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FAMINE EARLY WARNING SYSTEMS NETWORK TECHNOLOGY SUPPORT CONTRACT (FEWS NET TSC)

USING HOUSEHOLD SURVEY DATA TO ESTIMATE HEA-COMPATIBLE LIVELIHOOD
PARAMETERS

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INTRODUCTION

The TSC Project conducted a re-analysis of the 2005/06 Household Budget Survey (HBS) for Yemen in order to develop a set of descriptive estimates of key livelihood parameters to assist FEWS NET in assessing the impact of the current conflict in Yemen on the food access of affected populations. Annex 1, which is the report of the consultant who directed the work, describes the data set and analytical process undertaken for that purpose. The actual data output tables from that analysis are available in a separate spreadsheet file.

The Yemen 2005/06 HBS data were geo-referenced and Primary Sampling Units (PSUs) were allocated to FEWS NET-defined livelihood zones according to a process described in Annex 2. For each livelihood zone, the analysis produced six basic tables relating to:

- Income shares by livelihood zone (and income quintile within each livelihood zone)
- Expenditure shares by livelihood zone (and income quintile within each livelihood zone)
- Livestock ownership per household by livelihood zone (and income quintile within each livelihood zone)
- Value of assets owned per household by livelihood zone (and income quintile within each livelihood zone)
- Food sources shares per household by livelihood zone (and income quintile within each livelihood zone)
- Share of agricultural income by commodity by livelihood zone (and income quintile within each livelihood zone)

Note that, while outside the agreed upon scope of this activity, the HBS survey could also be used to construct seasonal estimates of income and expenditure sources (it is based on 12 monthly rounds of surveys), calorie-based food shares, the computation of Household Dietary Diversity Scores, and the estimation of malnutrition rates all by livelihood zone (the survey contains a full range of anthropometric measures for the U5 population). Overall, the HBS survey could be used to provide a complete range of quantitative livelihood parameters that address every issue covered in FEWS NET's HEA quantitative baseline assessments.

OBJECTIVE

This report will focus, not so much on the individual data points and the description of conditions in Yemen, but, stepping back, on the general suitability of the data to meet FEWS NET's livelihoods information needs.

ESTIMATING LIVELIHOOD PARAMETERS

Table 1 demonstrates the basic power and flexibility gained from using household survey data to understand livelihoods. The sample size in each livelihood zone is explicit, as are the standard errors of each estimate, allowing for a thorough evaluation of the rigor of the estimates produced for the analysis. While the sample sizes in some LZs are relatively small (LZs 2, 6 and 8) and standard errors are large in some cases, these issues are identified explicitly and can be accounted for in the analysis.

The data in Table 1 also allow for the construction of income levels (across a broad range of activities) and a range of different poverty estimates based on methods that have been thoroughly researched and that are in widespread use. The poverty rate and poverty gap estimates reported in Table 1 are based on a poverty line defined at the national level for Yemen. These estimates can be amended to reflect the proportion of households living below the international standard of \$1.25 per day or any other standard. Because these estimates are based on direct measures of absolute values—as opposed to relative wealth estimates obtained using HEA—use of this type of survey data allows for comparisons of income levels and poverty rates across LZs and national borders and over time.

The data can also be used to construct HEA-compatible poverty estimates defined by the cost of obtaining survival food needs—2,100 kcal/person/day, priced according to the cheapest available cereal—plus the cash needed to purchase water for human consumption, soap, and cooking fuel.

Table I. Average Income per Capita and Poverty Rates, by Livelihood Zone, Yemen HBS 2005/06

	Livelihood zone	Number of households in the sample	FEWS NET Average annual gross income per capita, Rials	UNDP Average annual net income per capita, Rials	Percent below poverty line	Poverty gap
1	Amran Rainfed Sorghum, Barley, Qat, and Livestock Zone	517	149,864 ±23,932	107,052 ±8303	62.6% ±4%	18.2% ±3.1%
2	Arabian Sea Coastal Irrigated Tropical Fruit, Fodder and Livestock Zone	124	154,768 ±62,176	140,138 ±57778	18.8% ±9.9%	1.6% ±1.7%
3	Central and Eastern Plateau Agro-Pastoral Zone	548	137,302 ±21,250	127,940 ±16491	50.4% ±5.3%	20% ±5.2%
4	Central and Eastern Wadi Palm, Wheat, Vegetable and Livestock Zone	191	98,649 ±23,262	106,035 ±22847	48.0% ±7.1%	10.8% ±4.2%
5	Central Highland Potato, Vegetable and Livestock Zone	259	116,553 ±20,162	119,017 ±18746	18.3% ±5.4%	3.1% ±1.8%
6	Eastern Plateau Sorghum, Millet and Livestock Zone	24	26,653 ±16,297	39,423 ±16037	62.8% ±34.3%	49.1% ±26.8%
7	Greater Yemen Coastal and Island Fishing Zone	1,662	227,578 ±21,509	181,494 ±12350	19.1% ±1.7%	4.4% ±0.8%
8	Northern and Eastern Desert Pastoral Zone	112	189,872 ±68,834	161,459 ±25818	55.1% ±15.6%	13.3% ±6.2%
9	Saadah Irrigated Wheat, Fruit, Vegetable, Qat, and Livestock Zone	404	231,324 ±29,979	124,370 ±9786	20.6% ±5.4%	7.8% ±3.1%
10	Western and Central Highland Qat, Grain, Fodder and Livestock Zone	1,385	121,956 ±12,664	109,644 ±7814	39.1% ±3.1%	13.8% ±2%
11	Western and Central Wadi Sorghum, Millet, Vegetable, Fruit and Livestock Zone	1,081	146,865 ±14,899	128,431 ±10068	38.2% ±4.2%	14.4% ±3.1%
12	Western Central Highland Coffee, Qat, Sorghum and Livestock Zone	1,346	121,487 ±13,608	104,853 ±4177	33.4% ±3.1%	12.2% ±2.3%
13	Western Central Highland Wheat, Sorghum, Qat, and Livestock Zone	1,904	142,203 ±26,618	125,198 ±20066	33.3% ±2.7%	13.8% ±1.9%
14	Western Coastal Plain Sorghum, Millet, and Livestock Zone	1,564	166,316 ±45,302	115,386 ±11436	41.1% ±2.8%	16.3% ±2%
15	Urban	2,015	267,226 ±33,065	231,485 ±23575	16.8% ±1.5%	3.7% ±0.7%

Table 2 reflects the average income per capita broken down by income quintiles for each livelihood zone. Again, the table makes explicit both the power and limitations of using this type of data in the analysis. Parameter estimates are available across the entire distribution of the population and, again, can be easily compared across location and time, not just for a relatively small number of “typical” households across an often incomplete (discontinuous) and non-comparable set of locally-defined wealth groups.

At the same time, the low sample size in some LZs, particularly LZ6, which has only 24 observations, prevents reliable disaggregation by quintile. However, again, these limitations are explicit and can be accounted for in an analysis.¹

Table 2. Average Income per Capita, by Quintile and Livelihood Zone, Yemen HBS 2005/06

Livelihood zone		FEWS NET Average gross annual income per capita, Rials (*)				
		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
1	Amran Rainfed Sorghum, Barley, Qat, and Livestock Zone	24,904	51,869	72,412	104,126	497,441
2	Arabian Sea Coastal Irrigated Tropical Fruit, Fodder and Livestock Zone	25,502	40,163	57,595	88,777	518,263
3	Central and Eastern Plateau Agro-Pastoral Zone	22,269	48,690	71,979	108,008	391,932
4	Central and Eastern Wadi Palm, Wheat, Vegetable and Livestock Zone	11,118	38,985	57,059	79,403	291,963
5	Central Highland Potato, Vegetable and Livestock Zone	28,646	51,204	70,758	98,694	348,848
6	Eastern Plateau Sorghum, Millet and Livestock Zone	1,462	4,683	8,498	16,926	87,058
7	Greater Yemen Coastal and Island Fishing Zone	28,897	53,308	79,918	135,019	736,825
8	Northern and Eastern Desert Pastoral Zone	909	15,590	52,424	158,893	592,336
9	Saadah Irrigated Wheat, Fruit, Vegetable, Qat, and Livestock Zone	34,260	64,755	102,016	178,398	848,141
10	Western and Central Highland Qat, Grain, Fodder and Livestock Zone	14,662	37,654	57,782	94,993	399,144
11	Western and Central Wadi Sorghum, Millet, Vegetable, Fruit and Livestock Zone	28,013	52,483	78,218	118,317	407,424
12	Western Central Highland Coffee, Qat, Sorghum and Livestock Zone	21,358	44,762	67,217	99,463	354,317
13	Western Central Highland Wheat, Sorghum, Qat, and Livestock Zone	16,551	38,183	59,450	90,148	469,577
14	Western Coastal Plain Sorghum, Millet, and Livestock Zone	15,107	37,269	58,450	95,289	590,906
15	Urban	26,442	55,936	88,357	145,689	864,916

¹ It might also be possible to improve the sample size in smaller LZs by having FEWS NET participate in these national surveys and support over-sampling to ensure adequate coverage in these areas, or by supplementing the original survey data through small-scale, follow-up surveys in these areas.

PARAMETER ESTIMATES FOR LZ14

The following section is intended to illustrate the level of detail regarding location livelihoods that can be derived from data sets like the 2005/06 HBS survey.

These data also highlight the fact that the 2005/06 HBS data set provides a somewhat different picture of conditions in Yemen than those reported in the recent FEWS NET Report, “Livelihoods Zoning ‘Plus’ Activity In Yemen.” Unfortunately, there is no independent gold standard against which to assess which data source presents the most accurate view of conditions. While part of the difference could be a result of the preliminary nature of the Livelihood Zoning Report, or of the different time periods covered by the two information sources—the Livelihood Zoning Report was published in 2014, compared to the 2005/06 HBS data—the differences are still quite marked.

An example from one livelihood zone should be adequate to illustrate the disparity. For Livelihood Zone 14: Western coastal plain sorghum millet and livestock zone, the Livelihood Zoning report states the following:

“This moderately populated livelihood zone extends along the Tahama coastal plain from Hajjah, south to Taizz, and eastward across parts of Lahj and Abyan governorates. Households in this zone are dependent on agricultural activities and livestock keeping to achieve their annual cash and food needs. Sorghum and millet are the most common grains grown for household consumption; however, sorghum is also cultivated for livestock fodder.

Consumption of grains and livestock products varies across wealth groups. Better off can produce enough to cover most of their food needs but will also purchase food throughout the year according to need. Having less access to land, the poor are unable to produce enough to meet their needs and therefore depend more on market food purchases. They will also get some of their food as in-kind payment for working on better off households' farms.

Grain sales are the main income source for better off households followed by livestock and livestock product sales. Some household living in Al Hadaydah, Abyan and Lahj governorates may also cultivate and sell cotton. The poor earn the bulk of their cash performing agricultural labor for better off households. A smaller portion of their cash comes from selling crops and ...”

However, according to Figure 1, using 2005/06 HBS data, the primary source of cash income across all income groups in LZ14 is private-sector non-agricultural wages (25 percent of all cash income), followed by income from family businesses or self-employed income (16 percent), public sector non-agricultural wages (10.9 percent), internal remittances (10.7 percent) and

agricultural wages (8.3 percent). Income shares vary somewhat—roughly according to expectations—across income quintiles. Poor households rely more on remittances (both internal and external transfers), the sale of livestock and non-food crops, and social assistance. Wealthier households rely more on wages and self-employment income. Only wealthier families in Quintile 5 obtain income from the sale of fish in this coastal area, an income source not mentioned in the Livelihood Zoning report.

Figure 1. Cash Income Shares by Quintile, Western Coastal Plain Sorghum, Millet, and Livestock Zone

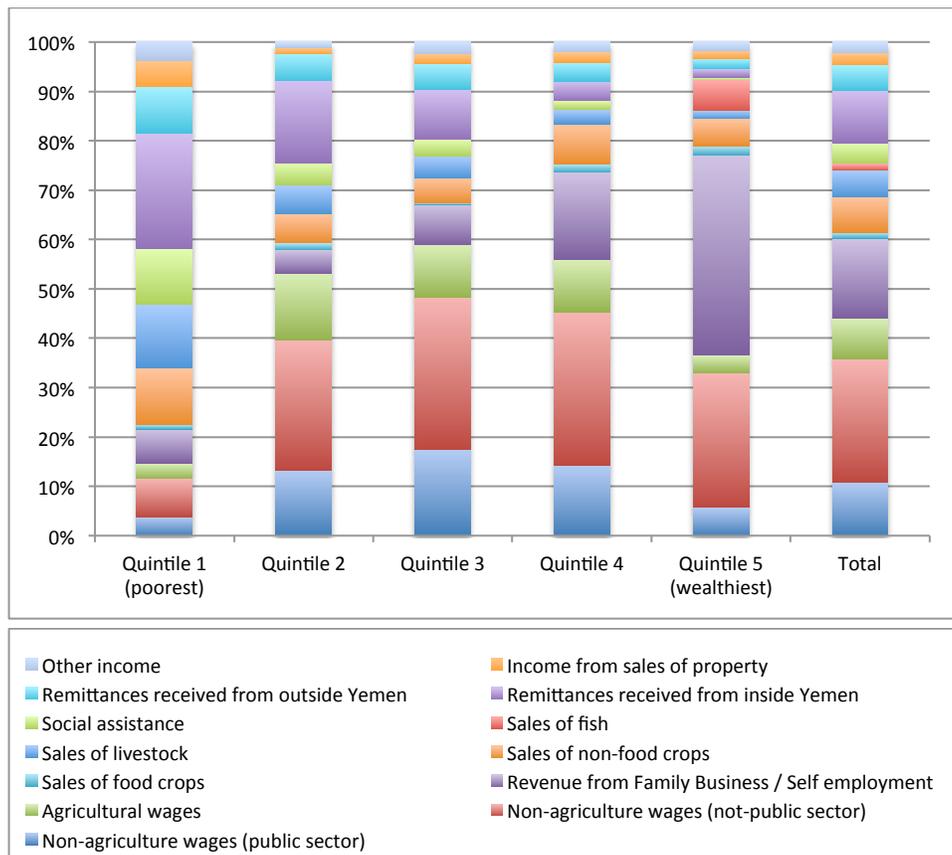


Figure 2 presents data on cash expenditures by households in LZ14 and tends to reinforce the importance of food purchases in overall expenditures. Spending on health and education are quite low in proportionate terms across all income levels. Explicit data on the cost of agricultural inputs, such as seeds, fertilizers, pesticides, draft power, and labor also provides additional important insights in understanding the ability of households to adjust their spending to ensure adequate access to food as well as to maintain productive capacity in the future. Note that the category “other non-food expenditures” can be broken down further for a more detailed account of expenditures (housing, fuel, clothing, soap, transportation, communications, weddings/celebrations, religious ceremonies, and a variety of services, for example).

