damage the standing Aus crops as well as the Aman seed beds.

A typical crop calendar for Satkhira



- Usually the district Satkhira is in surplus for vegetable production. During this time of the year the majority of the households produce summer vegetables in the homestead gardens. All the homestead vegetables are damaged due to the deep and prolonged flooding/water logging.
- The fish and shrimp farmers have lost the fingerlings as well as the fish, which floated away with flood water. This has resulted in huge economic loss for the farmers.

¹ The crop production estimates in Satkhira are compiled from agricultural production time series data by districts published by Bangladesh Bureau of Statistics (BBS).

- In terms of livestock and poultry loss, a large part of the FGD participants mentioned that they have sold their animal assets at a very low cost mostly because they could not find any dry place to shelter them. There was no extensive reporting on death of animals.

The area also produces beetle leaf, a common cash crop and reports indicate that over 80 percent of the beetle leaf plants have been completely damaged. The following table summarizes the damage in agriculture in the six severely affected upazilas and paurashava of Satkhira which shows that nearly 3000 hectares of agricultural lands have been fully damaged

Crop, livestock and poultry damage due to flooding in severely affected upazilas of Satkhira						
District	Upazila	*Crop damage (Hectare)		**FGD reporting on Aus crop damage in severely affected unions	**FGD reporting on Livestock damage in severely affected unions	**FGD reporting on poultry damage in severely affected unions
		Fully	Partially			
Satkhira	Tala	1040	748	95%	55-75%	60-90%
Satkhira	Satkhira Sadar	494	0	100%	50-70%	10-30%
Satkhira	Kolaroa	434	1298	40%	50-70%	10-30%
Satkhira	Debhata	56	747	100%	10-20%	20-30%
Satkhira	Assasuni	740	151	100%	50-70%	40-70%
Satkhira	Paurashava	228	0	100%	60-90%	10-30%

* Source: Loss and Relief Information Report, Date: 22/08/2011 by DRRO Satkhira, DC Office, Satkhira
 ** The Focus Group Discussion results driven from the current assessment

Agricultural production prospects and implications on food security and livelihood

- **The extensive damage of agricultural crop has serious implication on agriculture based income and household level food availability.** As reported by 100 percent of the FGD participants, the current crop production is lost and planting of the winter crop/Boro in January/February next year may not be possible in many water logged areas due to the extremely slow drainage of flood water. The farmers and local representatives anticipate that it will take 3 to 6 months (depending on the location of the areas) for water to completely drain out, which may not leave sufficient time to prepare the fields for the winter crops of rice and vegetables. Therefore production prospects of winter rice and vegetable are likely to be significantly impacted. Moreover, even if the winter crop is produced the harvest will not happen till next April/May 2012, indicating that this area will not have any local production of crops for 7 months.
- **The damage of major crops in the current season is obviously going to lead to a long agricultural lean season from September 2011 till April/May 2012.** As the farm based households and agricultural day

labourers could not save any food and cash stock from the recent harvest, they have to wait till next January when Boro planting may happen, however the scale of Boro planting will very much depend on the water levels in the agricultural fields.

5. Livelihoods:

Livelihoods worst affected

All FGD groups reported that marginal farmers and agricultural day labourers are the worst affected in terms of livelihood and asset loss followed by fish and shrimp farmers and labourers working in shrimp farms. All the FGD groups indicated that partial restoration of the livelihoods related to farming will take a minimum of 3 to 6 months.

Limited alternate employment and reduced labour wages affecting income and survival of the affected population

The displaced populations do not have any regular income and are relying heavily on income derived from the sale of assets. The alternative employment opportunities available in the area are predominantly pulling rickshaw vans and some ad hoc type labour intensive activities. The surplus supply in the labour market has already brought down the wage rates substantially. A day labour who used to earn Taka 100-150/day before flood is now earning Taka 30-40/day. Moreover the availability of employment is uncertain and irregular. Almost 50% of the FGD participants in the group of marginal farmers and day labourers reported that they have not had any employment for the last seven days.

6. Food Security and Nutrition:

Generally Satkhira is a poverty prone district, where prevalence of extreme poverty on average is 47 percent and the poverty rates for the upazilas vary between 33-65 percent, which is considered as high to very high. Any shocks and disasters in this poverty stricken area amplify the food insecurity as sources of food and employment opportunities are already limited.

