



**A SUMMARY OF  
THE FINDINGS OF  
THE WFP DELTA FOOD SECURITY  
ASSESSMENT  
&  
THE FAO DELTA CROP  
ASSESSMENT  
November 2009**

## **EXECUTIVE SUMMARY**

The below report combines data collected from 2 independent reports – the *WFP November 2009 Food Security Assessment in the Delta* and the *FAO November 2009 Delta Crop Assessment* report. The focus of the WFP report was largely on household food security and in particular indicators that affect household food availability, access and consumption while FAO assessment analyzed food availability indicators in more detail, in particular the crop production levels in the Delta. The findings of these two complementary reports have thus been merged to provide the reader a better and more informed view of the food security situation in the Delta today. The detailed individual reports can be accessed by contacting the respective agencies.

From the data collected in the course of this survey and presented here, it is clear that the Delta is in a rehabilitation and early recovery phase.

Today in the Delta food insecurity is the result of other factors which include a lack of access to other foods (rather than rice), high cost of agricultural production and lack of income generating opportunities.

With respect to agricultural production

- Despite the lack of tillage equipment and draught animals, farmers in the Delta have cropped almost all their available acreage.
- It is very likely that the level of yield for the 2009 monsoon cropping season will be lower than could be achieved under optimal cropping conditions. Yield can be estimated as equal to that achieved in 2008 and 15% to 40% lower than the optimum one, depending on the area.
- Despite these constraints and given these estimated levels of rice production, there is no obvious threat to food security of the area. **Overall food production will increase thanks to the increase in cropped surface.**

There is a clear **lack of reliance and reduced dependency on food assistance (by which we refer to rice) across the sample**

- Only 3% of the entire sample can be classified as having “Poor” food consumption.
- Sixty percent (60%) of the sample receives no form of food assistance. Yet just 3% of the sample falls in the “Poor” food consumption category.
- More than two-thirds of HHs receiving food assistance do not rely on this assistance as a primary source for rice. Rather, any food assistance received is used to supplement rice stocks (most commonly obtained through purchase).

**Household Food Insecurity in the Delta today is a function of the lack of availability and access to diverse food groups including basic foods such as vegetables, pulses and fish and NOT as a result of a lack of access to rice.**

Some of the main problems affecting Household Food Security in the Delta include:

- Unemployment and under-employment. The fall in casual labor wages exacerbates the situation.

- The costs borne by the farmer are high adversely impacting farm income and keeping the farming HH in a vicious circle of debt and impoverishment that seriously limits farmers' working capital and investment capacity.
- HHs being forced to increasingly depend on debt to meet food and other basic expenses. (Note: Given the lack of reliance on food assistance as a primary source of food (rice) and the data on consumption, it is to be noted that HHs are undertaking debt in order to buy other foods rather than rice).

## **RECOMMENDATIONS**

Sustained growth in crop production and farm income is essential to achieve the economic recovery of the Delta during the rehabilitation phase. Programmes supporting rehabilitation of the agricultural livelihoods sector should emphasize i) restoring productive assets; ii) enhancing farm productivity; iii) increasing gross margins; and iv) improving offers of financial services.

Based on the findings of this survey, the February 2009 survey and the monitoring of food security indicators it is clear that basic food assistance is no longer a viable solution to combating food insecurity in the Delta. Interventions supporting small farmers, household food production, debt reduction and income generating activities are key.

With this in mind, the following recommendations are put forth.

### **Food Assistance**

- It is recommended that WFP phases out food assistance operations in areas within Bogale and Labutta townships by end of 2009.

### **General**

- Implementation of income generating activities and particularly those supporting agricultural production, which provide the majority of the livelihoods in the Delta.
- Expand the use of cash programmes in order to help reduce HHs debt as well as strengthen markets. HHs can take advantage of such schemes to supplement HHs income as well as use income derived from this to purchase key essentials as required by the HH.
- Implementation of income generating activities and particularly those supporting agricultural production.
- Programmes should focus on activities that strengthen human capital in accordance with the recommendations included within the Post-Nargis Recovery and Preparedness Action Plan ( October 2009).

#### *Restoring productive assets*

Efforts to restore productive assets have to be sustained. Tillage capacity (both draught animals and power tillers) is lacking and tillage restoration should be a priority. In order to achieve a sustainable restoration of farm machinery and draught animals, group activities have to be developed (i.e. machinery rings,

animal banking schemes). In addition, improving or developing repair/maintenance services is critical to insuring the sustainability of tillage mechanisation.

#### *Enhancement of farm productivity*

In addition to increasing tillage capacity, crop intensification is the major way to achieve a significant boost to crop production and farm incomes while also increasing demand for farm labour and thus contributing to the improvement in incomes of landless households and small farmers.

Such interventions would include

- (a) Enhancing the availability of quality seeds at local level
- (b) Implementing participatory extension schemes
- (c) Decreasing post-harvest losses, enhancing post-harvest technologies and storage facilities.