Figure 2. Cash Expenditure Shares by Quintile, Western Coastal Plain Sorghum, Millet, and Livestock Zone

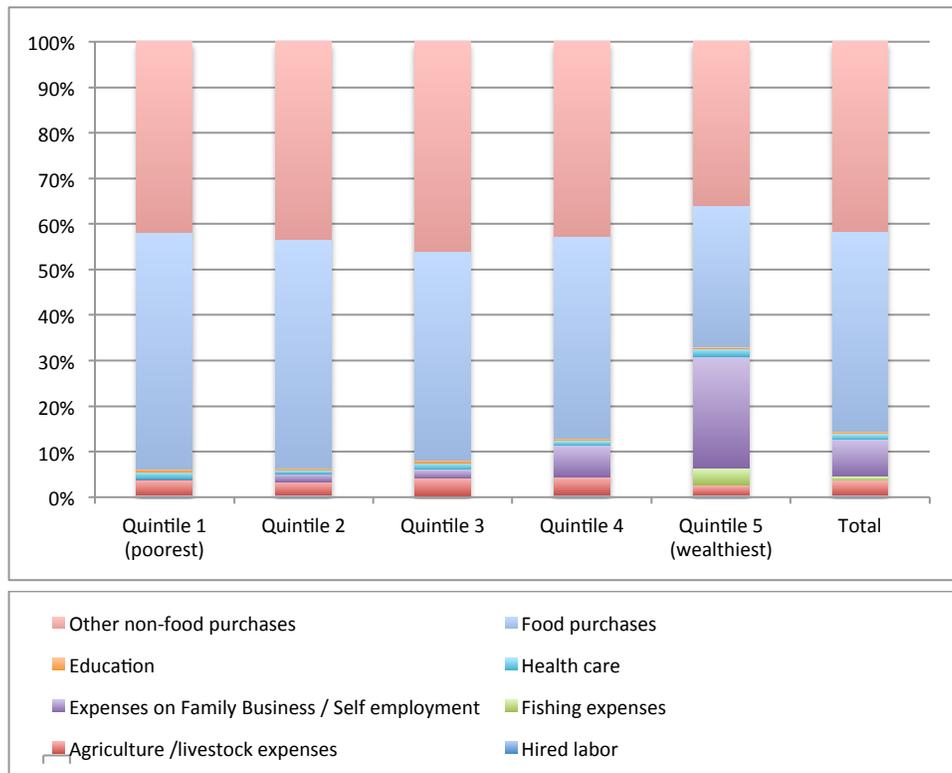


Figure 3 provides information on food sources for households in LZ14. It confirms the general impression that households in Yemen are very much reliant on food purchases for around 80 percent of their food needs. The poorest households tend to rely more on free food transfers, while wealthier households rely slightly more on own production.

Figure 3. Sources of Food by Quintile, Western Coastal Plain Sorghum, Millet, and Livestock Zone

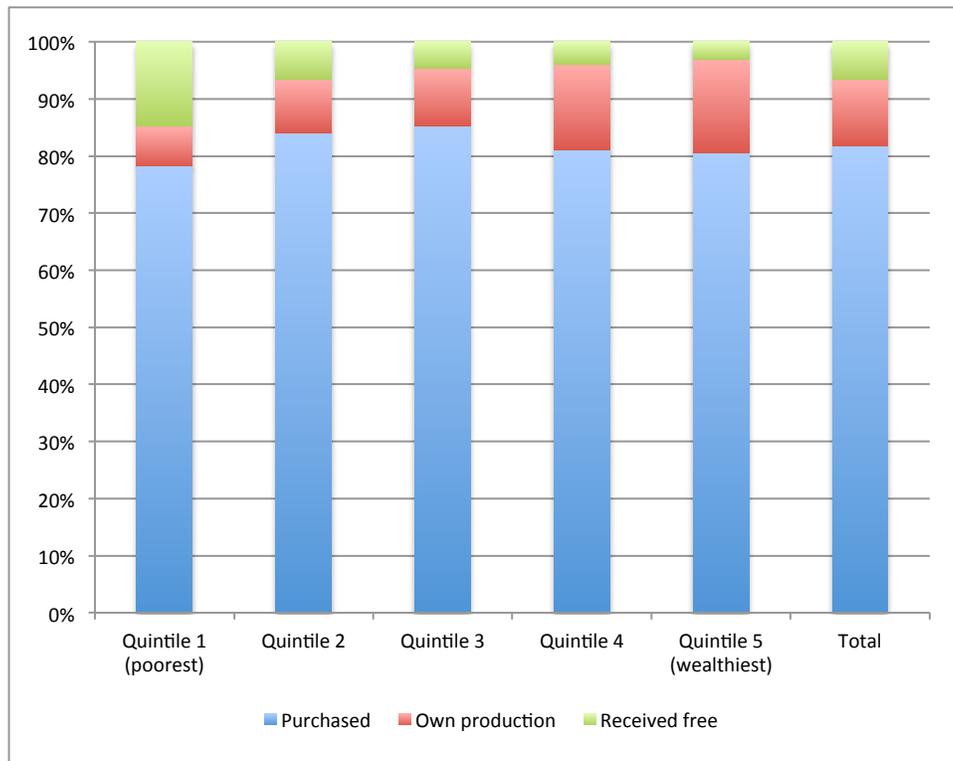
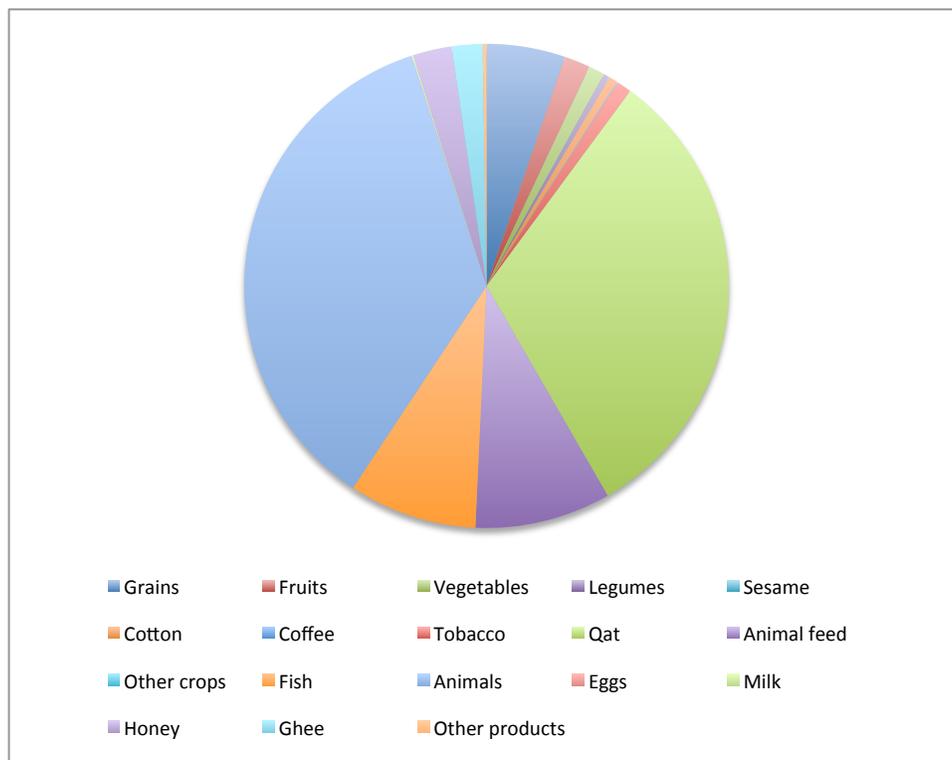


Figure 1 above suggests that, combined, the sale of food crops, cash crops, livestock and fish account for 15.2 percent of total cash incomes for households in LZ14. Looking deeper into agricultural incomes, however, Figure 4 below suggests that livestock sales account for 36 percent of agricultural cash incomes in LZ 14, followed by qat sales (32 percent), the sale of animal feed and fish (nine percent each), followed by the sale of grains (five percent).

Figure 4. Share of Agricultural Cash Income by Commodity Sold, Western Coastal Plain Sorghum, Millet, and Livestock Zone



GROUPING THE DATA

While the data above are presented by income quintile, because the household survey data reflect the entire distribution of households in the country, it should be possible to re-group the data within each livelihood zone in different ways, depending on sample size. Although there was insufficient time to do so under this activity, it should be possible to group households according to similarities in their income shares, using cluster analysis or other techniques.

Perhaps more useful would be a grouping of households according to whether they fall above or below the poverty line to understand livelihood dynamics roughly according to the level of need. Rather than equal-sized income quintiles, it is possible to group households according to those whose incomes (expenditures) are less than or equal to the poverty line, those whose income/expenditures are near the poverty line (for example between 100 percent and 150 percent of the poverty line), and those households whose incomes and expenditures are above 150 percent of the poverty line.

MODELING

The complete output tables developed for this analysis are quite large and difficult to interpret from simple inspection. From the perspective of performing a quantitative LIAS-style analysis of various scenarios, the use of survey-based data wouldn't simplify this particular analytical process. Assuming the current LIAS method is the best possible approach to modeling livelihood dynamics, FEWS NET would still need a tool that can process this data in a more systematic fashion, along the lines of the dashboard tool that Kimetrica has already developed for the Ethiopia HEA data set.

COST

The total cost of this analysis was approximately \$27,000, a figure that could be reduced significantly as we develop greater experience conducting this type of analysis.

CONCLUSIONS

A summary of conclusions from this analysis is as follows:

- From the perspective of how the HEA analysis is structured, the survey data allow FEWS NET to pull out the same information on income and expenditure shares, sources of food, and others available from the HEA—with even greater detail and flexibility to group populations and specify income and expenditure categories in some circumstances.
- The survey data is representative of the entire population, not just “typical” households, as with HEA. “Typical” households might be viewed as being analogous to the “mode,” which may actually represent only a small share of households in any subset of a population.
- The survey data also represent the full income distribution across all income groups, rather than the HEA’s reporting of data from discrete, relative wealth group categories.
- The direct estimates of income levels from the survey data are comparable over time and across locations (and countries)—which should allow cross-country comparisons of need—a fact which is not strictly true of the HEA wealth categories.
- Survey data also provide greater flexibility in how households can be grouped in the analysis, to derive conclusions more directly relevant to populations of particular concern.
- At the same time, some of the standard errors of key parameter estimates were high and there were three small livelihood zones for which we had insufficient observations to create reliable estimates of the HEA parameters. However, with a clearer understanding of sample size, estimates of standard errors, etc. FEWS NET analysts will be in a better position to make informed decisions regarding how to address these weaknesses.

There is an important complementarity between qualitative and quantitative information. Mixed-methods approaches—using qualitative methods to understand coping strategies and other factors, for example, to enhance the use of the quantitative estimates derived from household survey data—can improve the overall understanding

of relevant issues. Rather than suggest an incompatibility in the different information sources, the discrepancies observed between the qualitative and quantitative information for at least one livelihood zone above, suggest a specific approach in merging these methodologies. The cheaply-available quantitative data results can be used as guideposts for follow-up qualitative assessments, which can themselves be used to either confirm or reject the results of the quantitative analysis and to expand the information base and depth of understanding of key issues.

Finally, rather than be restricted to the unwieldy LIAS-based approach to modeling and scenario development, the use of household survey data allows for the testing of alternative simulation methods that are well-established in the scientific literature and that can produce transparent, rigorous, testable and replicable estimates of the impact of a crisis on livelihoods. While the use of household survey data as a substitute for costly HEA-style data collection efforts may be an important stop-gap measure for FEWS NET, it is important to test alternative approaches to modeling as well.

ANNEX I: REVISED ANALYTICAL PROCESS FOLLOWED IN PREPARING THE TABLES BY LIVELIHOOD ZONES

This note is revised version of the note prepared for delivery 2 incorporating changes to income and expenditure concepts consistent with FEWS net framework, clarifies further the quintile definitions used in the tables and proposes new analytical work from the HBS data that can further enrich the analysis of vulnerability of the poor.

Locating Yemen Household Budget Survey primary sampling units to livelihood zones was an important first step. Kimetrica's Kenyan GIS experts led this difficult effort. Though geographic coordinates for PSUs were available in multiples sources they were not accurate enough for mapping to livelihood zones except for some 75 percent of the PSUs. For the PSUs not clearly falling in a livelihood zone – for instance, when multiple livelihood zones span a sub-district, they were allocated visually based on rural-urban classification of PSUs and their geographic coordinates. A special note on the geo-referencing of PSUs was prepared by the Kenyan team attached as annex to this report.

There were 8 analytical tables to be prepared from the Yemen HBS 2005-06. Of these eight tables, Table 7 on Area Planted by crop and livelihood zone was dropped. In general, these estimates are notoriously unreliable. In addition, though the questionnaire asked families about the size of land owned or operated, numerous local units of measurements were followed and we lacked access to conversion factors to standardize them.

While interpreting the tables, caution is advised on results for livelihood zones 6 and 8 (Eastern Plateau Sorghum, Millet and Livestock Zone and Northern and Eastern Desert Pastoral Zone). These two zones have too few observations to compute reliable estimates.