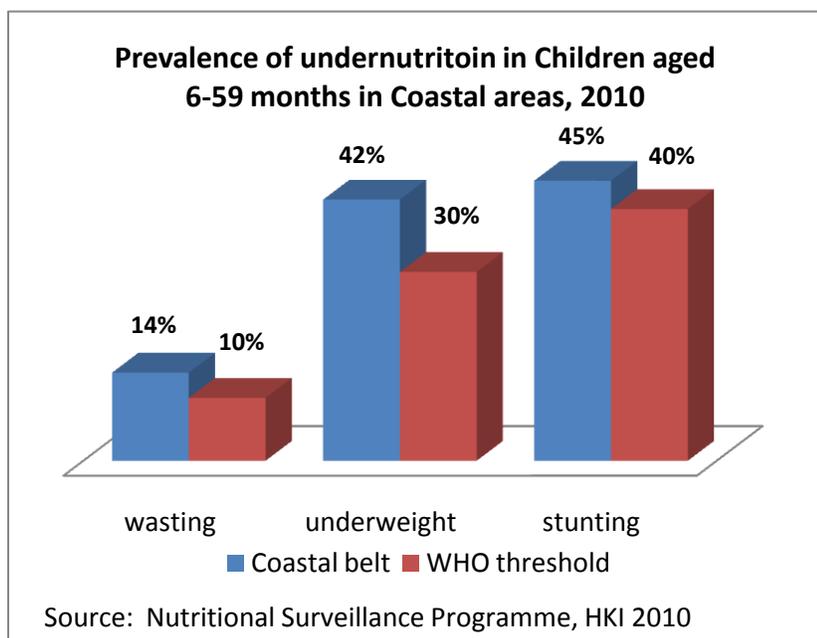
The current assessment portrayed a deteriorating food security situation for the population affected irrespective of socio-economic status. However, this situation is considerably worse for the economically marginal groups.

Upazila	*% Extreme Poor (Lower poverty line)	No. of Extreme Poor
Shyamnagar	65.2	204,585
Kaliganj	62.5	160,240
Assasuni	57.5	143,315
Debhata	42.8	50,908
Satkhira sadar	33.4	137,059
Tala	33.0	97,152
Kalaroa	32.9	72,905

* Source: Poverty estimates 2005, WFP, WB & BBS

- The consumption of main meals is now 1 - 2 meals/day, down from an average of 2-3 meals before the flood. The adult members of the family often consume 1 meal to let the children and the elderly eat 2 times a day.

- The quantity and quality of meals has reduced significantly. On average one kg of rice is consumed in 2 days by five members of the family. This equates to one person consuming around 100 grams of rice a day. In normal times rice consumption by an adult in rural areas is 300-400 gram/day. Effectively they are consuming 25-33% of their normal consumption.
- The major food items consumed are mostly rice and either dal or potato, often with Kolmi shak, a leafy green vegetable available on the road sides. Before the flood many households had small amount of animal protein such as small fish once/twice a week in their regular diet.
- All the FGD participants reported they have no food stocks to support their family during this crisis.
- The food consumption pattern of pregnant and lactating mothers is severely compromised. Their regular food consumption is significantly reduced and the consumption of any supplementary food is a luxury.
- Previously the main sources of rice, pulses and potato supply came from purchase from the market with cash or on credit, borrowing from neighbours and relatives. After the flood relief, borrowing of money to purchase food have been added to the previous sources. The female FGD participants also reported that before flood they had received rice as wage for working as household supports in the better off households. This however is no longer available as an income/food source for the family.
- A lack of cooking space, temporary cooking arrangements and a lack of fuel also prevents the displaced population to cook food more frequently and properly. They tend to cook once a day and live on it throughout the day, which is also leading to reduced consumption.



The past records on the undernutrition of under five children in coastal belts were substantially higher than what the World Health Organization (WHO) defines as a serious situation. Though the current assessment did not use any methods to measure the nutritional situation of the children and other vulnerable groups such as pregnant and lactating women (PLW), based on various evidence and sources it can be assumed that the prolonged consumption of a small quantity and poor quality of food will lead to a deterioration of the nutrition of the children as well as the PLWs. Field

observations strongly suggest deterioration in the nutritional status of the children with exposed ribs and wasted arms. The female FGD discussion reported of increased prevalence of diarrhoeal, skin disease, fever, cold and cough especially amongst the children.