If rapidly implemented, such restoration of productive assets and other intensification programmes could increase the current rice production at farm level by at least 10% to 30% within one cropping calendar (monsoon and summer).

#### *Increasing farms' gross margins*

In addition to increasing production, it is essential to assist farmers in lowering production costs and improving agricultural products marketing.

#### *Improving the financial services offered*

Microfinance and credit schemes need to be scaled up in order to help support crop diversification and overall productive capacity in the Delta.

## **Introduction**

The below report combines data collected from two independent reports – the WFP November 2009 Food Security Assessment in the Delta and the FAO November 2009 Delta Crop Assessment report. The focus of the WFP report was largely on household food security and in particular indicators that affect household food availability, access and consumption while the FAO assessment analyzed food availability indicators in more detail, in particular the crop production levels in the Delta.

The objective of the FAO survey was to assess the production level across the Delta for the 2009 monsoon cropping season. The survey was carried out through direct interviews with 911 farmers from 135 villages in 74 village tracts in five townships

The objective of the WFP survey was to (a) ascertain the current state of household food security in the Delta and (b) help make an informed decision on the future of WFP program activities in the Delta. A representative sample of 700 HHs was randomly selected across Bogale & Labutta.

The findings of these two complementary reports have thus been merged to provide the reader a better and more informed view of the food security situation in the Delta today. It is to be noted that this report attempts to synthesize the findings of the two reports and that more detailed and extensive information is available within each of these reports. The individual reports can be obtained by contacting the respective agencies.

## **Food Availability**

Assistance to the restoration of agriculture production was mainly through provision of agricultural inputs (seeds, and fertilisers, fuel and lubricants for machinery, etc.) and provision of productive assets for land preparation (draught animals, power-tillers), including irrigation equipment. This assistance to the farming population primarily targeted small farmers and aimed at recovering cropping capacities and productivity.

The non-farming population was targeted, too, thanks to the provision of horticultural production inputs and small animal rearing kits aimed at enhancing households' income and food security.

## **Agriculture**

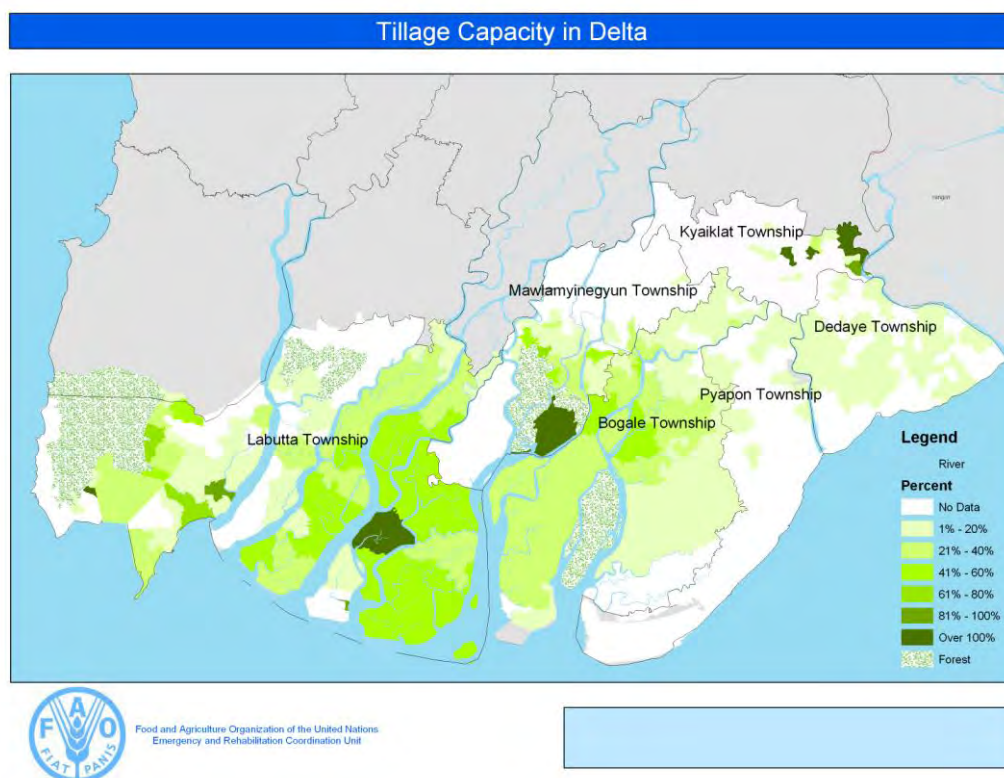
### **A. Tillage Capacity**

Except in a few Village Tracts where the tillage capacity exceeds needs, most Townships have low to very low tillage capacity. This mirrors the low rate of draught animal replacement as well as the insufficient progress made in replacing farm machinery in a sustainable manner.

Such tillage gaps impact farmers' cash flow at the time of land preparation, when they are obliged to use service providers. This diverts funds that could be used to purchase

other inputs (i.e. fertilisers, seeds, labour) and causes some farmers to borrow to acquire these inputs.