Details on sampling method used for HBS 2005-06

The sample frame for the HBS was the 2004 Population Census. Yemen consists of 21 governorates. The study population was sorted into 38 strata. 17 governorates were represented by two strata (urban and rural,) whereas Sana'a City and Aden are only urban and Raima and Sana'a Region are only rural. This resulted in 19 urban strata and 19 rural strata. The HBS sample is designed to be representative at the level of strata for consumption expenditure.

Within each stratum, the sample was selected in two stages. In the first stage, a certain number of Census Enumeration Areas (EAs) were selected with probability proportional to size (pps,) using as a measure of size the number of households according to the pre-census estimates available in January 2005. In the second stage, 12 households were picked from each EA by systematic equal probability sampling.

In order to produce estimates of consumption in all governorates of both rural and urban populations, the total sample of 1,200 EAs was distributed across strata by a combination of allocation proportional to size and equal allocation. The results were adjusted to make the number of households in each governorate a multiple of 144 (12 EAs of 12 households each,) to facilitate the random allocation of the sample into the 12 months of fieldwork. Table 1 shows of the final sample clusters distributed over governorates and months.

Table I. Allocation of EAs over governorates and months, HBS 2005-06

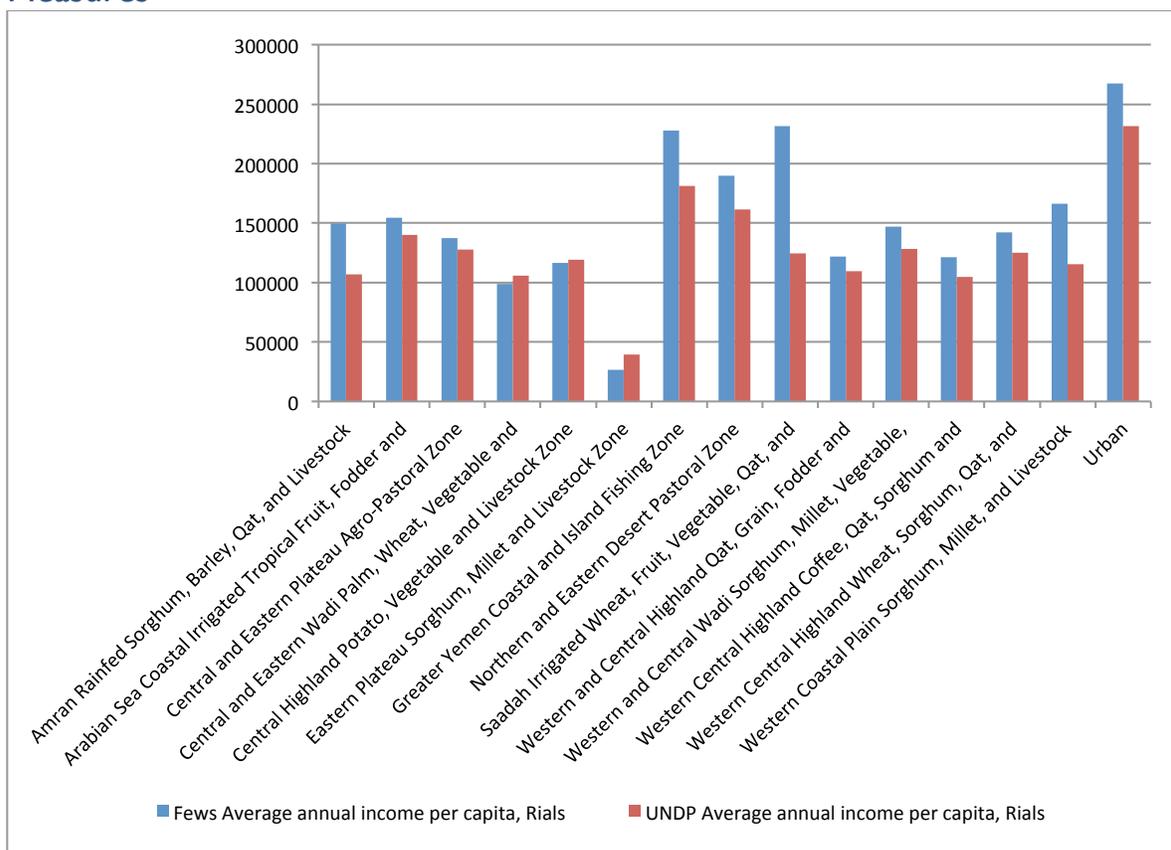
gov\month	1	2	3	4	5	6	7	8	9	10	11	12	Total
ibb	7	7	7	7	7	7	7	7	7	7	7	7	84
abyan	4	4	4	4	4	4	4	4	4	4	4	4	48
sana'a city	13	13	13	13	13	13	13	13	13	13	13	13	156
al-baida	4	4	4	4	4	4	4	4	4	4	4	4	48
taiz	8	8	8	8	8	8	8	8	8	8	8	8	96
al-jawf	3	3	3	3	3	3	3	3	3	3	3	3	36
hajja	5	5	5	5	5	5	5	5	5	5	5	5	60
al-hodeida	9	9	9	9	9	9	9	9	9	9	9	9	108
hadramout	5	5	5	5	5	5	5	5	5	5	5	5	60
dhamar	5	5	5	5	5	5	5	5	5	5	5	5	60
shabwah	3	3	3	3	3	3	3	3	3	3	3	3	36
sa'adah	4	4	4	4	4	4	4	4	4	4	4	4	48
sana'a	2	2	2	2	2	2	2	2	2	2	2	2	24
aden	6	6	6	6	6	6	6	6	6	6	6	6	72
laheg	4	4	4	4	4	4	4	4	4	4	4	4	48
mareb	3	3	3	3	3	3	3	3	3	3	3	3	36
al-mahweet	4	4	4	4	4	4	4	4	4	4	4	4	48
al-maharh	2	2	2	2	2	2	2	2	2	2	2	2	24
amran	4	4	4	4	4	4	4	4	4	4	4	4	48
al-dhale	3	3	3	3	3	3	3	3	3	3	3	3	36
remah	2	2	2	2	2	2	2	2	2	2	2	2	24
Total	100	100	100	100	100	100	100	100	100	100	100	100	1,200

Key conventions followed in the preparation of all tables

The definitions of income and expenditure aggregates. Though the earlier note was based on HBS processed data that had income and expenditure aggregates at household level, they were different from the concepts used in FEWS net livelihood studies. The consumption expenditure aggregate in the HBS processed data was constructed by UNDP following the World Bank’s method for measuring consumption expenditure based poverty. The income aggregate adhered to net income concept, netting all production related expenditures. The FEWS network concepts of income and expenditure for own account producers were “gross” without excluding costs of production. The gross income for own account farms and enterprises were essentially a sales value and the corresponding expenditures “cash” expenditure concept including payments for inputs going into household enterprise production process as well. The concepts were revised in discussion with the task team leader Frank Riely.

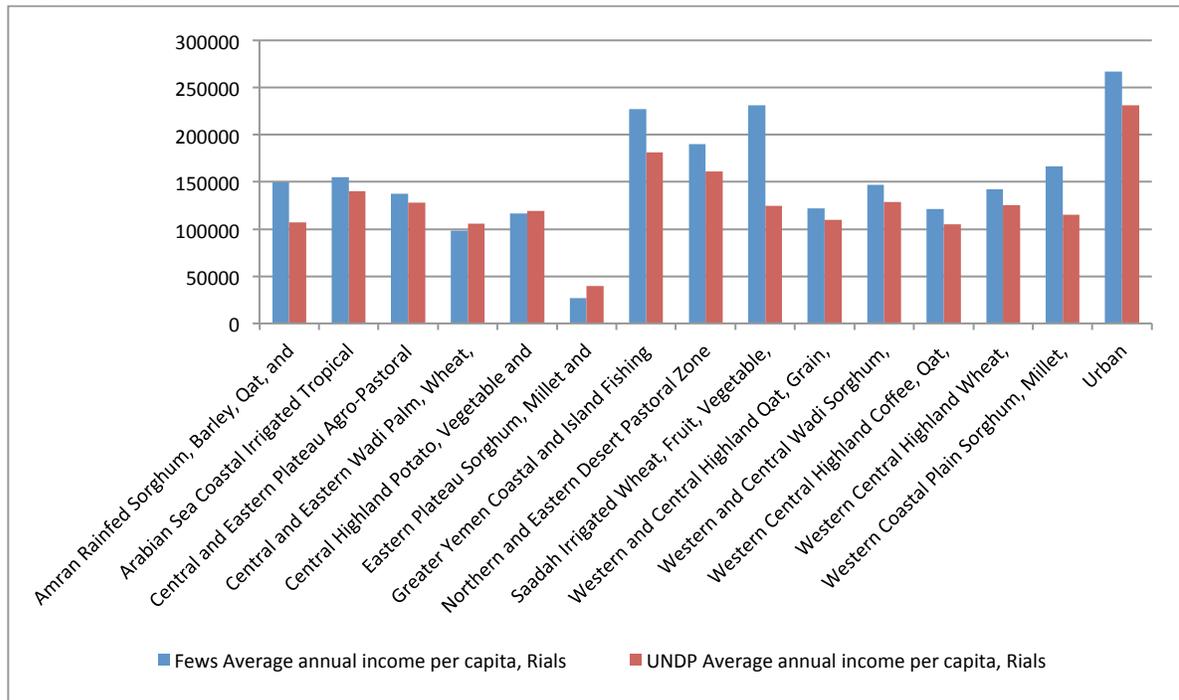
The income measures following the UNDP / World Bank and FEWS Net concepts are compared in Figure 1. In general, gross income concepts are higher to the extent the role of own account farms/enterprises are significant.

Figure 1. Comparison of UNDP/World Bank and FEWS NET Income Measures



As expected, the FEWS net expenditure measure which included production costs is higher than the private final consumption expenditure measure of the UNDP / World Bank as shown in Figure 2.

Figure 2. Comparison of UNDP/World Bank and FEWS NET Expenditure Measures.



Underlying variable and scope of quintiles reported in tables. Quintiles were constructed based on per-capita consumption aggregate (UNDP/World Bank) used for published poverty measures available in the processed data. Both national quintiles and livelihood zone specific quintiles were used to report results separately. This was done to be consistent with the poverty used in the poverty assessment report.

Reporting of averages for ratio variables and standard errors. In order to capture household level variation in ratio variables, averages reported for any quintile is the average of the relevant ratios over all the households that belong to the quintile. When more than one cluster is available for a population group, standard error which captures survey design specification was used.

Table 1: Average annual income per-capita and shares by income source, 2005-06

In deciding sub-groups under self-employment in non-agriculture from a possible detail of over 300 activities, the main criterion was the frequency of its occurrence. The industry codes in HBS were matched with those in Yemen Establishment Survey. The sector groupings follow the same

ones for national income used in the Yemen Establishment Survey. The code descriptions and mapping to national income sectors are documented separately.

The main sources of income identified after discussion with the Team lead are as follows:

Wages	Non-agriculture wages (public sector) Non-agriculture wages (not-public sector) Agricultural wages
Family business	Revenue from Family Business / Self employment Manufacturing Construction Wholesale and retail trade Hotels and restaurants Other community, social and personal service activities Transport, storage and communications Other
Agriculture	Sales of food crops Sales of non-food crops Sales of livestock Sales of fish
Other income	Social assistance Remittances received from inside Yemen Remittances received from outside Yemen Income from sales of property Other income

Table 2: Average annual expenditure per-capita and its composition, 2005-06

A new expenditure aggregate was constructed which is the sum of:

- Hired labor
- Agriculture/ livestock expenses
- Fishing expenses
- Expenses on family business/ self-employment
- Health care
- Education
- Food purchases
- Other non-food purchases

The recall period for constituent items vary: weekly for food, monthly for frequently purchased non-food, three-monthly for health and annual for durables and education. These were annualized and aggregated. The expenditures were constructed from sections 9, 14 through 17

of the HBS. Health expenditures for diseases and accidents reported in Section 4 was not included because it could be of one-off nature.

Table 3: Average annual consumption (UNDP) per capita, Rials, 2005-06

This table reports consumption expenditure (constructed by UNDP) underlying the poverty estimates. Poverty headcount and poverty gap are reported by livelihood zone. It follows the household-specific poverty lines as used in the World Bank's poverty assessment report.

Table 4: Average Livestock Ownership per household, 2005-06

Livestock counts are reported not value because no price data was collected in HBS for livestock.

Table 5: Average Value of Asset Ownership

This table reports the total value of durable assets in the possession of households.

Table 6. Food Sources, by value

Sources of food comprise of market purchase, own production and gift. The expenditures on food and non-food in this table follow the UNDP concepts available in the processed file. Value of outstanding debt was constructed from Section 13.

Table 8. Share of income from sales of crops and animal products

This table provides greater detail of income sources for agricultural crops, fishing and livestock. Since input expenditures are not identifies by individual crops or livestock category, the table reports uniformly sales for source of income.

How to enrich further Yemen Food Security work?

1. It is possible to compute calorie poverty from Yemen HBS 2005-06. The economic concept of poverty uses revealed preference in arriving at poverty line – the market value of goods and services consumed by the reference group that satisfies the calorie norm is taken as the poverty line. However, individual families may have the command over resources but not actually spend on food but on addictive substances such as Qat. Using physical quantities of food consumed by the households and calorie value of food items (both in the database and do files) one can compute measures of actual calorie deficit.
2. Going beyond overall calorie deficit, Dietary Diversity measures can be computed from HBS. Following calorie intake from proposal outlined above, one can group calorie intake by frequency of consumption by food items such as staples, protein, etc.
3. Seasonal poverty. The Yemen HBS was fielded over a period of 12 months in each stratum. Therefore, it is possible to find seasonal variation in poverty / food security over the production cycle of families.
4. Stunting and wasting of children by livelihood zones. The Yemen HBS had a module on anthropometric data for children that can be used to develop standard tables on stunting and wasting and its association with food insecurity.

