



# FOOD SECURITY ASSESSMENT FOR THE FLOOD-AFFECTED POPULATIONS IN HADRAMOUT AND AL-MAHRA GOVERNORATES



25 Nov. – 6 DEC. 2008

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## **1 - Executive Summary**

### **1.1 Background**

From October 20-25 2008, widespread flooding swept over eastern Yemen after a Tropical Storm (Level Three) drenched the country with heavy rains from October 23-25, 2008. Two eastern provinces – Hadramout and Al-Mahra – were most heavily affected and declared disaster areas by the Yemeni Government. Flash floods and surging waters killed 80 persons and forced an additional 20,000 to 25,000 people into displacement. Preliminary estimates reported at least 3,300 predominantly mud-brick houses had been totally destroyed or damaged beyond repair, while hundreds of others left uninhabitable. In addition to houses, several health facilities and an estimated 170 schools were damaged or destroyed. Early government estimates suggest as many as 700,000 people could have been affected by the floods – including severe damage to livelihoods as surging water caused extensive damage to local agriculture, fishing and honey production. More than 40,000 acres of cultivated soil was eroded – destroying the year's harvest – as well as some 600,000 palm trees. Damage to infrastructure and water/sanitation facilities was extensive.

### **1.2 Objective**

From 25 Nov. to 7 Dec 2008 a WFP team travelled to the area assess the food security situation of the affected population in the two governorates and to determine which groups had been left most vulnerable.

### **1.3 Methodology**

The two affected governorates were divided into agro-ecological zones then broken down by livelihood profile. The affected governorates consist of 3 ecological zones out of 5 zones in Yemen, including southern coastal areas, middle plateau (wadi/valley) areas, and The Empty Quarter (or desert) which stretches into Saudi Arabia. Due to desert's scarce nomadic population, the assessment focused only on the two ecological zones which had reported damages: the coastal areas and the valleys.

The survey data was collected through household questionnaires, focus group discussions and key informant data.

### **1.4 Food Security Situation**

Food availability in the country is not a concern. In the immediate aftermath of the floods access to food was also not found to be a major issue particularly in more accessible areas due to the provision of food (cooked and dry) by a variety of local NGOs, international organizations, and private donors. This outpouring of assistance helped the affected populations maintain good food consumption scores.

However, food consumption provided through assistance was removed and the purchasing power of the affected populations alone was considered, it was found that in fact food consumption was poor among 64% of affected households. These lower scores are more likely an accurate reflection of the current levels of food consumption, since then the provision of cooked meals has ceased and local NGOs have shifted towards providing non-food assistance.

### **1.5 Affected Populations**

The survey found that 15,976 households (an estimated 111,832 persons) had been affected by the floods. Findings also suggested that those left most vulnerable as a result were those

whose homes had been completely destroyed and who had lost other agriculture or fishing assets, comprising of 9,577 households of the overall number.