Similarly, the lack of draught animals and power-tillers at harvest will also affect threshing capacity, thus increasing post-harvest losses.



## B. Cropped Acreage

Despite the lack of tillage equipment and draught animals, farmers in the Delta have cropped almost all their available acreage.

In the salty water (southern) areas of the Delta, cropped acreage is 90% of available acreage has been cropped, whereas in the intermediate and fresh water (northern) areas, the percentage of acreage cropped ranges from 91% to 100%.

The difference in cropped acreage between monsoon cropping season 2008 and monsoon cropping season 2009 is positive. All Townships show an increase in cropped acreage compared with the 2008 monsoon cropping season. The most significant increases in cropped acreage is seen in Bogale (+13%) and Mawlamyengyun (+11%) Townships.

This encouraging increase in cropped acreage contributed to the overall farm production recovery. However, farmers often address the lack of draught animals and tillage equipment using their available capital for tillage services, to the detriment of spending on inputs and labour cost.

### C. Household Level Land Access

Households were asked to list the type of land they had access to and the approximate size of the land. Local measures of scale were then recalculated to obtain average figures for type of land (in acres) for each township.

Figure 1: Access to Land by Type & Average Size

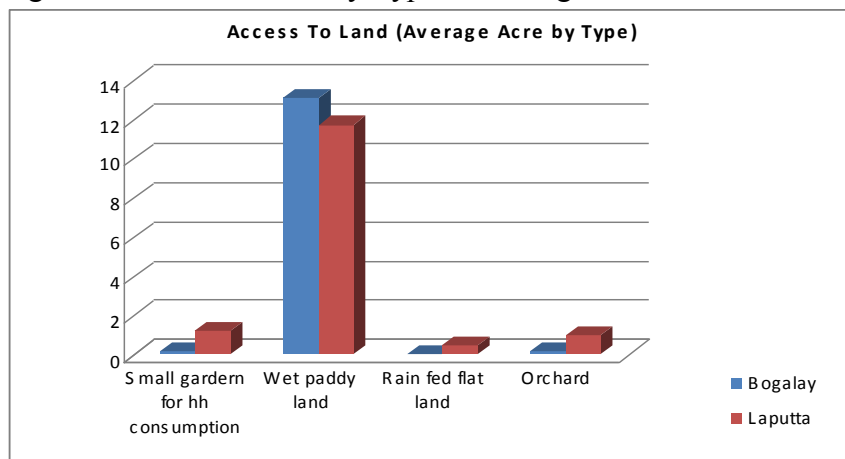
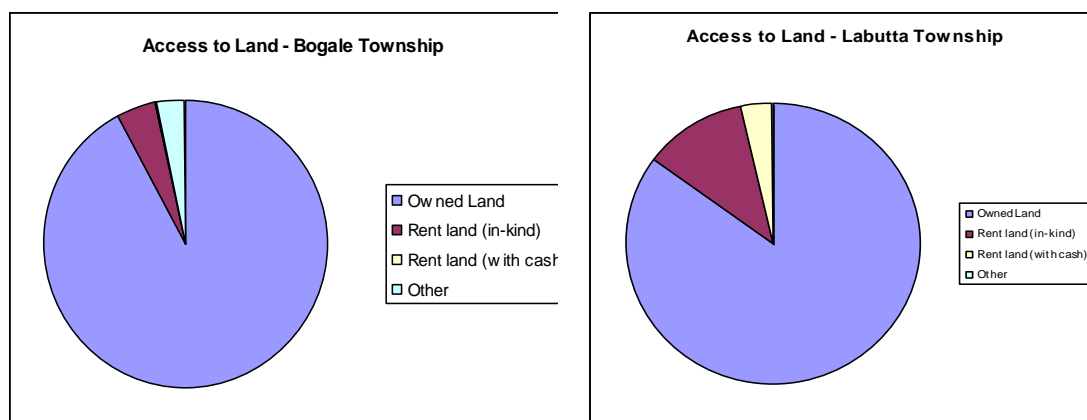


Figure 2: Comparison of Types of Land Access across Townships



### Main Constraints to Agriculture Productivity & Food Availability

Both the WFP and the FAO surveys collected information from farmers on factors affecting their agricultural productivity. As can be seen below – the findings are very similar.