ANNEX 2: GEOREFERENCING YEMEN HOUSEHOLD DATA

DATA

We received data (PSU_1) from Frank Riely, which we tried to georeference using the provided Northing/Easting but we couldn't ascertain what coordinate system was used. Yemen lies between 1352658 to 215560 North and 1352658 to 2115560 East under UTM zone 38 coordinate system (Yemen_NGN_1996_UTM_Zone_38N). The figures from the data were outside this range and we decide to search for the Yemen Household budget survey data from the internet. We downloaded the data (PSU_2) from Yemen microdata hub (see reference no.1). We compared the 2 datasets to ensure that they had the same number of records and other similarities. The data we downloaded had the same number of records but with extra columns such as Lat & Long. We georeferenced this dataset using the Lat and Long fields whose figures seem to lie within UTM zone 38. However the 2 datasets still had records with erroneous and missing figures.

Other data used for the process is the Yemen administrative units (see reference no.3); settlements (see reference no.4) and Livelihood zones (see reference no.2)

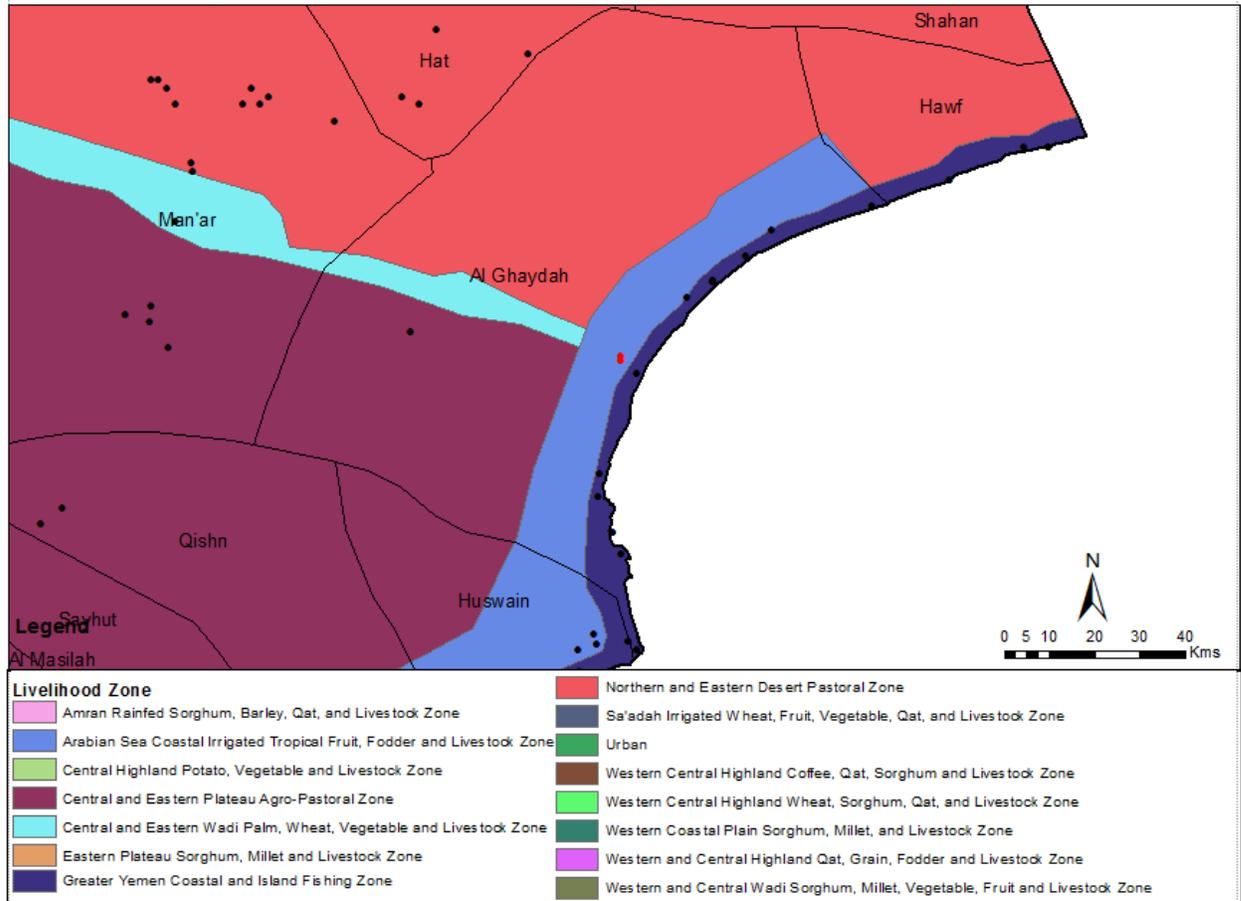
METHOD

After georeferencing the PSU_2 data, we checked for the positional accuracy by comparing the recorded administrative unit against the geospatial administrative unit (governorate and district). Out of 1200 records; 939 points were correctly placed within their correct administration, 19 points were close to their intended administrative units, 88 points lacked spatial coordinates, 97 points fell outside the Yemen boundary and 57 fell within the wrong governorate.

The second step was to overlay the 939 points with the livelihood zones to assign their livelihood zone for each of the 939 records. For the other 261 records, we now checked the district against the livelihood zones. For those districts that cover one livelihood zone, we assigned them that livelihood zone. A total of 105 points had districts that cover more than one livelihood zone. For this case, we used "Urban/Rural" field in the PSU_2 data with the settlement data to identify the urban/rural areas distribution. The settlement point data had an attribute field (Type) that recorded whether the point was a city/town or village. If a PSU was recorded as rural, we determined the livelihood zone by looking at the density of the villages within the district and the livelihood zone that falls within. In the case of an urban PSU we assigned the livelihood by looking at the distribution of the cities/towns and the livelihood zone that falls within.

An example is shown below:

Figure I. Example Map



In Al Ghaydah district, there exist 5 livelihood zones. The red points represent a town/city where as the black points represent villages. If the PSU has an urban code, the livelihood zone where the city/town falls is assigned. In this case, "Northern and Eastern Desert Pastoral Zones" If the PSU has a rural code, the livelihood zone where the villages fall is assigned, in this case, "Greater Yemen coastal and Island Fishing zones."

Figure 2. Points Distribution

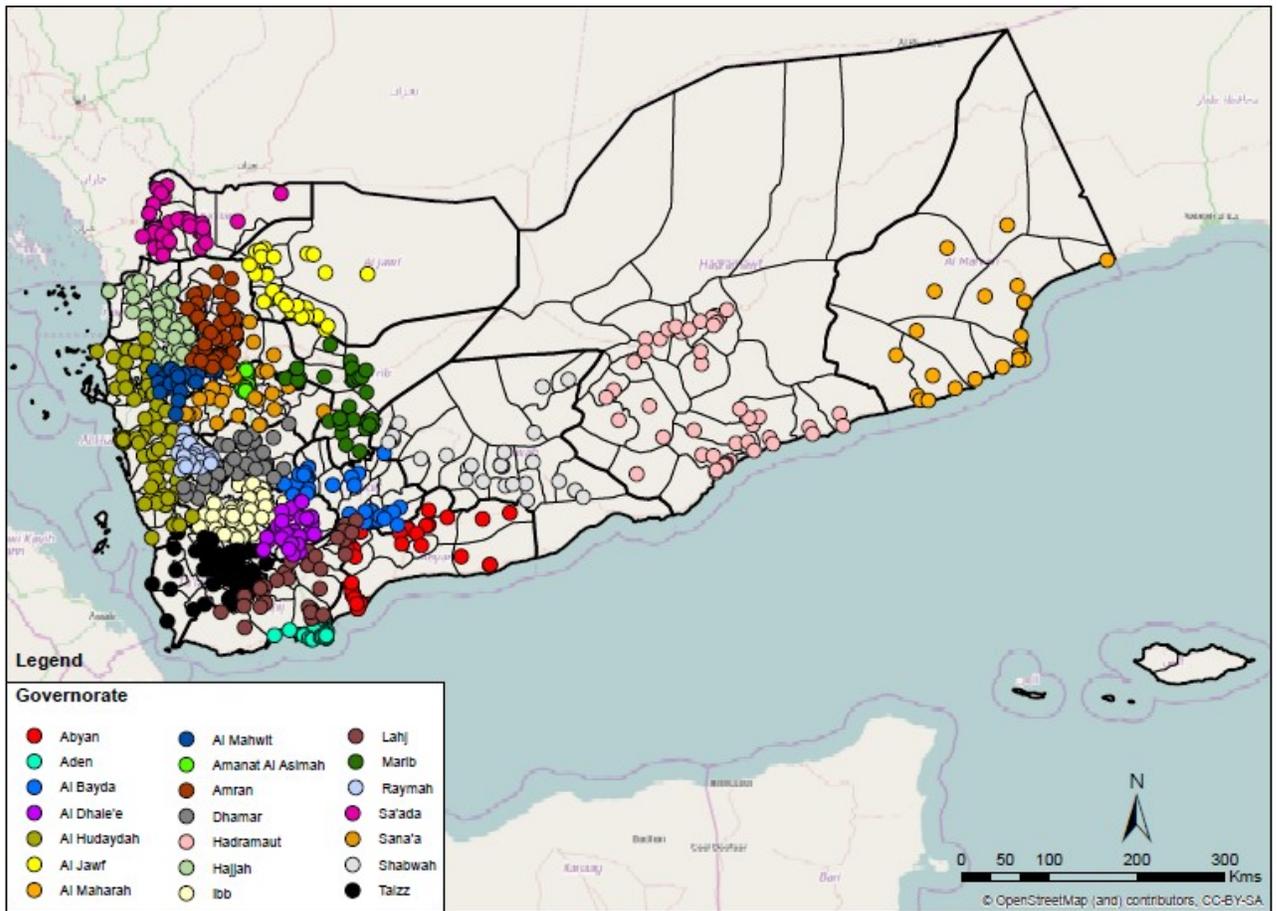


Figure 3. Livelihood Zones in Yemen

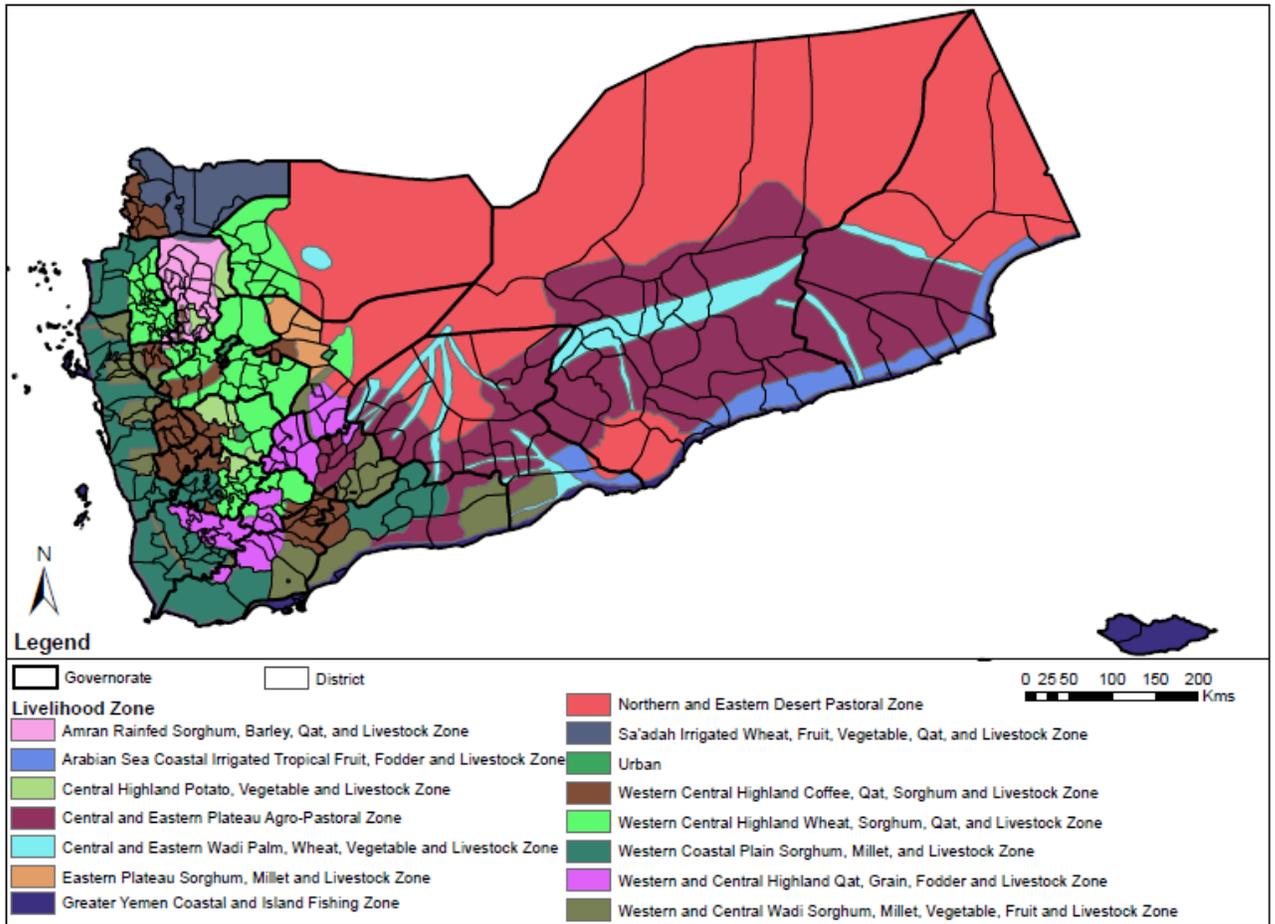
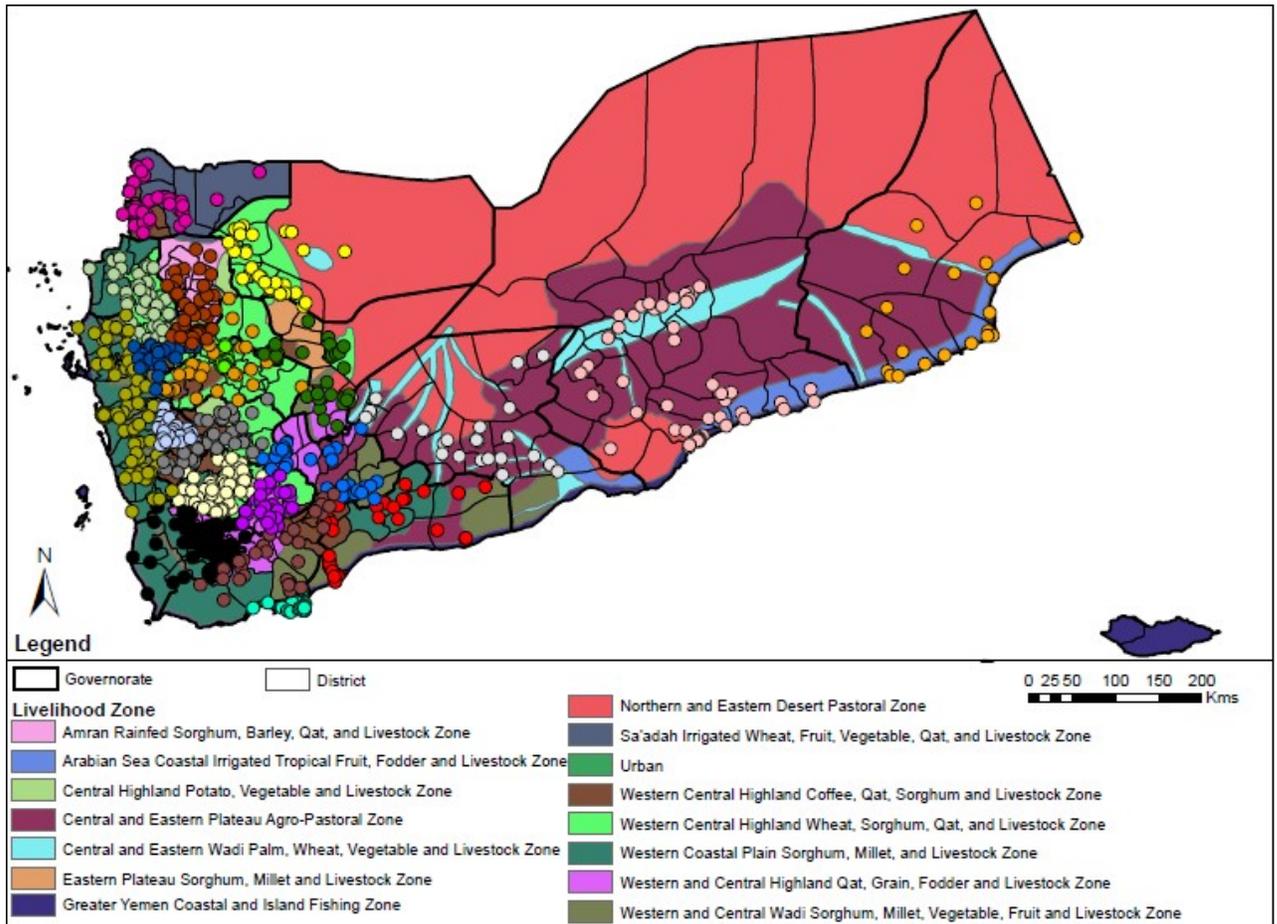