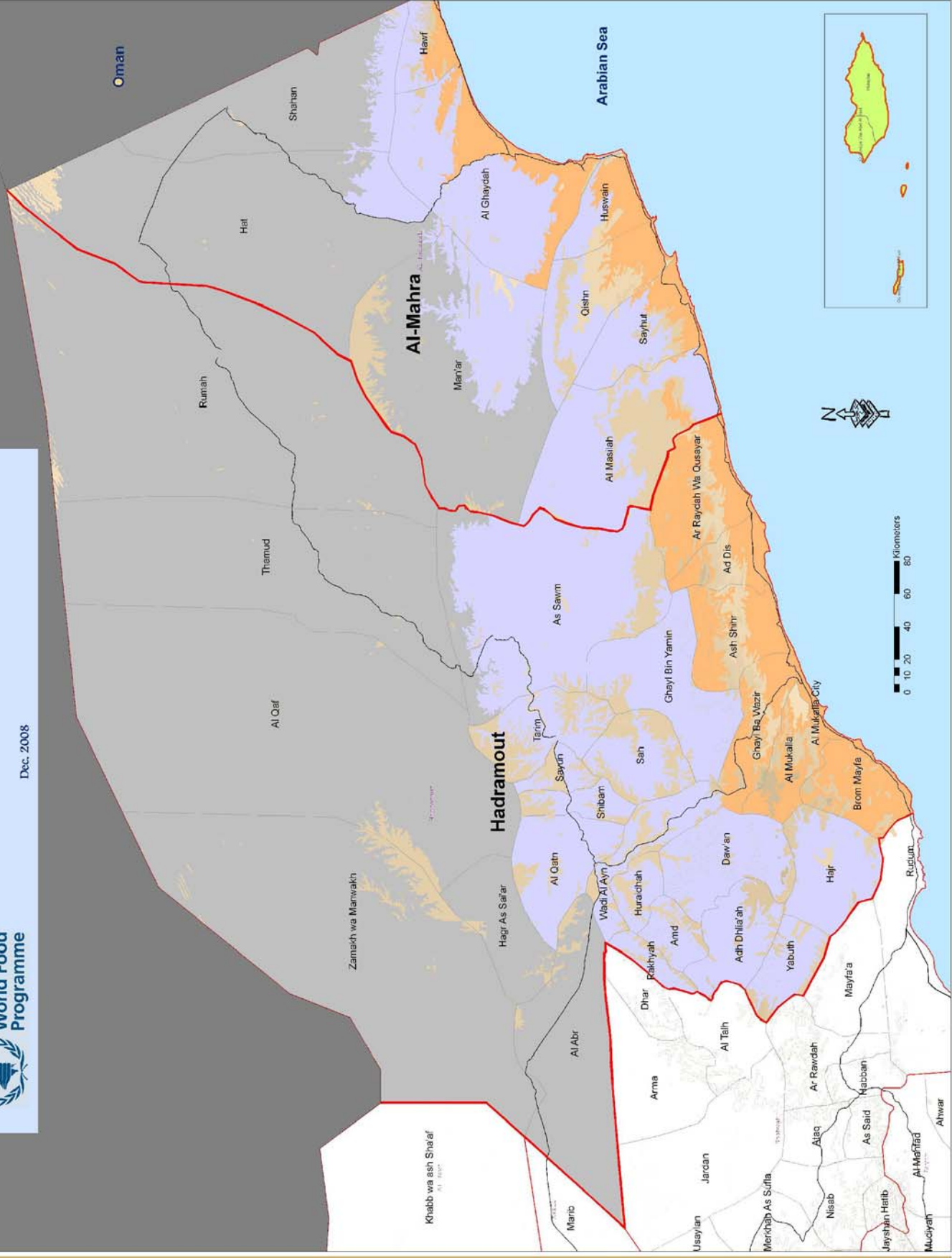
<b>Category</b>	<b>Number of Households</b>
Home completely destroyed	4,349
Partial damage to home	6,399
Loss to agriculture assets	2,727
Loss to fishing assets	415
Loss to beekeeping assets	2,086
<b>Total</b>	<b>15,976</b>

If one takes into account the percentage of food consumption scores, this suggests that, of the 9,577 households most affected, 64% would have poor food consumption, meaning 6,129 households- or 42,905 individuals. WFP currently assist 25,000 persons, therefore an additional 17,905 families are in need of assistance.



# Hadramout - Al-Mahra

Dec. 2008



## Legend

### Administration

- Governorates Boundaries
- Districts Boundaries
- Main Roads
- Coastal Areas
- Areas of Valleys
- Desert

The boundaries and names shown on this map do not imply official endorsement or acceptance by the United Nations.

Source of Spatial boundaries: Central Statistics Organization  
Geographic Coordinate system, GCS WGS, 1984

Analysis and Graphic Done by WFP - VAM Yemen



Map Produced by: WFP - Yemen  
Dec. 2008

## **2 – BACKGROUND**

Yemen is classified as a least-developed and low-income food-deficit country, ranking 153 out of 177 countries on the UNDP 2007/2008 Human Development Index (HDI). Yemen's 23 million people (with population growth at just over 3 percent) are among the poorest in the world. Infant and under-5 mortality rates are estimated at 76 and 102 per 1,000 live births respectively. According to the latest national nutritional data available (Family Health Survey 2003) 53 percent of children under-5 are stunted, 47 percent underweight, and 12 percent are wasted. High food prices have exacerbated already high levels of poverty, malnutrition and food insecurity in the country: according to the FAO *State of Food Insecurity 2008* Report, 1 in 3 Yemenis now suffers from chronic hunger. Poor food security and nutrition indicators are further exacerbated by low education, large family size, and high rates of unemployment, leaving families extremely vulnerable to shocks.