Figure 3: Main Constraints to Farming – WFP Assessment

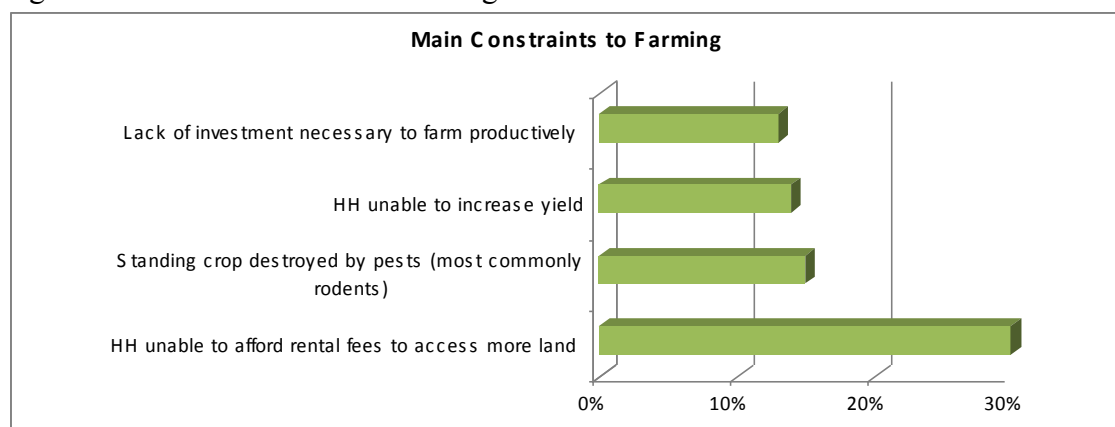
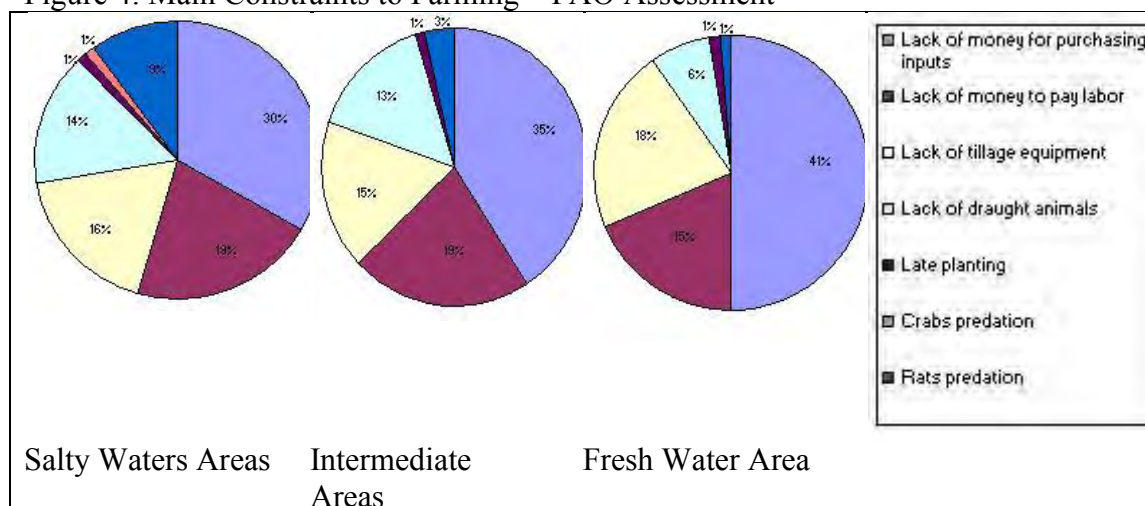


Figure 4: Main Constraints to Farming – FAO Assessment



**From both assessments it is clear that the lack of income and the inability to afford basic inputs is the main problem affecting the agricultural sector.** The inability to afford basic inputs is of course related and a causal factor in-itself of the lowered agricultural productivity.

### 1. Lack of Working Capital

Almost unanimously, respondents named the lack of working capital or of cash-flow to buy agricultural inputs and to pay necessary labour as their main limiting factor (48% to 53%). Cash flow becomes tight because available cash is used for land preparation costs and appropriate credit (i.e. suitable and affordable seasonal loans in the appropriate amount and maturity with a possible grace period) is almost entirely lacking.

In addition, since Cyclone Nargis farmers face great difficulties in retaining any profit from one season to the other since Cyclone Nargis due to the overall decrease of productivity and increased indebtedness.



### *2. Lack of productive assets or capital for investment*

A lack of productive assets (tillage equipment and draught animals) that can be also understood as a lack of capital for investment comes as the second most-named reason (25 to 29%) for a decrease in farm productivity. This lack of productive assets leads to the absorption of available working capital by land preparation costs.

This response reflects both the low level of restoration of productive assets by humanitarian assistance and the need for appropriate financial services that can be used to address farmers' need to acquire productive assets.

### *3. Pests and Diseases affecting the crops*

Various types of pests have affected crops throughout the 2009 cropping season. Stem borer and *Hyspa Gestroi* are the most frequent insect pests faced, while rats are mentioned as the most important cause of damages on crops. Damages to crops due to rats ranges from 15% to 40% of crops, according to the level of infestation, which varies between village tracts. Labutta and Bogale are the most affected townships.

In Labutta Township, 6 village tracts are severely affected (97 villages) and 11 village tracts are affected in a lesser extent (138 villages). In Bogale, twenty-two village tracts are severely affected, whilst rats are regularly caught to a lesser extent in all village tracts. The infestation and damages by a variety of pests throughout the cropping season will certainly have a negative affect on overall productivity.