Figure 4. All Points Overlaying Livelihood Zones in Yemen



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FEWS NET, 2011. Yemen Livelihood Zones. FEWS NET - Yemen Country Office, Sana'a, Yemen. <http://www.fews.net/Pages/livelihoods-country.aspx?gb=af&loc=6&l=en> (accessed 02.06.2015).

3. Administrative data:

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4. Settlement data:

Humanitarian Response, 2012. Yemen Settlements (Cities, Towns and Villages). Humanitarian Response - United Nations Office for the Coordination of Humanitarian Affairs (OCHA). <https://www.humanitarianresponse.info/en/home> (accessed June 2015).

ANNEX 3: DATA TABLES

TABLE I: AVERAGE ANNUAL INCOME PER-CAPITA AND SHARES BY INCOME SOURCE, 2005-06

Livelihood zone		Number of households in the sample	FEWS Average annual income per capita, Rials	UNDP Average annual income per capita, Rials	Average annual income per capita, Rials (*)				
					Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Amran Rainfed Sorghum, Barley, Qat, and Livestock Zone	517	149,864 ±23,932	107,052 ±8303	24,904	51,869	72,412	104,126	497,441
2	Arabian Sea Coastal Irrigated Tropical Fruit, Fodder and Livestock Zone	124	154,768 ±62,176	140,138 ±57778	25,502	40,163	57,595	88,777	518,263
3	Central and Eastern Plateau Agro-Pastoral Zone	548	137,302 ±21,250	127,940 ±16491	22,269	48,690	71,979	108,008	391,932
4	Central and Eastern Wadi Palm, Wheat, Vegetable and Livestock Zone	191	98,649 ±23,262	106,035 ±22847	11,118	38,985	57,059	79,403	291,963
5	Central Highland Potato, Vegetable and Livestock Zone	259	116,553 ±20,162	119,017 ±18746	28,646	51,204	70,758	98,694	348,848
6	Eastern Plateau Sorghum, Millet and Livestock Zone	24	26,653 ±16,297	39,423 ±16037	1,462	4,683	8,498	16,926	87,058
7	Greater Yemen Coastal and Island Fishing Zone	1,662	227,578 ±21,509	181,494 ±12350	28,897	53,308	79,918	135,019	736,825
8	Northern and Eastern Desert Pastoral Zone	112	189,872 ±68,834	161,459 ±25818	909	15,590	52,424	158,893	592,336
9	Saadah Irrigated Wheat, Fruit, Vegetable, Qat, and Livestock Zone	404	231,324 ±29,979	124,370 ±9786	34,260	64,755	102,016	178,398	848,141
10	Western and Central Highland Qat, Grain, Fodder and Livestock Zone	1,385	121,956 ±12,664	109,644 ±7814	14,662	37,654	57,782	94,993	399,144
11	Western and Central Wadi Sorghum, Millet, Vegetable, Fruit and Livestock Zone	1,081	146,865 ±14,899	128,431 ±10068	28,013	52,483	78,218	118,317	407,424
12	Western Central Highland Coffee, Qat, Sorghum and Livestock Zone	1,346	121,487 ±13,608	104,853 ±4177	21,358	44,762	67,217	99,463	354,317
13	Western Central Highland Wheat, Sorghum, Qat, and Livestock Zone	1,904	142,203 149,864	125,198 107,052	16,551 24,904	38,183 51,869	59,450 72,412	90,148 104,126	469,577 497,441
14	Western Coastal Plain Sorghum, Millet, and Livestock Zone	1,564	166,316 ±45,302	115,386 ±11436	15,107	37,269	58,450	95,289	590,906
15	Urban	2,015	267,226 ±20796	231,485 ±14660	26,442	55,936	88,357	145,689	864,916

Total: 13,136

(*) Quintiles were computed separately for each Livelihood Zone

TABLE I (CONTINUED)

Livelihood zone		Average annual income per capita shares												
		Wages			Family business	Agriculture				Other income				
		Non-agriculture wages (public sector)	Non-agriculture wages (not-public sector)	Agricultural wages	Revenue from Family Business / Self-employment	Sales of food crops	Sales of non-food crops	Sales of livestock	Sales of fish	Social assistance	Remittances received from inside Yemen	Remittances received from outside Yemen	Income from sales of property	Other income
(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)		
1	Amran Rainfed Sorghum, Barley, Qat, and Livestock Zone	15.12% ±2.35 %	14.81% ±2.48 %	10.15% ±2.64 %	18.69% ±2.81 %	1.77% ±0.7 %	23.88% ±4.78 %	4.37% ±0.79 %		1.51% ±0.62 %	3.14% ±0.79 %	1.65% ±0.76 %	1.91% ±0.62 %	3.02% ±0.71 %
2	Arabian Sea Coastal Irrigated Tropical Fruit, Fodder and Livestock Zone	12.14% ±6.05 %	32.08% ±16.63 %	3.42% ±2.42 %	16.49% ±9.98 %		0.82% ±0.63 %	0.78% ±0.17 %	1.92% ±1.54 %	3.72% ±2.06 %	3.36% ±0.68 %	19.03% ±2.51 %	0.62% ±0.38 %	5.63% ±3.48 %
3	Central and Eastern Plateau Agro-Pastoral Zone	11.97% ±1.91 %	32.33% ±3.31 %	2.51% ±0.75 %	14.95% ±2.46 %	0.83% ±0.49 %	5.33% ±2.47 %	8.25% ±3.98 %	3.36% ±2.91 %	3% ±0.75 %	2.67% ±0.63 %	10.22% ±2.08 %	1.95% ±0.64 %	2.64% ±0.51 %
4	Central and Eastern Wadi Palm, Wheat, Vegetable and Livestock Zone	14.26% ±4.25 %	27.64% ±5.23 %	1.96% ±0.86 %	14.35% ±4.52 %	2.06% ±0.95 %	3.08% ±1.26 %	13.43% ±6.59 %		3.66% ±1.03 %	2.69% ±0.99 %	11.22% ±2.23 %	1.85% ±1.09 %	3.79% ±1.03 %
5	Central Highland Potato, Vegetable and Livestock Zone	12.27% ±2.93 %	20.58% ±6.3 %	3.75% ±1.6 %	14.66% ±3.46 %	14.97% ±6.7 %	7.44% ±4.71 %	4% ±1.1 %		3.16% ±1.17 %	5.14% ±1.74 %	8.34% ±6.11 %	2.58% ±1.3 %	2.69% ±1.1 %
6	Eastern Plateau Sorghum, Millet and Livestock Zone	8.41% ±6.58 %	7.63% ±5.97 %		7.31% ±4.88 %	10.70% ±2.82 %	20.94% ±13.41 %	19.94% ±2.42 %		14.45% ±3.51 %	3.61% ±0.72 %	6.06% ±2.37 %	0.94% ±0.74 %	
7	Greater Yemen Coastal and Island Fishing Zone	29.21% ±1.56 %	24.47% ±1.36 %	2.56% ±0.82 %	17.13% ±1.19 %	0.26% ±0.17 %	0.49% ±0.14 %	0.62% ±0.22 %	2.30% ±0.64 %	8.57% ±0.67 %	3.00% ±0.32 %	7.20% ±1.01 %	1.14% ±0.17 %	3.03% ±0.37 %
8	Northern and Eastern Desert Pastoral Zone	8.79% ±3.5 %	23.36% ±6.57 %	1.90% ±1.6 %	13.97% ±5.15 %	19.05% ±9.12 %	2.36% ±1.15 %	19.47% ±3.8 %	0.05% ±0.05 %	4.03% ±2.31 %	0.13% ±0.11 %	5% ±2.44 %	0.45% ±0.33 %	1.03% ±0.61 %
9	Saadah Irrigated Wheat, Fruit, Vegetable, Qat, and Livestock Zone	8.45% ±1.95 %	18.35% ±3.73 %	9.52% ±2.09 %	29.45% ±4.79 %	10.06% ±2.92 %	8.60% ±2.78 %	7.29% ±1.32 %		1.73% ±0.41 %	2.21% ±0.95 %	0.24% ±0.12 %	1.66% ±0.73 %	2.44% ±0.8 %
10	Western and Central Highland Qat, Grain, Fodder and Livestock Zone	16.71% ±1.74 %	24.80% ±2.01 %	2.55% ±0.7 %	12.00% ±1.4 %	1.69% ±0.79 %	7.18% ±1.73 %	3.42% ±0.83 %	0.07% ±0.07 %	5.82% ±0.91 %	14.05% ±2.14 %	6.39% ±1.53 %	2.05% ±0.39 %	3.26% ±0.51 %
11	Western and Central Wadi Sorghum, Millet, Vegetable, Fruit and Livestock Zone	9.15% ±1.21 %	18.65% ±2.35 %	16.82% ±3.4 %	21.70% ±3.31 %	3.21% ±1.1 %	7.78% ±1.83 %	7.33% ±1.26 %		2.65% ±0.62 %	5.22% ±1.26 %	3.46% ±0.79 %	2.06% ±0.47 %	1.98% ±0.37 %
12	Western Central Highland Coffee, Qat, Sorghum and Livestock Zone	16.28% ±2.02 %	22.40% ±1.83 %	8.91% ±1.48 %	14.91% ±2.15 %	2.74% ±1.04 %	10.07% ±1.85 %	4.38% ±0.45 %		5.35% ±0.78 %	4.86% ±0.54 %	4.36% ±1.02 %	2.09% ±0.31 %	3.65% ±0.6 %
13	Western Central Highland Wheat, Sorghum, Qat, and Livestock Zone	15.15% ±1.51 %	19.61% ±1.91 %	9.00% ±1.23 %	10.34% ±1.36 %	3.76% ±0.76 %	17.48% ±2.29 %	5.23% ±0.61 %		3.85% ±0.37 %	5.18% ±0.76 %	3.53% ±0.99 %	3.36% ±0.67 %	3.51% ±0.45 %
14	Western Coastal Plain Sorghum, Millet, and Livestock Zone	10.92% ±1.26 %	24.86% ±1.85 %	8.32% ±1.59 %	16.11% ±1.8 %	1.28% ±0.41 %	7.19% ±1.29 %	5.42% ±0.71 %	1.30% ±1.18 %	4.12% ±0.66 %	10.77% ±1.59 %	5.11% ±1.02 %	2.39% ±0.38 %	2.20% ±0.33 %
15	Urban	30.42% ±1.17 %	25.85% ±1.19 %	1.38% ±0.3 %	15.54% ±1 %	0.65% ±0.25 %	1.42% ±0.55 %	0.30% ±0.08 %		4.08% ±0.39 %	3.80% ±0.36 %	4.85% ±0.57 %	3.88% ±0.43 %	7.85% ±0.57 %

TABLE I (CONTINUED)