From October 24-25 2008, widespread flooding swept over eastern Yemen after a Tropical Storm (Level Three) drenched the country with heavy rains from October 24-25, 2008. The desert areas of two easternmost provinces – Hadramout and Al-Mahra – were most affected and declared disaster areas by the Yemeni Government. Flash floods and surging waters killed 80 persons and forced an additional 20,000 to 25,000 people into displacement. Preliminary estimates reported at least 3,300 predominantly mud-brick houses were totally destroyed (or damaged beyond repair), while hundreds of others were left uninhabitable. In addition to houses, several health facilities and an estimated 170 schools were damaged or destroyed. Early government estimates suggested as many as 700,000 people could have been affected by the floods – including severe damage to livelihoods as surging water caused damage to local agriculture, fishing and honey production. More than 40,000 acres of cultivated soil were eroded – destroying this year's harvest – as well as some 600,000 palm trees. Damage to infrastructure and water/sanitation facilities was extensive.

From the 27-30 October, the UN sent an interagency team (led by WFP) to conduct a rapid needs assessment mission. The team found that as a result of the floods, displaced families were the most vulnerable groups, left entirely dependent on external food assistance. Thousands of families who depended on fishing and farming had lost equipment, crops, and livestock and would need likely assistance until the next harvest and/or they are able to secure alternative sources of livelihood. In addition to relief aid, a multi-year recovery and development programme would be required to secure alternative sources of livelihood for families whose fields and fishing equipment have been rendered by the storm.

Based on the findings, WFP launched a two month Immediate Response Emergency Operation (IR-EMOP) to assist some 20,000 displaced persons living in schools and temporary settlements in Hadramout and Al-Mahra governorates. A follow-up EMOP was launched, expanding the beneficiary figure to 25,000 persons.

One month after the floods, WFP launched an in-depth assessment on the impact of the floods on food security, fearing that displacement and damage to livelihoods may have had serious affects on the food security of families. Based on findings, a comprehensive response and recovery strategy was to be formulated.

## **3 – METHODOLOGY**

The objective of this assessment was to asses the food security situation and determine whether there was a need for food assistance.

WFP focused on the most affected governorates of Al-Mahra and Hadramout. Each governorate was divided into agro-ecological zones and each zone was further divided by the dominant livelihood. Yemen consists of 5 ecological zones, of which three are represented in the eastern governorates: coastal, valley (wadi), and desert. All affected districts within the governorates were visited, 19 total districts: valley (7), coastal (7), or a mix of both (5). The desert areas to the north, stretching into Saudi Arabia, are sparsely inhabited by a few

nomadic tribes; teams attempted to assess that area but were unable to collect data due to the scarcity of the population, their constant mobility and the poor road network in the area.

The districts in the agro-ecological zones were then classified by livelihood profiles: 14 were rural, 2 urban, and 3 mixed. The high proportion of rural to urban districts is due to the composition of the country, as 70% of the population lives in rural areas. Within each district, teams randomly selected 36 villages and 209 households based on secondary data provided by NGOs, local councils, and international agencies.

Teams were involved in identification and verification of flood affected households (HH) as well as the assessment of food security among affected households; as a secondary focus, the mission also assessed the impact on livelihoods. To gather the necessary data, teams completed 209 household questionnaires, 24 focus group discussions, and interviewed key informants.

Household food intake was collected through the Food Consumption methodology. The Food Consumption Score (FCS) is a data collection method applied by WFP in rapid assessments. The process records the food groups consumed over a 7 day recall period. A standard weight based on the nutrition levels of each food group has been derived:

Food Group	Food Items	Weight
Cereals and Tubers	Wheat, maize, pasta, rice	2
Pulses	Beans, peas, nuts	3
Vegetables	Vegetables and leaves	1
Fruits	Fruits and fruit products	1
Meat and Fish	Beef, goat, sheep, pig, poultry, eggs, fish	4
Milk	Dairy and dairy products	4
Sugar	Sugar, honey	0.5
Oil	Oil, butter	0.5

The score is then calculated according to the following formula:

$$FCS = a_{\text{staple}} \times x_{\text{staple}} + a_{\text{pulse}} \times x_{\text{pulse}} + a_{\text{veg}} \times x_{\text{veg}} + a_{\text{fruit}} \times x_{\text{fruit}} + a_{\text{animal}} \times x_{\text{animal}} + a_{\text{sugar}} \times x_{\text{sugar}} + a_{\text{dairy}} \times x_{\text{dairy}} + a_{\text{oil}} \times x_{\text{oil}}$$

Applied at the household level, the FCS is indicative of the household's dietary diversity. A score less than 21 reflects poor food consumption. A score between 21 and 35 is considered adequate and above 35 is good.