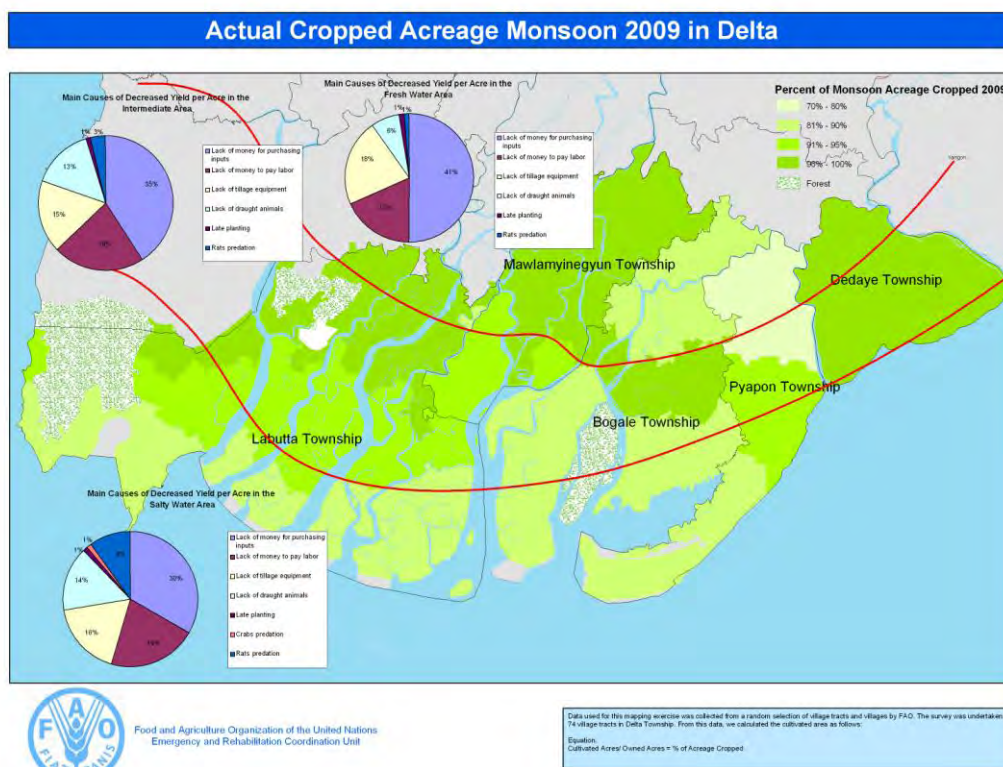
## **Crop Performance and Rice Production**

For the past decade, there has been a trend toward under-use and imbalanced use of plant nutrients that is an important limitation on production. Under such conditions, high yielding varieties cannot fully express their genetic potential for production. In addition, the rate of seed replacement with fresh, certified seeds remains lower than recommended. The use of low quality seeds is a major limiting factor in paddy yield.

Given the decrease in the use of nutrient inputs, lowering levels of intensification, and damages due to pest infestations, and based on the estimates made by the respondents, it is very likely that the level of yield for the 2009 monsoon cropping season would be lower than the optimum yield could achieve under optimal cropping conditions.

One can estimate the level of yield in 2009 as equal to the one achieved in 2008 and 15% to 40% lower than the optimum one, according to the area. **Overall food production level should increase compared with the year 2008, thanks to the increase of cropped acreage.**

**At farm household level, food production looks sufficient to cover the yearly needs of a average size family even though, due to the persistence of the major limiting factors mentioned in the survey, production levels are likely to be lower than the achievable optimum.** Small framers (<5 acres) remain very vulnerable due to the current low productivity of their farms.



## Food Access

### Sources of Income

*Households were asked to list their sources of income and they stated that the most common source of income for households was income derived from wages. Thirty-six percent (36%) of the sample reported wages being one of their main sources of income.*

Respondents were also asked if they had any members in their HHs who were currently unemployed but were actively looking for work. It is seen that 35% of the sample reported that a member of their household was unemployed and was looking for employment. It is expected that in an area where casual labor has huge relevance, there will always be a portion of the population that will be employed only in short durations; nevertheless a figure of 35% of the sample reporting a able member being unemployed is cause for concern.

### Sources of Expenditure

Data on expenditure for food and non-food items, such as education, health transport, etc. were collected to better understand household resource allocation.

The main sources of HH expenditure are on food, utilities, health and education in that order. Approximately the entire sample reported some monthly expenditure on food. Typically a HH spent 57% of their total monthly expenditure on food.