Livelihood zone		Average annual income per capita, Rials (*) - Quintile 1												
		Non-agriculture wages (public sector)	Non-agriculture wages (not-public sector)	Agricultural wages	Revenue from Family Business / Self employment	Sales of food crops	Sales of non-food crops	Sales of livestock	Sales of fish	Social assistance	Remittances received from inside Yemen	Remittances received from outside Yemen	Income from sales of property	Other income
		(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)
1	Amran Rainfed Sorghum, Barley, Qat, and Livestock Zone	26.22%	10.33%	5.82%	5.90%	3.77%	18.79%	9.40%		2.42%	4.83%	4.41%	5.64%	2.48%
2	Arabian Sea Coastal Irrigated Tropical Fruit, Fodder and Livestock Zone	4.66%	53.41%		0.20%					8.72%	6.80%	19.95%	0.38%	5.87%
3	Central and Eastern Plateau Agro-Pastoral Zone	9.83%	7.39%	3.56%	7.28%	2.23%	1.82%	32.12%	5.42%	6.76%	6.14%	11.51%	2.97%	2.97%
4	Central and Eastern Wadi Palm, Wheat, Vegetable and Livestock Zone	4.33%	2.43%		9.84%	2.03%	2.19%	44.59%		10.32%	7.93%	11.16%	1.28%	3.89%
5	Central Highland Potato, Vegetable and Livestock Zone	14.82%	13.20%	0.38%	4.43%	9.32%	15.27%	10.85%		4.17%	15.63%	7.19%	2.20%	2.55%
6	Eastern Plateau Sorghum, Millet and Livestock Zone							41.27%		25.40%		33.33%		
7	Greater Yemen Coastal and Island Fishing Zone	31.94%	23.39%	2.01%	11.42%		0.34%	1.26%	0.53%	15.96%	5.25%	5.04%	0.50%	2.35%
8	Northern and Eastern Desert Pastoral Zone							42.69%		57.31%				
9	Saadah Irrigated Wheat, Fruit, Vegetable, Qat, and Livestock Zone	12.33%	15.34%	15.55%	9.70%	7.19%	9.08%	16.85%		5.99%	3.23%	0.56%	1.43%	2.75%
10	Western and Central Highland Qat, Grain, Fodder and Livestock Zone	6.40%	5.11%	3.23%	4.15%	1.24%	9.31%	6.91%		10.04%	40.21%	8.83%	1.29%	3.29%
11	Western and Central Wadi Sorghum, Millet, Vegetable, Fruit and Livestock Zone	5.62%	6%	19.43%	16.11%	2.88%	7.78%	15.48%		5.11%	13.81%	4.05%	2.26%	1.48%
12	Western Central Highland Coffee, Qat, Sorghum and Livestock Zone	12.81%	7.84%	9.17%	5.10%	3.31%	12.27%	10.33%		13.45%	12.48%	5.40%	1.26%	6.57%
13	Western Central Highland Wheat, Sorghum, Qat, and Livestock Zone	7.95%	6.72%	7.46%	3.05%	6.04%	22.07%	13.16%		11.47%	12.70%	2.47%	2.75%	4.15%
14	Western Coastal Plain Sorghum, Millet, and Livestock Zone	3.88%	7.67%	3.19%	6.84%	0.99%	11.37%	12.95%		11.22%	23.45%	9.37%	5.40%	3.68%
15	Urban	33.19%	18.40%	3.32%	9.99%	0.93%	2.74%	0.99%		7.39%	7.70%	4%	3.45%	7.91%

TABLE I (CONTINUED)

Livelihood zone		Average annual income per capita, Rials (*) - Quintile 2												
		Non-agriculture wages (public sector)	Non-agriculture wages (not-public sector)	Agricultural wages	Revenue from Family Business / Self employment	Sales of food crops	Sales of non-food crops	Sales of livestock	Sales of fish	Social assistance	Remittances received from inside Yemen	Remittances received from outside Yemen	Income from sales of property	Other income
		(35)	(36)	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)	(46)	(47)
1	Amran Rainfed Sorghum, Barley, Qat, and Livestock Zone	22.22%	10.38%	13.51%	4.41%	0.69%	31.24%	5.40%		0.64%	6.60%	2.27%	0.52%	2.13%
2	Arabian Sea Coastal Irrigated Tropical Fruit, Fodder and Livestock Zone	4.37%	67.83%		20.31%			4.48%		0.90%	0.77%			1.34%
3	Central and Eastern Plateau Agro-Pastoral Zone	17.85%	35.88%	1.57%	9.75%	0.35%	2.76%	4.09%	1.98%	4.55%	3.31%	13.38%	2.12%	2.41%
4	Central and Eastern Wadi Palm, Wheat, Vegetable and Livestock Zone	19.50%	25.30%	0.65%	5.10%	3.78%	8.24%	20.16%		2.55%	0.87%	9.06%	0.63%	4.15%
5	Central Highland Potato, Vegetable and Livestock Zone	12.38%	18.07%	2.67%	9.09%	11.04%	15.87%	3.32%		4.87%	5.11%	11.13%	4.87%	1.58%
6	Eastern Plateau Sorghum, Millet and Livestock Zone				2.94%	3.95%	57.46%	13.60%		17.65%	4.41%			
7	Greater Yemen Coastal and Island Fishing Zone	34.73%	24.73%	3.05%	11.41%		0.25%	0.53%		10.72%	4.09%	6.83%	0.67%	2.99%
8	Northern and Eastern Desert Pastoral Zone	13.40%	12.61%			8.86%	0.49%	58.04%		4.49%	0.57%	1.36%	0.17%	
9	Saadah Irrigated Wheat, Fruit, Vegetable, Qat, and Livestock Zone	14.42%	21.71%	8.97%	6.03%	15.98%	10.06%	8.29%		1.13%	4.72%	0.49%	1.86%	6.35%
10	Western and Central Highland Qat, Grain, Fodder and Livestock Zone	18.10%	19.84%	3.57%	3.85%	2.98%	6.18%	4.47%		8.08%	17.98%	7.34%	3.15%	4.45%
11	Western and Central Wadi Sorghum, Millet, Vegetable, Fruit and Livestock Zone	11.80%	20.76%	21.03%	14.40%	0.95%	7.35%	7.40%		3.98%	4.55%	5.45%	1.24%	1.09%
12	Western Central Highland Coffee, Qat, Sorghum and Livestock Zone	28.07%	20.37%	10.74%	4.40%	1.53%	9.09%	4.01%		7.01%	4.15%	5.77%	1.55%	3.32%
13	Western Central Highland Wheat, Sorghum, Qat, and Livestock Zone	17.60%	20.40%	13.86%	5.29%	4.55%	15.97%	6.14%		3.45%	5.47%	1.86%	2.12%	3.30%
14	Western Coastal Plain Sorghum, Millet, and Livestock Zone	13.33%	26.30%	13.54%	4.75%	1.39%	5.98%	5.83%		4.45%	16.59%	5.51%	1.21%	1.13%
15	Urban	35.71%	29.05%	1.55%	8.50%	0.66%	1.10%	0.20%		4.65%	4.38%	4.88%	2.45%	6.89%

TABLE I (CONTINUED)

Livelihood zone		Average annual income per capita, Rials (*) - Quintile 3												
		Non-agriculture wages (public sector)	Non-agriculture wages (not-public sector)	Agricultural wages	Revenue from Family Business / Self employment	Sales of food crops	Sales of non-food crops	Sales of livestock	Sales of fish	Social assistance	Remittances received from inside Yemen	Remittances received from outside Yemen	Income from sales of property	Other income
		(48)	(49)	(50)	(51)	(52)	(53)	(54)	(55)	(56)	(57)	(58)	(59)	(60)
1	Amran Rainfed Sorghum, Barley, Qat, and Livestock Zone	15.55%	21.48%	12.63%	6.68%	0.81%	30.24%	4.40%		0.78%	2.98%	0.59%	0.94%	2.92%
2	Arabian Sea Coastal Irrigated Tropical Fruit, Fodder and Livestock Zone	11.55%	31.27%	0.66%	0.43%			0.03%		2.27%	6.76%	31.74%	0.17%	15.12%
3	Central and Eastern Plateau Agro-Pastoral Zone	14.96%	35.96%	1.69%	9.36%	0.53%	5.28%	5.08%	4.31%	2.18%	2.33%	12.62%	1.58%	4.11%
4	Central and Eastern Wadi Palm, Wheat, Vegetable and Livestock Zone	23.22%	33.62%	2.87%	7.64%	1.45%	3%	3.13%		2.03%	3.54%	15.92%	0.31%	3.26%
5	Central Highland Potato, Vegetable and Livestock Zone	14.74%	22.35%	9.59%	16.31%	8.43%	4.15%	3.48%		4.62%	2.05%	10.59%	1.85%	1.84%
6	Eastern Plateau Sorghum, Millet and Livestock Zone					19.55%	19.38%	33.10%		24.65%	3.32%			
7	Greater Yemen Coastal and Island Fishing Zone	35.50%	22.41%	1.86%	12.37%	0.03%	0.48%	0.80%	0.15%	8.28%	2.82%	10.61%	1.62%	3.06%
8	Northern and Eastern Desert Pastoral Zone	17.89%	29.87%	6.25%	3.09%	14.11%	3.50%	14.89%		1.39%	0.08%	8.89%	0.05%	
9	Saadah Irrigated Wheat, Fruit, Vegetable, Qat, and Livestock Zone	10.21%	22.18%	11.33%	20.98%	12.35%	10.27%	4.91%		1.21%	2.81%	0.05%	2.73%	0.95%
10	Western and Central Highland Qat, Grain, Fodder and Livestock Zone	24%	29%	2.75%	5.51%	1.39%	10.27%	3.62%	0.20%	5.79%	6.77%	7.56%	2.09%	1.06%
11	Western and Central Wadi Sorghum, Millet, Vegetable, Fruit and Livestock Zone	10.64%	15.85%	20.83%	16.68%	3.26%	7.43%	6.71%		2.21%	6.12%	3%	4.53%	2.73%
12	Western Central Highland Coffee, Qat, Sorghum and Livestock Zone	22.11%	27.53%	11.39%	7.77%	2.81%	8.44%	2.95%		2.99%	3.31%	5.04%	2.50%	3.14%
13	Western Central Highland Wheat, Sorghum, Qat, and Livestock Zone	22.16%	25.13%	11.21%	5.54%	1.91%	15.88%	3.70%		2.15%	2.71%	4.30%	3.87%	1.45%
14	Western Coastal Plain Sorghum, Millet, and Livestock Zone	17.50%	30.71%	10.77%	8.15%	0.32%	5.08%	4.43%		3.33%	10.11%	5.27%	1.93%	2.39%
15	Urban	36.05%	26.23%	1.69%	10.67%	0.92%	1.59%	0.24%		3.66%	2.93%	5.75%	3.04%	7.22%

TABLE I (CONTINUED)

Livelihood zone		Average annual income per capita, Rials (*) - Quintile 4												
		Non-agriculture wages (public sector)	Non-agriculture wages (not-public sector)	Agricultural wages	Revenue from Family Business / Self employment	Sales of food crops	Sales of non-food crops	Sales of livestock	Sales of fish	Social assistance	Remittances received from inside Yemen	Remittances received from outside Yemen	Income from sales of property	Other income
		(61)	(62)	(63)	(64)	(65)	(66)	(67)	(68)	(69)	(70)	(71)	(72)	(73)
1	Amran Rainfed Sorghum, Barley, Qat, and Livestock Zone	8.30%	19.37%	12.74%	24.25%	1.97%	21.22%	2.32%		3.40%	1.21%	1.22%	1.06%	2.93%
2	Arabian Sea Coastal Irrigated Tropical Fruit, Fodder and Livestock Zone	12.42%	10.66%	1.79%	38.26%		3.94%			6.09%	1.05%	21.23%	0.88%	3.67%
3	Central and Eastern Plateau Agro-Pastoral Zone	10.05%	34.13%	1.71%	17.97%	0.91%	13.69%	2.50%	3.32%	1.62%	1.40%	9.11%	0.90%	2.69%
4	Central and Eastern Wadi Palm, Wheat, Vegetable and Livestock Zone	18.39%	33.68%	4.87%	17.65%		0.13%	1.76%		2.10%	0.90%	12.44%	3.67%	4.40%
5	Central Highland Potato, Vegetable and Livestock Zone	12.33%	34.14%	3.42%	15.03%	14.54%	0.59%	2.15%		1.37%	0.38%	13.14%	1.42%	1.50%
6	Eastern Plateau Sorghum, Millet and Livestock Zone		16.01%		27.73%	6.84%	15.68%	12.45%		11.51%	5.91%		3.87%	
7	Greater Yemen Coastal and Island Fishing Zone	31.33%	26.07%	3.24%	14.42%	0.36%	0.84%	0.42%	0.33%	7.85%	2.87%	8.69%	1.31%	2.27%
8	Northern and Eastern Desert Pastoral Zone	5.91%	33.58%	1.58%	8.01%	30.39%	3.43%	6.83%		0.25%		9.64%	0.36%	0.04%
9	Saadah Irrigated Wheat, Fruit, Vegetable, Qat, and Livestock Zone	3.67%	19.03%	10.49%	41.86%	8.54%	8.67%	4.57%		0.21%	0.15%	0.06%	1.78%	0.98%
10	Western and Central Highland Qat, Grain, Fodder and Livestock Zone	20.94%	35.83%	3.06%	11.83%	0.76%	7.26%	1.63%	0.17%	3.71%	4.81%	4.51%	1.88%	3.61%
11	Western and Central Wadi Sorghum, Millet, Vegetable, Fruit and Livestock Zone	10.72%	24.59%	19.34%	13.84%	3.69%	11.09%	5.39%		2.14%	1.96%	3.65%	1.30%	2.29%
12	Western Central Highland Coffee, Qat, Sorghum and Livestock Zone	12.49%	29.62%	7.98%	13.85%	3.03%	13.72%	3.34%		2.47%	3.48%	3.90%	3.03%	3.10%
13	Western Central Highland Wheat, Sorghum, Qat, and Livestock Zone	18.49%	20.09%	8.13%	11.83%	3.02%	18.93%	2.39%		1.99%	4.46%	4.01%	3.12%	3.56%
14	Western Coastal Plain Sorghum, Millet, and Livestock Zone	14.17%	31.19%	10.66%	17.60%	1.69%	8.15%	2.94%		1.81%	3.89%	3.84%	2.04%	2.02%
15	Urban	29.67%	31.71%	0.90%	15.39%	0.22%	0.29%	0.09%		4.21%	3.25%	4.17%	3.68%	6.42%