## 4 – FINDINGS PER REGION

### 4.1 Hadramout Governorate

Hadramout governorate sustained the most flood damage, both to homes and livelihoods. Despite extensive damage, prompt and generous assistance from neighbouring countries and the humanitarian community prevented any negative impact on food consumption of affected families.

#### 4.1.a Coastal Urban Areas – Hadramout Governorate

Damage sustained in the coastal urban area of Hadramout was mainly to homes, rather than livelihoods. Teams verified that 97 families had lost their homes completely, while another 2,651 houses had suffered varying degrees of damage – ranging from partial loss to water leaks. As in the rest of Yemen, food availability was not an issue rather economic access was the major concern. Despite the severe damage left by the floods and little economic means of displaced families, food was in ample supply due to the outpouring of assistance provided to

affected families in the aftermath of the floods. Local businessmen and NGOs through local councils in the coastal urban areas of Mukalla (Hadramout governorate) provided displaced families three cooked meals daily.<sup>1</sup> Though some families complained about the diversity of the meals, they agreed food was not their highest priority. Local and international organizations also provided large quantities of dry food and non-food items (NFI) to affected persons.<sup>2</sup> The surveyed households in the coastal urban areas of Hadramout reflected high food consumption scores of 77.6 (where 1-21 is poor, 21.5-35 is borderline, and 35.5 or above is acceptable). The majority of families (91.7%) had received food assistance, while only 6.9% had to purchase food with cash and only 1.4% had purchased food on credit. Due to high levels of assistance, food was ranked as the third priority, just under cash compensation. The top priority for families in the urban coastal areas of Hadramout was shelter.

#### **4.1.b Coastal Rural Hadramout**

The situation of affected families in rural areas of coastal Hadramout was worse than that of urban areas in that displaced families living in schools received only dry food commodities. Moreover, many in the rural areas lost agriculture and fishing equipment yet received little or no assistance because their homes were not destroyed. Mission teams verified that 252 homes had been destroyed and another 1,185 were partially damaged. Six hundred and ninety households lost agricultural assets, 268 households lost fishing assets, and 47 households lost their beehives. In coastal rural Hadramout, affected households scored 66 for food consumption. Many reported cash payment as their main source of food (45%), while 37% cited food assistance, 15% had purchased food on credit, 9% relied on fishing, and about 2% had received food from relatives.

#### **4.1.c Urban areas of Wadi (valley) Hadramout**

Most displaced families in the urban valley have received similar support as in the urban coastal areas, with the exception of regular cooked meals. Flood damage was most extensive in the Hadramout valley and therefore the majority of food and NFI in addition to cash remittances arrived in the main city of Seiyun. From Seiyun, aid was distributed to the different affected areas within the valley. The food consumption of affected families in the urban valley was 57, lower than that of the coastal areas but still good (a score of above 35.5 is classified as acceptable). Among households, 97% of food was received through assistance, and about 3% purchased through cash. In the urban valley areas, priorities were ranked the same as in the urban coastal areas: shelter, cash compensation followed by food.

#### **4.1.d Rural areas of Wadi Hadramout**

The most extensive flood damage was in the rural areas of Hadramout valley, where 2,555 homes were destroyed, 1,921 homes were partially damaged, 1,638 households lost agricultural assets, and 729 households lost their beehives. Affected families in the rural areas of Hadramout valley reported similar food consumption scores to those in the urban valley – 56. Families reported food assistance (78%), cash purchase (21%), and purchase on credit (1%) as their main food sources. As reported in other areas, priorities were ranked as shelter first, followed by cash compensation and food. One of the main complaints of families in the rural valley of Hadramout was regarding the Saisaban (Krosope) tree which grows wild in Hadramout and Al-Mahra and has shifted water away from original water channels; families cited this shift by caused by the trees as one of the causes for such extensive flood damage.

#### **4.2 Al-Mahra governorate**

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<sup>1</sup> By the beginning of December, cooked meals were no longer being provided. Local authorities asked WFP to coordinate assistance to the families to ensure they would continue to receive aid.

<sup>2</sup> It should be noted that although many organizations provided some food assistance, WFP remains the only actor providing regular and widespread food assistance.