7. Coping Strategies:

The most common coping strategies practiced by the flood affected population are as follows

Food consumption related:

- Reduce quantity and quality of meal
- Eat less preferred food, especially the road side vegetables
- Adult members of the family restrict food consumption in order to feed children
- Send children to neighbours and the homes of relatives to eat.

Livelihoods related:

- Selling of advanced labour
- Borrowing money
- Selling of assets like livestock, poultry, tree, household utensils
- Send children to low paid works in the shops and as assistance to the rickshaw van pullers
- Begging
- Migration to other areas

Most of these coping have serious implications on health and nutrition especially of the children under five pregnant mothers and adolescent girls. Heavy borrowing and asset sale type of coping mechanisms leave a household in vicious circle of debt, and without any assets it is difficult to repay loans unless the livelihood is fully restored which is unlikely to happen soon for the affected population of Satkhira.

8. Priority needs of the community

Immediate priority: The FGD participants identified as their immediate needs: food especially rice, oil, salt, vegetable items and pulses, baby food, clean drinking water, cash, medicines such as oral saline and transfers to permanent shelter. It was proposed that these assistances would be provided for the next 3 to 4 months and employment opportunities should also be explored and created simultaneously.

Medium term priority: The supply of food as well as employment opportunities and assistance in agriculture were identified as medium to long term priority. Following are some specific suggestions put forward by the FGD participants:

- Food and cash for work: The local level representatives suggested that once the water recedes (expected not before Oct/Nov) food and cash for work type employment generation programmes should be launched in the area. Besides employment generation these programmes should focus on schemes pertaining maintenance of breached embankment and canal excavation/re-excavation.
- The marginal farmer's proposed extensive rehabilitation programmes in the agriculture sector, including interest-free agricultural loans; the free supply of seeds and fertilizers; and cash grants to purchases livestock which have been sold during the current flood.

- The female FGD group strongly requested nutritional supplements for the children, pregnant and lactating females. Separate latrine, female health related support is also placed as their priority needs.

Long term need: Long term priority needs were centred on longer term solutions of the flooding situation that is frequent in some parts of the districts.

9. Response and gap analysis

Based on the government statistics till 22 August affected population in the worst affected five upazilas and the paurashava of Satkhira district was over 732,000 which is around 163,000 households. Of this number about 23,000 households are living in shelters which we consider to be the worst affected and in need of external assistance. However, the locals suggest that the number affected is 10 to 20 percent higher than the government estimates.

Being a rapid assessment it was not possible to estimate the affected poor and food insecure population. Therefore, the current report attempts to estimate poor and extreme poor worst affected based on the secondary statistics on poverty and the government estimate on total affected. Given the average poverty and extreme poverty rate in the affected upazilas of Satkhira 53% and 40% respectively, **the worst affected poor household stands to 87,000 of which 65,200 are extreme poor**. The FGD discussions and the field observations suggested that a large part of the displaced population living in the shelters especially on the roadsides and embankments are the extreme poor vulnerable group.

In a broader sense we may consider that in the short term all the 163,000 households are in need of assistance. However in reality households with better coping strategies and asset possession will try to restore their lives and livelihoods. It is the marginal and the extreme poor for which coping with this shock without external assistance is going to be the most difficult. Therefore in terms of planning of responses the focus can be on this particular group.

In terms of assistance provided and planned so far by WFP and other development partners including national and international NGOs, approximately 64,000 families have been or will be assisted with food and non food items (detailed table in the Annex 1). However most of the assistance is planned as one off and the percentage of the aid recipients belonging to the marginal group is not known. Moreover, in order to limit unavoidable overlap, the coordination of the response will require strengthening. .

As of 22 August, the government had provided 1,145 Mt of food assistance mainly rice to an unspecified number of affected households. During the assessment the flood affected population reported that they have received 10 to 12 kg of government rice in two tranches.