TABLE I (CONTINUED)

Livelihood zone		Average annual income per capita, Rials (*) - Quintile 5												
		Non-agriculture wages (public sector)	Non-agriculture wages (not-public sector)	Agricultural wages	Revenue from Family Business / Self employment	Sales of food crops	Sales of non-food crops	Sales of livestock	Sales of fish	Social assistance	Remittances received from inside Yemen	Remittances received from outside Yemen	Income from sales of property	Other income
		(74)	(75)	(76)	(77)	(78)	(79)	(80)	(81)	(82)	(83)	(84)	(85)	(86)
1	Amran Rainfed Sorghum, Barley, Qat, and Livestock Zone	4.45%	11.86%	5.31%	51.44%	1.88%	17.10%	0.88%		0.38%	0.19%	0.03%	1.87%	4.61%
2	Arabian Sea Coastal Irrigated Tropical Fruit, Fodder and Livestock Zone	25.06%	6.98%	13.23%	23.46%		0.01%	0.23%	8.73%	0.28%	1.04%	18.09%	1.46%	1.45%
3	Central and Eastern Plateau Agro-Pastoral Zone	7.69%	43.89%	3.97%	27.55%	0.36%	2.51%	1.40%	2.16%	0.60%	0.89%	5.40%	2.30%	1.27%
4	Central and Eastern Wadi Palm, Wheat, Vegetable and Livestock Zone	5.88%	39.82%	1.21%	29.41%	3.06%	2.17%	1.69%		1.96%	0.68%	7.60%	3.16%	3.35%
5	Central Highland Potato, Vegetable and Livestock Zone	6.64%	16.92%	2.89%	29.70%	32.46%	0.08%	1.25%		0.49%	0.93%	0.05%	2.63%	5.96%
6	Eastern Plateau Sorghum, Millet and Livestock Zone	34.63%	15.37%			20%	10.73%	10.28%		0.96%	3.04%	4.99%		
7	Greater Yemen Coastal and Island Fishing Zone	15.43%	25.09%	2.45%	32.58%	0.75%	0.41%	0.31%	9.26%	2.57%	0.82%	4.60%	1.37%	4.35%
8	Northern and Eastern Desert Pastoral Zone	1.63%	19.26%	0.05%	43.45%	22.99%	2.07%	3.20%	0.20%	0.03%		1.93%	1.20%	4.01%
9	Saadah Irrigated Wheat, Fruit, Vegetable, Qat, and Livestock Zone	1.06%	12.79%	0.32%	72.44%	5.81%	4.45%	1.54%		0.04%	0.02%		0.36%	1.18%
10	Western and Central Highland Qat, Grain, Fodder and Livestock Zone	13.96%	33.56%	0.20%	34.05%	2.05%	3.09%	0.61%		1.65%	1.34%	3.86%	1.81%	3.81%
11	Western and Central Wadi Sorghum, Millet, Vegetable, Fruit and Livestock Zone	7.05%	24.20%	5.41%	43.78%	4.81%	5.42%	3.07%		0.49%	1.04%	1.63%	0.98%	2.12%
12	Western Central Highland Coffee, Qat, Sorghum and Livestock Zone	6.37%	26.06%	5.58%	40.99%	3.06%	7.14%	1.68%		1.34%	1.44%	1.88%	2.11%	2.35%
13	Western Central Highland Wheat, Sorghum, Qat, and Livestock Zone	9.85%	24.67%	4.82%	24.27%	3.46%	14.99%	1.43%		0.77%	1.25%	4.77%	4.73%	4.99%
14	Western Coastal Plain Sorghum, Millet, and Livestock Zone	5.72%	27.21%	3.72%	40.40%	1.94%	5.51%	1.71%	6.14%	0.52%	1.76%	2.07%	1.49%	1.80%
15	Urban	20.40%	22.89%	0.08%	29.06%	0.62%	1.65%	0.12%		1.56%	1.85%	5.27%	6.17%	10.34%

TABLE 2: AVERAGE ANNUAL EXPENDITURE PER-CAPITA AND ITS COMPOSITION, 2005-06

Livelihood zone		Number of households in the sample	FEWS Average annual expenditure per capita, Rials	UNDP Average annual expenditure per capita, Rials	Average annual expenditure per capita, Rials (**)				
					Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Amran Rainfed Sorghum, Barley, Qat, and Livestock Zone	517	130,026 ±17738	82,398 ±4934	32,998	46,946	62,979	97,162	388,360
2	Arabian Sea Coastal Irrigated Tropical Fruit, Fodder and Livestock Zone	124	183,003 ±37481	152,961 ±26594	58,584	83,418	112,542	156,705	421,183
3	Central and Eastern Plateau Agro-Pastoral Zone	548	106,565 ±10370	89,708 ±6161	31,151	53,157	72,681	95,949	246,802
4	Central and Eastern Wadi Palm, Wheat, Vegetable and Livestock Zone	191	97,569 ±6363	93,010 ±5867	42,474	58,259	74,063	94,861	184,901
5	Central Highland Potato, Vegetable and Livestock Zone	259	115,793 ±12629	110,040 ±7879	39,488	64,872	89,932	118,254	292,870
6	Eastern Plateau Sorghum, Millet and Livestock Zone	24	79,544 ±34708	84,554 ±33473	26,671	36,208	45,516	84,566	166,996
7	Greater Yemen Coastal and Island Fishing Zone	1,662	225,859 ±16347	163,954 ±7086	54,106	84,531	114,711	160,769	571,823
8	Northern and Eastern Desert Pastoral Zone	112	163,284 ±39644	95,757 ±11952	39,234	59,405	73,845	107,651	489,470
9	Saadah Irrigated Wheat, Fruit, Vegetable, Qat, and Livestock Zone	404	220,349 ±32028	100,876 ±7024	39,492	60,971	92,540	159,268	792,959
10	Western and Central Highland Qat, Grain, Fodder and Livestock Zone	1,385	127,988 ±9691	107,859 ±3996	32,172	52,143	75,422	110,986	317,536
11	Western and Central Wadi Sorghum, Millet, Vegetable, Fruit and Livestock Zone	1,081	123,991 ±10393	96,176 ±4662	32,523	52,089	73,911	106,789	315,419
12	Western Central Highland Coffee, Qat, Sorghum and Livestock Zone	1,346	127,590 ±12271	106,130 ±4393	32,364	52,431	72,488	110,827	350,139
13	Western Central Highland Wheat, Sorghum, Qat, and Livestock Zone	1,904	129,059 ±17113	106,932 ±6530	32,164	53,805	74,684	104,202	341,326
14	Western Coastal Plain Sorghum, Millet, and Livestock Zone	1,564	158,728 ±42129	100,036 ±4561	32,335	49,239	67,475	100,446	457,667
15	Urban	2,015	278,706 ±20796	227,259 ±14660	54,806	95,078	138,252	206,893	742,972

Total: 13,136

(**) Quintiles were computed separately for each Livelihood Zone

TABLE 2 (CONTINUED)

Livelihood zone		Average total expenditure per capita shares							
		Hired labor	Agriculture /livestock expenses	Fishing expenses	expenses on Family Business / Self employment	Health care	Education	Food purchases	Other non-food purchases
		(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1	Amran Rainfed Sorghum, Barley, Qat, and Livestock Zone	1.07% ±0.23 %	9.36% ±1.89 %		12.50% ±2.13 %	0.88% ±0.2 %	0.56% ±0.06 %	35.64% ±1.8 %	39.98% ±1.45 %
2	Arabian Sea Coastal Irrigated Tropical Fruit, Fodder and Livestock Zone		2.57% ±0.56 %	0.73% ±0.55 %	6.50% ±3.27 %	0.11% ±0.09 %	0.20% ±0.02 %	53.29% ±3.52 %	36.58% ±2.86 %
3	Central and Eastern Plateau Agro-Pastoral Zone	0.51% ±0.27 %	4.07% ±0.82 %	0.62% ±0.46 %	7.86% ±1.28 %	0.49% ±0.21 %	0.41% ±0.03 %	40.24% ±1.87 %	45.80% ±1.9 %
4	Central and Eastern Wadi Palm, Wheat, Vegetable and Livestock Zone	0.25% ±0.15 %	5.46% ±1.03 %		4.84% ±1.55 %	0.15% ±0.08 %	0.53% ±0.1 %	46.23% ±1.27 %	42.55% ±1.53 %
5	Central Highland Potato, Vegetable and Livestock Zone	0.35% ±0.11 %	7.60% ±2.8 %		6.89% ±1.46 %	0.41% ±0.18 %	0.42% ±0.08 %	45.30% ±2.77 %	39.04% ±1.65 %
6	Eastern Plateau Sorghum, Millet and Livestock Zone		3.42% ±0.08 %		0.59% ±0.48 %		0.27% ±0.04 %	39.60% ±4.57 %	56.12% ±5.02 %
7	Greater Yemen Coastal and Island Fishing Zone	0.07% ±0.03 %	1.14% ±0.21 %	1.72% ±0.5 %	6.60% ±0.57 %	0.83% ±0.13 %	0.65% ±0.05 %	39.29% ±0.73 %	49.70% ±0.83 %
8	Northern and Eastern Desert Pastoral Zone	0.47% ±0.26 %	8.32% ±1.71 %	0.02% ±0.02 %	8.89% ±3.95 %	0.30% ±0.28 %	0.30% ±0.09 %	43.02% ±4.18 %	38.68% ±3.51 %
9	Saadah Irrigated Wheat, Fruit, Vegetable, Qat, and Livestock Zone	0.42% ±0.12 %	6.89% ±1.35 %		20.18% ±3.55 %	0.42% ±0.2 %	0.29% ±0.05 %	37.56% ±2.27 %	34.26% ±2.37 %
10	Western and Central Highland Qat, Grain, Fodder and Livestock Zone	0.29% ±0.06 %	3.03% ±0.35 %	0.03% ±0.03 %	6.19% ±0.94 %	1.13% ±0.23 %	0.66% ±0.06 %	42.24% ±0.98 %	46.43% ±1.04 %
11	Western and Central Wadi Sorghum, Millet, Vegetable, Fruit and Livestock Zone	0.88% ±0.18 %	4.90% ±0.66 %		9.27% ±1.8 %	0.86% ±0.2 %	0.33% ±0.04 %	44.51% ±1.55 %	39.26% ±1.6 %
12	Western Central Highland Coffee, Qat, Sorghum and Livestock Zone	0.41% ±0.05 %	4.54% ±0.67 %		9.26% ±1.66 %	1.83% ±0.22 %	0.45% ±0.03 %	40.84% ±1.14 %	42.67% ±1.18 %
13	Western Central Highland Wheat, Sorghum, Qat, and Livestock Zone	0.71% ±0.08 %	4.33% ±0.49 %		5.18% ±0.73 %	0.85% ±0.14 %	0.62% ±0.05 %	44.65% ±0.73 %	43.66% ±0.88 %
14	Western Coastal Plain Sorghum, Millet, and Livestock Zone	0.45% ±0.07 %	3.24% ±0.26 %	0.87% ±0.78 %	8.10% ±1.31 %	1.34% ±0.24 %	0.48% ±0.04 %	43.93% ±1.16 %	41.60% ±1.06 %
15	Urban	0.15% ±0.05 %	0.54% ±0.11 %		6.43% ±0.53 %	1.20% ±0.14 %	1.67% ±0.1 %	34.96% ±0.55 %	55.05% ±0.6 %

TABLE 2 (CONTINUED)

Livelihood zone		Average total expenditure per capita shares – Quintile 1							
		Hired labor	Agriculture /livestock expenses	Fishing expenses	expenses on Family Business / Self employment	Health care	Education	Food purchases	Other non-food purchases
		(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
1	Amran Rainfed Sorghum, Barley, Qat, and Livestock Zone	1.11%	11.93%		0.36%	0.69%	0.69%	45.47%	39.76%
2	Arabian Sea Coastal Irrigated Tropical Fruit, Fodder and Livestock Zone		4.31%		0.15%	0.44%	0.24%	55.50%	39.36%
3	Central and Eastern Plateau Agro-Pastoral Zone	0.27%	3.35%	0.87%	1.55%	0.45%	0.49%	45.76%	47.26%
4	Central and Eastern Wadi Palm, Wheat, Vegetable and Livestock Zone		6.52%		0.03%	0.14%	0.99%	47.98%	44.35%
5	Central Highland Potato, Vegetable and Livestock Zone	0.36%	4.65%		0.23%		0.54%	60.54%	33.69%
6	Eastern Plateau Sorghum, Millet and Livestock Zone		5.62%				0.42%	46.08%	47.89%
7	Greater Yemen Coastal and Island Fishing Zone		1.12%	0.03%	1.31%	0.26%	0.60%	47.12%	49.55%
8	Northern and Eastern Desert Pastoral Zone		4.29%				0.68%	45.70%	49.33%
9	Saadah Irrigated Wheat, Fruit, Vegetable, Qat, and Livestock Zone	0.06%	6.01%		0.19%	0.14%	0.42%	56.69%	36.50%
10	Western and Central Highland Qat, Grain, Fodder and Livestock Zone	0.18%	3.58%		0.10%	0.69%	0.76%	48.01%	46.68%
11	Western and Central Wadi Sorghum, Millet, Vegetable, Fruit and Livestock Zone	0.97%	5.24%		0.16%	1.25%	0.55%	51.21%	40.63%
12	Western Central Highland Coffee, Qat, Sorghum and Livestock Zone	0.29%	3.31%		1%	0.98%	0.63%	54.13%	39.66%
13	Western Central Highland Wheat, Sorghum, Qat, and Livestock Zone	0.58%	3.48%		0.10%	0.57%	0.81%	54.41%	40.06%
14	Western Coastal Plain Sorghum, Millet, and Livestock Zone	0.42%	3.44%		0.21%	1.55%	0.65%	51.97%	41.76%
15	Urban	0.15%	0.63%		1.15%	0.59%	1.04%	44.18%	52.26%