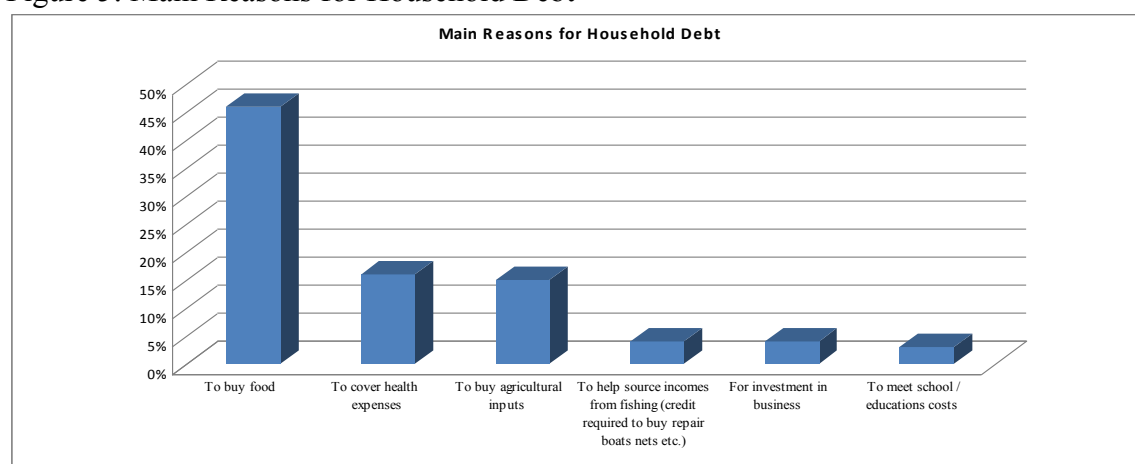
Note: As is seen in the case of debt, HH expenditure on food would almost certainly be minimal on rice (if not a clear distinction would be seen between HHs receiving food assistance and the rest of the sample).

After food the second most commonly reported expenditure was on utilities with 61% of HHs reporting some monthly expenditure followed by health (54%).

### Access to Credit & Debt

*Eighty nine percent of the sample reported currently being in debt and needing to repay their loan.* This is an extremely high figure and indicates that the majority of HHs are unable to source enough food or incomes in order to meet basic needs. Disaggregating across townships, it is seen that 85% of all sampled HHs in Bogale reported currently being in debt. In Labutta, this figure is slightly higher at 92%. The main reasons for sampled HHs obtaining loans can be seen in the below figure.

Figure 5: Main Reasons for Household Debt

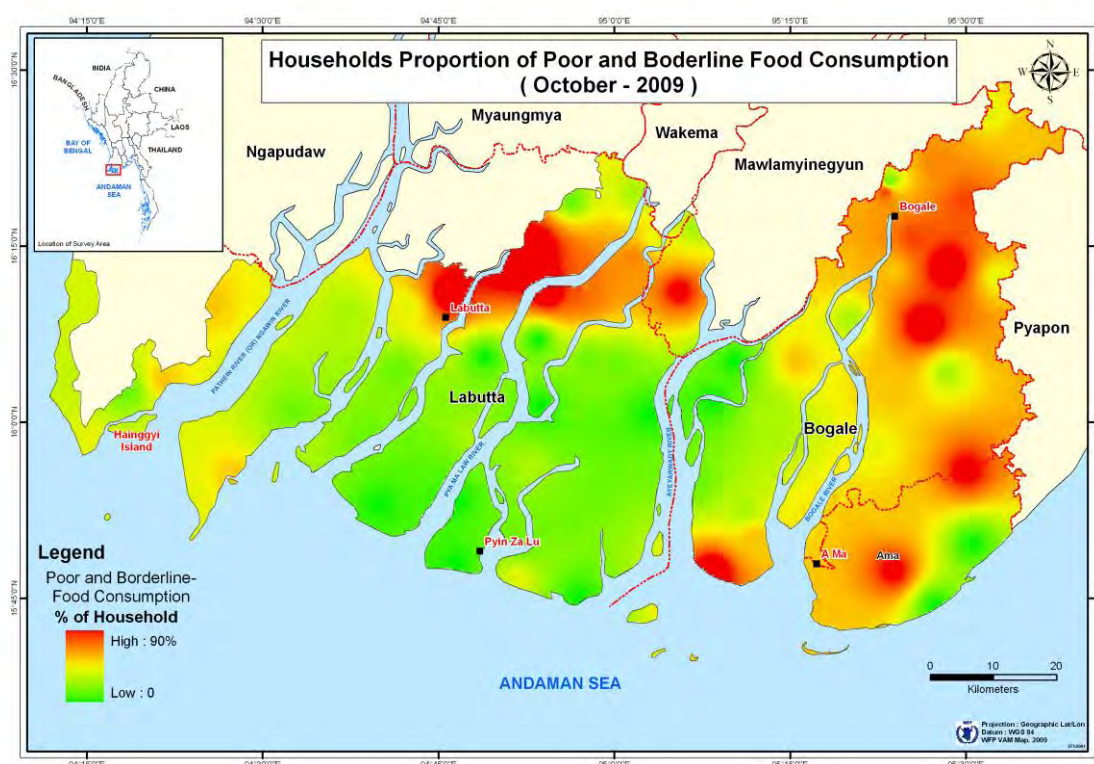


Loans are thus taken to buy food or to source incomes so HHs can buy food (other than rice) and meet other essential non-food expenses. Given the lack of reliance on food assistance (rice) and the data on consumption, it is crucial to note that HHs are primarily undertaking debt in order to buy foods other than rice, which is consumed by the whole sample (irrespective of assistance) 7 days a week.