Although the overall number of affected households in Al-Mahra was quite low when compared to Hadramout governorate, those who were affected suffered total damage as homes made of dried palm branches were washed away. Families in Al-Mahra also complained about the Saisaban tree and that the plant had diverted the flood path and destroyed their homes and farms. Al-Mahra received little assistance compared to Hadramout governorate. The districts of Al-Mahra consist of both *wadi* and coastal areas, therefore findings were not broken down by ecological zone but rather by livelihood profiles.

#### 4.2.a Urban – Al-Mahra

As in Hadramout and the rest of Yemen, food availability in the market was not an issue. The surveyed urban areas of Al-Mahra recorded high food consumption scores (average 63). Most families reported purchasing food with cash (77%), about 20% had received food assistance and less than 2% had purchased food on credit. Similar to other surveyed regions, food was not a priority; surprisingly, neither was shelter. Surveyed families prioritized cash compensation as their first priority (42%) followed by shelter and food at 22% each.

#### 4.2.b Rural – Al-Mahra

In rural Al-Mahra, 1,408 homes were destroyed and 642 damaged. These figures were reported by local NGOs and later verified by the mission during the visit to Al-Masila district and other districts of Al-Mahra. Livelihoods were also affected, as 21 households lost fishing assets and 615 households lost beehives. Food consumption scores in the rural areas were higher than urban, as many families work as fishermen. During the storms and the immediate aftermath of the disaster, fishing was difficult, therefore many families (59%) purchased food from cash savings; others received food assistance (35%) and only 7% continued to rely on fishing. Families scored an average of 68 for food consumption. As opposed to other areas, rural Al-Mahra reported food as their top priority – a reflection that cash savings of families would not be enough to meet long-term demands for food. After food, the other priorities were cash compensation (21%) then shelter and medication (17%). Families in this area were the only ones to cite medication as a priority need.

### 5 – OVERALL FINDINGS

#### 5.1 Sources of Income

The main source of income in the affected areas is wage labor followed by government employment. Although the percentage of families dependant on livestock, Qat production, honey production, and fishing as a primary source of income is relatively low (ranging from 2-7 percent per activity), it is important to note that most families practice some form of agriculture and damages to this industry through floods has been extensive.

Primary Source of Income	% Households
Wage labour	41
Govt employment	29
Other	8
Fishing	7
Qat industry	4
Private sector	3
Livestock	3
Self employment	3
Honey	2

## 5.2 Food Consumption

In the immediate aftermath of the floods access to food was also not found to be a major issue due to an outpouring of assistance from a variety of actors; this assistance helped the affected populations maintain good food consumption scores, particularly:

- Provision of three cooked meals per day offered by local NGOs, particularly the Islamic Charity in the coastal areas of Hadramout, and by the Al-Ra'fa Charity in the Hadramout valley.
- Direct assistance received from neighbouring countries, particularly Saudi Arabia.
- Dry rations offered by international aid agencies.

However, food consumption provided through assistance was removed and the purchasing power of the affected populations alone was considered, it was found that in fact food consumption was low among a majority of affected households. These lower scores are more likely an accurate reflection of the current levels of food consumption, since then the provision of cooked meals has ceased and local NGOs have shifted towards providing non-food assistance.

Governorate	Affected Area	FCS taking into account food aid	FCS when food aid removed
Hadramout	Urban Coastal	78	14
	Rural Coastal	66	20
	Urban Valleys	57	23
	Rural Valleys	56	13
Almahra	Urban	63	22
	Rural	68	21

The survey found that overall 64 percent of the surveyed affected population have poor food consumption, 11 percent are borderline, and 25 percent have acceptable food consumption.

## 5.3 Coping Strategies

The main coping strategy employed by families was to reduce expenditures on health (31 percent). Other largely implemented strategies included purchasing food on credit and/or incurring new debts, and relying on less preferred/less expensive food as well as limiting meal size. Support from relatives was high indicating strong community bonds. In addition, in order to cope with the disaster almost 10 percent of households withdrew children from school to; the high rate is also due in part to the occupation of schools by IDPs. As agriculture is not a primary source of income for these families, there has been a small reduction in farm inputs.