Government response to Satkhira flood as of 22 Aug 2011			
Affected areas		Relief distribution	
District	Upazila	Food (MT)	GR Cash (Taka)
Satkhira	Tala	424	570,000

Satkhira	Satkhira Sadar	260	285,000
Satkhira	Kolaroa	97	120,000
Satkhira	Debhata	102	115,000
Satkhira	Assasuni	163	240,000
Satkhira	Kaligonj	27	0
Satkhira	Pourashava	67	0
Satkhira	Shymnagar	5	0
Satkhira	Kolaroa Pourashava	2	0
Total		1,145	1,330,000
Source: DRRO , DC Office Satkhira, 22/08/2011			

10. Food prices and market assessment

To date, (and relying upon only a limited sample) there appears to have been only a marginal impact on the price of rice in the local markets. Out of five markets surveyed rice prices increased by 10-17% percent in three markets and in two other markets the price remains the same. On average rice used to be sold at Taka 32-34 before flood, currently it is sold at Taka 35 - 40. The price of pulse and wheat flour and vegetable has also increased. The traders indicated that price of food are expected to increase substantially in the near future because locally produced rice will not be available in the market due to crop damage and the supply of food commodities to the market is disrupted by damage to road communication.

Change in food price before and after flood	
Major food items	Price Increase
Rice	10-17%
Wheat flour	10-20%
Lentil/dal	20-33%
Soybean Oil	8-18%
Source: Focus group discussion with the vulnerable group	

The price change reported by the FGD participants indicated substantial increase in the prices of major food commodities. Highest increase is observed for lentil/dal. The small markets in the locality said that they do not have sufficient capacity to meet the local needs as their supplies are running out and they are unable to bring commodities from other areas due to disrupted road communication. However, the large markets like Kaman nagar Boro Bazar in Satkhira Sadar, Babu hat bazaar at Assasuni, Asu Market in Debhata have sufficient stock of food grain, pulse etc. with which they can support the internal demand.

Majority of the local food markets are fully or partly operational. Some of them lost food stock due to this flood and their shops are inundated. Currently they are functioning on the road sides on temporary basis. However trading volumes in the local markets are low compared to the normal. The main reason for this reduced trading has been attributed to the purchasing capacity of the buyers eroded because of the disaster.

11.Recommendations:

Short and medium term interventions:

Based upon the findings of the rapid assessment the following short and medium term interventions would be recommended:

- (i) Immediate relief assistance (food together with water sanitation, health and hygiene) to about 25,000 HHs displaced from houses and living in temporary shelters;
- (ii) Support to the worst affected households to restore livelihoods through rehabilitation of infrastructures and creation of employment opportunities; and
- (iii) Support to rehabilitate the agricultural sector including rice, vegetable and fisheries production given that the flooding/water logging has greatly impacted the production for the current season.

Both the relief assistance and recovery assistance should be done in close collaboration with the relevant Government agencies to ensure that resources available from Government and from other stakeholders are used in a coordinated manner without duplication. To this end a formal coordination mechanism should be introduced in the food/agriculture sector.

Out of the estimated 700,000 people affected, 112,500 people (25,000 households) are currently displaced or isolated on the roadside, embankments or in shelters and experiencing severe levels of distress. This caseload requires immediate food assistance with particular emphasis on meeting their short term needs. A **general food ration** of rice and pulses (calories, carbohydrates, protein and micronutrients) for the entire family is proposed for the months September and October 2011. Food distributions during these months are further required to address the impact of the flooding on the markets with regards to both access and food inflation with respect to the cost of basic staples. This food based intervention will need to be complemented substantially by inputs from other sectors including water & sanitation, hygiene and other non-food item.

Given the likelihood of extended water-logging, it is expected that a large proportion of this population will be displaced at least until the waters recede at the end October/early November. Once waters recede and families start to return to their homes, an improvement in the state of the markets and a return to normalcy of the food prices are expected. To this end, it is recommended transitioning to an **unconditional cash transfer** for a further two months while homesteads are repaired and employment opportunities are pursued. Distribution of vegetable seeds would complement the assistance and enable affected households to resume productive activities thereby improving their nutritional status and generating some income.

Throughout the 4 month intervention (September- December 2011) a **supplementary feeding programme** with fortified food to all pregnant and lactating women (PLW) and children under 2 to guarantee the nutritional status of the most vulnerable elements of the population is strongly recommended. This intervention is essential to prevent a deterioration of the status of this nutritionally vulnerable group, particularly given the exacerbating factors of poor water & sanitation and the risk of water-borne diseases.