### Food Consumption

Based on Food Consumption and dietary diversity data it is seen that approximately 70% of the sample can be classified under the „Adequate” food consumption group and 28% as „Borderline”. Approximately 3% of the entire sample can be classified as having “Poor” food consumption. Across the sample food consumption scores are good with a negligible number of HHs falling into the Poor food consumption category.

Map 1: Percentage of HHs with Poor & Borderline Food Consumption



*Note: It should also be noted that Poor + Borderline Households depicted in the above maps constitute a very low base in terms of numbers.*

### Food Consumption Score (FCS)

Information was collected on the dietary diversity of the HH with respondent being asked to list the number of days a particular food item was consumed by the HH in the 7 days prior to the interview. Thus a „0“ for Fruits would indicate that a HH did not consume any fruit in the previous 7 days while a „4“ would indicate consumption 4 days out of 7 etc. The mean food consumption score for a 7 day period for the sample was then calculated

Table 1: Mean FCS Scores for the Sample

	Poor	Borderline	Adequate	All
Rice	6	7	7	7
Other cereals ( wheat, maize)	0	0	0	0
Potatoes/ Tubers	0	0	1	1
Beans / Peas / Lentils	0	1	2	1
Vegetables	3	3	4	3
Fruits	0	0	1	1
Meat and Poultry	0	0	1	1
Eggs	0	0	1	1
Fish	1	2	4	4
Milk and Milk Products	0	0	0	0
Oils & Fats	3	6	7	6
Sugar	0	0	1	1
Condiments	6	6	7	7

From the above table it is seen that:

- a. The main difference in food consumption between the Poor / Borderline and the Adequate groups is in the diversity of foods consumed.
- b. Rice is consumed by the entire sample 7 days a week irrespective of whether an HHs receives food assistance or not. However the Adequate HHs tends to consume a greater variety of foods especially fish and pulses. The Poor / Borderline groups, rarely consume these items and hence their overall food security is adversely affected.
- c. Rice, vegetables, fish and beans/peas are the only items consumed with any frequency. The consumption scores for all other items are negligible.

Based on above scores, Food Consumption Groups were formulated with 70% of the sample can be classified under the „Adequate” food consumption group and 28% as „Borderline”.

#### An Analysis of Food Consumption Scores with respect to Food Assistance

Data on dietary diversity and food consumption scores for the sample were cross-tabulated with data on food assistance and an in-depth analysis was conducted to ascertain the effects of food assistance on the sample. Households were also asked to identify the source of foods consumed to determine the relevance of food aid amongst HHs that reported receiving any assistance.

It would be expected that food assistance and the dietary diversity of the sample would be directly proportional. In other words HHs receiving food assistance would have a better food consumption profile and therefore be more food secure. However this is not the case. It is clear from the data that over the past 10 months, there is a decreased reliance on food assistance.

- a. Less than 40% of the sample reported receiving food assistance in the last 2 months. Thus 60% of the sample receives no form of food assistance. Yet only 3% of the sample can be classified being in the “Poor” food consumption category.
- b. Households were asked about the source of food consumed and it seen that only 15% of the entire sample reported food assistance (rice) as being a primary source of rice for them. Thus most HHs receiving food assistance use this assistance to supplement their food stocks. In other words, while HHs receive food assistance their *dependency* on this assistance has decreased over the course of 2009.
- c. Most importantly, there is no correlation between households depicting poor food consumption and food assistance. That is, food assistance or lack of does not seem to influence a household falling into Poor, Borderline or Adequate food consumption.

As can be seen from the below data, food consumption and its lack across HHs in the Delta today is a function of the lack of access to diverse food groups including basic foods such as vegetables, pulses and meat and not as a result of a lack of access to rice.

Table 2: Comparison of Food Consumption Scores and HHs Receiving Food Assistance

<b>Food Consumption Group</b>	<b>HHs NOT receiving food assistance over the past 2 months (% of Sample)</b>	<b>HHs receiving food assistance over the past 2 months (% of Sample)</b>	<b>TOTAL (% of Sample)</b>
Poor	2 %	1 %	3 %
Borderline	20 %	8 %	28 %
Adequate	38 %	30 %	70 %
	<b>61 %</b>	<b>39%</b>	<b>100 %</b>

Note: Percentages have been rounded

#### *Source of Staple Food*

Based on the findings and feedback from the last food security survey conducted in the Delta by WFP, improvements were made to the format and analysis framework of the November 2009 survey. It was decided to collect data not only on the food consumed by a Household but also on the source of each type of food. The below table depicts the percentage of the sample depending on food assistance as a main source for their rice.

Table 3: HH's Primary Source of Rice

	<b>Primary Source of Rice for the HH</b>	<b>Percentage of Sample (%)</b>
1	Purchase	73 %
2	Food assistance	15 %
3	Own production	3 %
4	Exchange labor for food	3 %
5	Borrowing	2 %
6	Received as gift	2 %
7	Other Sources	2 %

#### **Shocks**

Respondents were asked to list the 3 main shocks or difficulties faced by their household in the past 6 months. Once the respondent had listed the shocks he or she was then requested to list the shocks in order of severity from 1 (most severe) to 3 (less severe).