Coping Strategy	% of Households
Decrease health expenditure	31
Purchase food on credit, incur debt	23
Rely on less preferred and less expensive foods	22
Support from relatives/friends	17
Limit portion size of meals	15
Take children out of school	9
Skip entire day without meal	8
Seek alternative or additional income	8
Reduce adult consumption in favor of children	7
Decrease farm inputs	1

## 5.4 Greatest Needs

Each household was asked to list in order of priority its greatest needs. The majority of households listed shelter, cash and food as their greatest needs. In both governorates, preference for cash was higher in urban areas and that for food was higher in rural areas.

Location		Prioritized Needs as Percentage of Households						
	Zone	Shelter	Food	Cash	Medicine	Education	Water	Security
Hadramout	Urban coastal	33	22	27	9	1	6	3
	Rural coastal	33	30	24	11	1	1	1
	Urban valley	33	24	30	5	4	1	2
	Rural valley	34	27	29	7	1	1	1
Al Mahra	Urban	22	22	42	11	0	3	0
	Rural	17	29	21	17	8	8	0

Although food was not listed as a priority due to the earlier outpouring of assistance, the need for food assistance would continue and likely increase over time as other actors discontinue aid. Families who were severely affected and reliant on aid for improved food consumption will continue to require assistance.

## 6 – CONCLUSIONS

The survey found that 15,976 households (an estimated 111,832 persons) had been affected by the floods [see Annex 1 for a breakdown of damages per location]. However, not all were severely affected and in need of assistance: WFP found that those categories left most vulnerable following the disaster were those whose homes had been completely destroyed and who had lost other agriculture or fishing assets- comprising 9,577 households.

Category	Number of Households
Home completely destroyed	4,349
Partial damage to home	6,399
Loss to agriculture assets	2,727
Loss to fishing assets	415
Loss to beekeeping assets	2,086
<b>Total</b>	<b>15,976</b>

Although food was not listed as a priority due to the earlier outpouring of assistance, the need for food assistance would continue and likely increase over time as other actors discontinue aid. Families who were severely affected and reliant on aid for improved food consumption will continue to require assistance.

If one takes into account the percentage of food consumption scores, this suggests that, of the 9,577 households categorized as most affected, 64% would have poor food consumption, meaning 6,129 households – or 42,905 individuals. WFP currently assist 25,000 persons, therefore an additional 17,905 families are in need of assistance.

**Annex 1 – Damages per location**

District	Governorate/ Zone	Status	Home completely destroyed	Partial damage to home	Loss to agriculture assets	Loss to fishing assets	Loss to beekeeping assets	Total Number of Affected HH per District
Mukalla city Mukalla district	Hadramout/ Coastal	Urban	97	2,651	0	0	0	2,748
Broom Mayfa	Hadramout/ Coastal	Rural	110	43	11	3	0	167
Ghail Ba- Wazeer	Hadramout/ Coastal	Rural	53	231	49	194	13	540
Ashaheer	Hadramout/ Coastal	Rural	73	83	69	31	24	280
Addis Al- Sharqyia	Hadramout/ Coastal	Rural	7	388	121	40	10	566
Al-Raida wa Al- Qasaier	Hadramout/ Coastal	Rural	9	440	440	0	0	889
Wadi Dawan	Hadramout / Valleys	Rural	96	23	23	0	136	278
Wadi Al-Eyn	Hadramout / Valleys	Rural	96	131	36	0	19	282
Qatun	Hadramout / Valleys	Urban/ Rural	725	1,045	722	0	89	2,581
Shibam	Hadramout / Valleys	Rural	45	23	45	0	63	176
Sayoun	Hadramout / Valleys	Rural	0	0	0	0	0	0
Tareem	Hadramout / Valleys	Urban/ Rural	1,138	456	466	0	320	2,380
Al-Sawm	Hadramout / Valleys	Rural	227	133	56	0	23	439
Sah	Hadramout / Valleys	Rural	228	110	290	0	79	707
Al- Ghaidha	Al-Mahra	Urban/ Rural	0	537	256	62	395	1,250
Hasween	Al-Mahra	Rural	17		113	25	100	255
Qeshun	Al-Mahra	Rural	0	0	30	33	0	63
Sayhout	Al-Mahra	Rural	20	0	0	6	200	226
Al-Masila	Al-Mahra	Rural	1408	105		21	615	2,149
<b>Grand Total</b>			<b>4,349</b>	<b>6,399</b>	<b>2,727</b>	<b>415</b>	<b>2,086</b>	<b>15,976</b>