The assessment mission further recommends that a more comprehensive Food Security assessment be undertaken in November 2011 to make a determination of the needs of early recovery to support restoration of livelihoods leading into 2012.

Also as the *aman* crop is already inundated and that there are no prospects for a major agricultural crop before the next *aman* season before November/December 2012, people are likely to need an extended period of

assistance. Agriculture is single largest employer of the ultra poor in the region and it is important that this can be re-established at the earliest so as to create employment opportunities.

The rehabilitation of the community infrastructures (embankment, roads, canals, dykes, etc.) and creation of employment opportunities in the worst affected areas are essential to assist the poor to regain their livelihoods. The rehabilitation activities are to be initiated in December 2011/January 2012 when food/cash activities are is feasible until June 2012 (during the dry season).

Medium to long term intervention

The medium to long term interventions are mostly related to the recovery and rehabilitation of agriculture. Some key options in this regard include the following

- Help and facilitate the landless, small and marginal farmers through group based approach, especially hard core poor and vulnerable groups through agricultural input support and micro capital grant in farming practices and non farm income generating activities.
- Improve access to agricultural credit.
- Introduction of salt resistant and high yielding crop varieties in the area
- Promote salinity management technologies such as; early sowing of mungbean, cowpea, soybean and sesame after harvest of aman rice; raised bed with mulch followed by drip irrigation for high value horticultural crops; rice straw followed by rice bran mulch with supplemental irrigation for pit based crops cultivation.
- Rehabilitation of storage capacities
- Support to livestock and poultry restocking.
- Support to the rehabilitation of the aquaculture sector through soil mineralization, fingerling stocking, rehabilitation of the embankments and of the stock of shrimp seeds;
- Support to Farmer Field Schools in crop management, aquaculture and livestock production.
- Create employment opportunities for the people living in the remote rural areas by introducing multidisciplinary agricultural production approach including livestock and fisheries.

Ongoing planning efforts such as the Southern Delta Master Plan are further expected to promote investments leading to the prevention of flood and water logging in the area.

Annex 1 : 2011 Floods - Who is doing What Where

Date: 25th August 2011

NGO	NETWORK	AREA	INTERVENTION	
		District & Upazila	Items	No. household
ACF	CBHA	Satkhira (Assasuni, Debhata)	food and hygiene materials (soap, bleaching powder)	2,000
ActionAid	NARRI, CBHA	Satkhira (Tala)	Food & NFI	700
CAFOD	CBHA	Satkhira (7 Upazilas), Jessore	Food, NFI, cloths and WASH material (WPT, ORS, sanitary napkin and soap)	7,000
Christian Aid	CBHA	Satkhira (Tala, Saykhira sadar)	Food,NFI,WPT & Plastic Sheet	5,255
HelpAge	CBHA	Satkhira	Food/NFI/mobility aid/temporary shelter/ORS,WPT	1,200
Islamic Relief	NARRI, CBHA	Satkhira (Tala, Satkhira sadar, Kolaroa)	Food and plastic sheet	800
Muslim Aid -UK		Satkhira (Tala)	Baby Food, Drinking water, Sanitary latrine and WPT	2,000
Oxfam	ECB, NARRI, CBHA	Satkhira (Tala)	aprox 1000 plastic sheet and 120 latrine distributed (Sushilan); Planned-plastic sheet, TW raising & install, temporary latrine	600
Solidarirites International	NARRI Plus	Satkhira (Tala)	WPT,Latrine and Plastic sheet	500
World Vision	ECB, CBHA	Satkhira (Sadar, Assasuni)	food pack, ors, WPT, bottled water, matches	3,500
Tearfund	CBHA	Satkhira (Tala)	Food & NFI	700
BDRCS/IFRC	Red Cross Movement	Satkhira , Jessore (Tala, Kolaroa, Sadar, Monirampur, Keshobpur, Abhaynagar,	Emergency food, Supplementary Food, emergency shelter, WASH, Health Care, livelihood/shelter	5,000
WFP	Own	Satkhira (Satkhira Sadar & Tala)	High Energy Biscuit (HEB) for 11,500 families; Total 34.5 MT	11,500
WFP	Own	Satkhira (Tala, Satkhira Sadar, Kalaroa, Debhata, Assasuni)	High Energy Biscuit (HEB) for 23,500 families; Total 70.5 MT	23,500
Total				64,255