Table 4: Main shocks faced by Households – Across Townships

	<b>Shock</b>	<b>Bogale</b>	<b>Labutta</b>	<b>Overall</b>
1	Loss of employment/ reduced salary/ wages	34%	34%	34%
2	Sickness of HH member/ Health Expenditures	18%	20%	19%
3	Debt to reimburse	14%	15%	15%
4	High Food Prices	11%	4%	7%
5	Unable to practice fishing	4%	8%	6%

In summary the most common problem affecting HHs is the lack of access to incomes which in turn curtails food security. The problem is compounded by HHs having to divert incomes on health expenditure and forced to undertake debt. It should be noted that these problems are common to areas affected by endemic poverty

## **Conclusion**

From the data collected in the course of this survey and presented here, it is clear that the Delta is in a rehabilitation and early recovery phase.

There is a clear **lack of reliance and reduced dependency on food assistance (by which we refer to rice) across the sample**

Most importantly, there is no correlation between households depicting poor food consumption and food assistance. That is, food assistance or lack of does not seem to influence a household falling into Poor, Borderline or Adequate food consumption.

With regards to food production there is a progress in terms of cropped acreage compared with the year 2008 monsoon cropping season. However, given the decline in intensification of cropping patterns and the occurrence of pest damages, the level of yield is foreseen to be lower than the optimum standards and close to the level of the monsoon season 2008.

Nevertheless, considering the production of rice, despite these constraints there are no obvious threats to the food security of the area. **Overall food production will be increased thanks to the increase in cropped surface.**

Today in the Delta food insecurity and hunger are the result of other factors which include a lack of access to other foods (rather than rice), lack of income generating opportunities and endemic poverty.

Sustaining the growth in crop production and farm income is essential to achieving the recovery of the agricultural sector. A growth of farm productivity would directly impact on the labour opportunities for the landless households. Labour opportunities and the growth of the local economy depend on growth in farm productivity.

## **Recommendations**

Programmes supporting rehabilitation of the agricultural livelihoods sector should emphasise i) restoring productive assets; ii) enhancing farm productivity; iii) increasing gross margins; and iv) improving offers of financial services.

With this in mind, the following recommendations are put forth.

### **Food Assistance**

- It is recommended that WFP phases out food assistance operations in areas within Bogale and Labutta townships by end of 2009.

## **General**

- Increase implementation of programmes supporting income generating activities, particularly those supporting agricultural production.
- Expand the use of cash based programmes in order to help reduce HH debt and strengthen markets. HHs can take advantage of such schemes to supplement HHs income as well as use income derived from this to purchase key essentials as required by the HH.
- Programmes should focus on activities that strengthen human capital in accordance with the recommendations presented in the Post-Nargis Recovery and Preparedness Action Plan (October 2009).

- *Restoring productive assets*

Efforts to restore productive assets have to be sustained. Tillage equipment is lacking and tillage restoration should be a priority. In order to achieve a sustainable restoration of farm machinery and draught animals, group activities have to be developed (i.e. machinery rings, animal banking schemes). In addition, improving or developing repair/maintenance services is critical to insuring the sustainability of tillage mechanisation.

- *Enhancement of farm productivity*

Intensification is the major way to achieve a significant boost to crop production and farm incomes in the short and medium term. Future programmes should emphasise:

- (a) Enhancing the availability of quality seeds at local level (through the development of seed producers groups) as a key to increasing both yield and income by improving access to high yielding and/or high quality varieties;
- (b) Implementing participatory extension schemes (i.e. Farmers Field Schools) to build farmers' capacity in soil fertility conservation, plant nutrient management and integrated pest and weed management;
- (c) Promoting adequate transfers of technologies aimed at better natural resources and input management (i.e. alternate wetting and drying to save water and irrigation costs, direct seeding to save on seed quantity, etc.); and
- (d) Decreasing post-harvest losses, enhancing post-harvest technologies and storage facilities.

If rapidly implemented, such programmes could increase the current rice production at farm level by at least 10% to 30% within one cropping calendar (monsoon and summer). Such an increase in production would impact not only farmers' income but also their ability to use labour, which would benefit the landless population.

- *Increasing farms' gross margins*

In addition to increasing production, it is essential to assist farmers in lowering production costs and improving agricultural products marketing. Therefore, in addition to programmes aimed at increasing production, it is necessary to introduce complementary programmes aimed at improving access to markets and strengthening linkages between producers and the processing industry to establish win-win alliances for improving the quality and the added value of agricultural products, thus achieving better payment to the producers.



➤ *Improving the financial services offered*

The lack of appropriate financial services is a major constraint to growth in crop production, diversification, investment in productive assets, transfer of innovative technologies and farm business development. Most existing financial products do not meet farmers' needs in terms of the amount that can be borrowed and the duration of the repayment period. Existing microfinance institutions also should consider how they could diversify their credit facilities in order to better reach farmers.