TABLE 2 (CONTINUED)

Livelihood zone		Average total expenditure per capita shares – Quintile 2							
		Hired labor	Agriculture /livestock expenses	Fishing expenses	expenses on Family Business / Self employment	Health care	Education	Food purchases	Other non-food purchases
		(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)
1	Amran Rainfed Sorghum, Barley, Qat, and Livestock Zone	1.35%	13.30%			0.97%	0.65%	38.82%	44.91%
2	Arabian Sea Coastal Irrigated Tropical Fruit, Fodder and Livestock Zone		1.21%		0.02%	0.03%	0.22%	64.56%	33.96%
3	Central and Eastern Plateau Agro-Pastoral Zone	0.15%	3.03%	0.66%	1.51%	0.33%	0.41%	42.80%	51.11%
4	Central and Eastern Wadi Palm, Wheat, Vegetable and Livestock Zone	0.01%	5.74%		1.31%	0.18%	0.44%	50.45%	41.86%
5	Central Highland Potato, Vegetable and Livestock Zone	0.38%	3.75%		4.61%	0.33%	0.62%	51.42%	38.90%
6	Eastern Plateau Sorghum, Millet and Livestock Zone		2.94%				0.09%	20.67%	76.30%
7	Greater Yemen Coastal and Island Fishing Zone	0.02%	1.47%	0.02%	2.84%	0.24%	0.65%	43.72%	51.05%
8	Northern and Eastern Desert Pastoral Zone	0.05%	8.88%			0.04%	0.31%	51.63%	39.09%
9	Saadah Irrigated Wheat, Fruit, Vegetable, Qat, and Livestock Zone	0.28%	9.86%		0.41%	0.93%	0.40%	45.89%	42.24%
10	Western and Central Highland Qat, Grain, Fodder and Livestock Zone	0.19%	3.50%		0.92%	1.13%	0.63%	46.85%	46.79%
11	Western and Central Wadi Sorghum, Millet, Vegetable, Fruit and Livestock Zone	0.71%	4.52%		2.25%	0.72%	0.31%	51.85%	39.65%
12	Western Central Highland Coffee, Qat, Sorghum and Livestock Zone	0.45%	4.51%		2.41%	1.06%	0.63%	45.97%	44.99%
13	Western Central Highland Wheat, Sorghum, Qat, and Livestock Zone	0.78%	4.20%		0.82%	0.78%	0.68%	49.55%	43.19%
14	Western Coastal Plain Sorghum, Millet, and Livestock Zone	0.44%	2.99%		1.76%	0.76%	0.48%	50.19%	43.39%
15	Urban	0.06%	0.77%		1.98%	0.56%	1.46%	40.06%	55.11%

TABLE 2 (CONTINUED)

Livelihood zone		Average total expenditure per capita shares –Quintile 3							
		Hired labor	Agriculture /livestock expenses	Fishing expenses	expenses on Family Business / Self employment	Health care	Education	Food purchases	Other non-food purchases
		(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
1	Amran Rainfed Sorghum, Barley, Qat, and Livestock Zone	0.92%	8.87%		3.60%	0.60%	0.67%	40.80%	44.54%
2	Arabian Sea Coastal Irrigated Tropical Fruit, Fodder and Livestock Zone		3.99%		3.22%	0.02%	0.28%	56.57%	35.92%
3	Central and Eastern Plateau Agro-Pastoral Zone	0.40%	4.32%	0.60%	2.49%	0.68%	0.48%	44.72%	46.29%
4	Central and Eastern Wadi Palm, Wheat, Vegetable and Livestock Zone	0.06%	5.90%		4.49%	0.02%	0.58%	50.58%	38.37%
5	Central Highland Potato, Vegetable and Livestock Zone	0.15%	6.82%		3.99%	1%	0.46%	46.67%	40.92%
6	Eastern Plateau Sorghum, Millet and Livestock Zone		2.18%		0.01%		0.12%	32.29%	65.39%
7	Greater Yemen Coastal and Island Fishing Zone	0.01%	1.22%	0.13%	3.93%	0.42%	0.56%	43.03%	50.71%
8	Northern and Eastern Desert Pastoral Zone		10.08%		0.44%	0.05%	0.29%	49.51%	39.64%
9	Saadah Irrigated Wheat, Fruit, Vegetable, Qat, and Livestock Zone	0.40%	8.78%		9.73%	0.30%	0.29%	39.16%	41.33%
10	Western and Central Highland Qat, Grain, Fodder and Livestock Zone	0.30%	3.42%		1.87%	1.03%	0.57%	45.88%	46.93%
11	Western and Central Wadi Sorghum, Millet, Vegetable, Fruit and Livestock Zone	0.89%	4.46%		3.28%	0.67%	0.27%	46.65%	43.78%
12	Western Central Highland Coffee, Qat, Sorghum and Livestock Zone	0.43%	4.99%		3.25%	1.95%	0.42%	43.40%	45.57%
13	Western Central Highland Wheat, Sorghum, Qat, and Livestock Zone	0.73%	4.49%		1.32%	0.52%	0.52%	46.32%	46.10%
14	Western Coastal Plain Sorghum, Millet, and Livestock Zone	0.35%	3.87%		1.91%	1.45%	0.66%	45.76%	45.99%
15	Urban	0.22%	0.42%		4.28%	1.03%	1.63%	36.22%	56.21%

TABLE 2 (CONTINUED)

Livelihood zone		Average total expenditure per capita shares –Quintile 4							
		Hired labor	Agriculture /livestock expenses	Fishing expenses	expenses on Family Business / Self employment	Health care	Education	Food purchases	Other non-food purchases
		(41)	(42)	(43)	(44)	(45)	(46)	(47)	(48)
1	Amran Rainfed Sorghum, Barley, Qat, and Livestock Zone	0.82%	7.50%		16.02%	0.58%	0.52%	32.36%	42.20%
2	Arabian Sea Coastal Irrigated Tropical Fruit, Fodder and Livestock Zone		3.26%		10.50%	0.01%	0.20%	52.50%	33.52%
3	Central and Eastern Plateau Agro-Pastoral Zone	0.48%	5.06%		7.05%	0.12%	0.39%	40.60%	46.31%
4	Central and Eastern Wadi Palm, Wheat, Vegetable and Livestock Zone	0.43%	5.64%		1.82%	0.30%	0.43%	50.16%	41.21%
5	Central Highland Potato, Vegetable and Livestock Zone	0.20%	8.97%		7.10%	0.59%	0.29%	37.67%	45.19%
6	Eastern Plateau Sorghum, Millet and Livestock Zone		1.17%		3.18%		0.46%	45.83%	49.36%
7	Greater Yemen Coastal and Island Fishing Zone	0.02%	1.27%	0.39%	3.89%	0.92%	0.74%	39.67%	53.09%
8	Northern and Eastern Desert Pastoral Zone	1.11%	11.19%		0.15%	0.09%	0.23%	45.25%	41.98%
9	Saadah Irrigated Wheat, Fruit, Vegetable, Qat, and Livestock Zone	1.19%	6.59%		28.73%	0.29%	0.28%	28.47%	34.46%
10	Western and Central Highland Qat, Grain, Fodder and Livestock Zone	0.28%	2.53%		4.81%	1.55%	0.58%	40.84%	49.40%
11	Western and Central Wadi Sorghum, Millet, Vegetable, Fruit and Livestock Zone	1.03%	5.99%		5.01%	0.43%	0.33%	44.60%	42.61%
12	Western Central Highland Coffee, Qat, Sorghum and Livestock Zone	0.52%	5.41%		7.41%	2.44%	0.36%	37.49%	46.38%
13	Western Central Highland Wheat, Sorghum, Qat, and Livestock Zone	0.75%	4.35%		3.76%	0.82%	0.59%	41.24%	48.48%
14	Western Coastal Plain Sorghum, Millet, and Livestock Zone	0.56%	3.91%		6.95%	1.09%	0.46%	44.37%	42.66%
15	Urban	0.10%	0.57%		5.14%	1.24%	2.15%	33.05%	57.76%

TABLE 2 (CONTINUED)

Livelihood zone		Average total expenditure per capita shares –Quintile 5							
		Hired labor	Agriculture /livestock expenses	Fishing expenses	expenses on Family Business / Self employment	Health care	Education	Food purchases	Other non-food purchases
		(49)	(50)	(51)	(52)	(53)	(54)	(55)	(56)
1	Amran Rainfed Sorghum, Barley, Qat, and Livestock Zone	1.18%	5.76%		39.85%	1.51%	0.28%	22.12%	29.30%
2	Arabian Sea Coastal Irrigated Tropical Fruit, Fodder and Livestock Zone		1.19%	3.15%	14.29%	0.24%	0.11%	39.44%	41.58%
3	Central and Eastern Plateau Agro-Pastoral Zone	1.10%	4.38%	0.90%	23.44%	0.78%	0.29%	29.37%	39.74%
4	Central and Eastern Wadi Palm, Wheat, Vegetable and Livestock Zone	0.52%	4.04%		14.43%	0.06%	0.42%	33.77%	46.76%
5	Central Highland Potato, Vegetable and Livestock Zone	0.71%	14.87%		20.52%	0.08%	0.15%	27.85%	35.81%
6	Eastern Plateau Sorghum, Millet and Livestock Zone		4.83%				0.24%	47.14%	47.79%
7	Greater Yemen Coastal and Island Fishing Zone	0.25%	0.75%	6.34%	16.93%	1.80%	0.67%	28.21%	45.06%
8	Northern and Eastern Desert Pastoral Zone	0.67%	6.35%	0.09%	41.21%	1.23%	0.07%	26.79%	23.58%
9	Saadah Irrigated Wheat, Fruit, Vegetable, Qat, and Livestock Zone	0.20%	2.76%		66.57%	0.40%	0.06%	14.92%	15.09%
10	Western and Central Highland Qat, Grain, Fodder and Livestock Zone	0.44%	2.32%	0.13%	19.65%	1.22%	0.73%	32.34%	43.16%
11	Western and Central Wadi Sorghum, Millet, Vegetable, Fruit and Livestock Zone	0.79%	4.31%		31.62%	1.26%	0.22%	31.37%	30.43%
12	Western Central Highland Coffee, Qat, Sorghum and Livestock Zone	0.34%	4.44%		30.44%	2.56%	0.26%	24.91%	37.04%
13	Western Central Highland Wheat, Sorghum, Qat, and Livestock Zone	0.72%	4.97%		17.64%	1.43%	0.53%	34.29%	40.41%
14	Western Coastal Plain Sorghum, Millet, and Livestock Zone	0.45%	2.25%	3.60%	24.61%	1.77%	0.25%	31.15%	35.92%
15	Urban	0.22%	0.38%		16.21%	2.20%	1.88%	25.53%	53.57%

TABLE 3: AVERAGE ANNUAL CONSUMPTION (UNDP) PER CAPITA, RIALS, 2005-06 (***)

Livelihood zone		Number of households in the sample	Average annual consumption expenditure per capita, Rials	Percent below poverty line	Poverty gap	Average annual consumption expenditure per capita by quintile, Rials				
						Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	Amran Rainfed Sorghum, Barley, Qat, and Livestock Zone	517	82,398 ±4934	62.6% ±4%	18.2% ±3.1%	42,289 ±804	59,927 ±351	78,865 ±923	105,676 ±1734	211,333 ±15337
2	Arabian Sea Coastal Irrigated Tropical Fruit, Fodder and Livestock Zone	124	152,961 ±26594	18.8% ±9.9%	1.6% ±1.7%	45,683 ±4263	59,334 ±1477	78,969 ±1055	105,338 ±2560	240,664 ±29175
3	Central and Eastern Plateau Agro-Pastoral Zone	548	89,708 ±6161	50.4% ±5.3%	20% ±5.2%	38,055 ±1815	61,267 ±550	78,194 ±565	104,101 ±1171	204,033 ±8323
4	Central and Eastern Wadi Palm, Wheat, Vegetable and Livestock Zone	191	93,010 ±5867	48.0% ±7.1%	10.8% ±4.2%	44,025 ±526	60,596 ±1061	80,111 ±981	105,623 ±2444	192,986 ±15605
5	Central Highland Potato, Vegetable and Livestock Zone	259	110,040 ±7879	18.3% ±5.4%	3.1% ±1.8%	41,633 ±1279	60,878 ±808	79,940 ±842	106,110 ±1101	195,812 ±19928
6	Eastern Plateau Sorghum, Millet and Livestock Zone	24	84,554 ±33473	62.8% ±34.3%	49.1% ±26.8%	40,479 ±0	60,491 ±2392	80,063 ±0	109,968 ±0	213,272 ±0
7	Greater Yemen Coastal and Island Fishing Zone	1,662	163,954 ±7086	19.1% ±1.7%	4.4% ±0.8%	41,199 ±1095	61,084 ±361	80,833 ±378	108,805 ±559	253,432 ±10959
8	Northern and Eastern Desert Pastoral Zone	112	95,757 ±11952	55.1% ±15.6%	13.3% ±6.2%	40,695 ±2305	60,937 ±821	77,232 ±1385	107,867 ±3269	229,458 ±32122
9	Saadah Irrigated Wheat, Fruit, Vegetable, Qat, and Livestock Zone	404	100,876 ±7024	20.6% ±5.4%	7.8% ±3.1%	41,288 ±1594	61,522 ±693	77,416 ±1017	107,199 ±1346	196,055 ±14100
10	Western and Central Highland Qat, Grain, Fodder and Livestock Zone	1,385	107,859 ±3996	39.1% ±3.1%	13.8% ±2%	40,880 ±795	61,013 ±535	78,781 ±540	107,569 ±675	222,851 ±8690
11	Western and Central Wadi Sorghum, Millet, Vegetable, Fruit and Livestock Zone	1,081	96,176 ±4662	38.2% ±4.2%	14.4% ±3.1%	39,497 ±1002	59,420 ±365	80,122 ±680	107,721 ±1330	207,283 ±13774
12	Western Central Highland Coffee, Qat, Sorghum and Livestock Zone	1,346	106,130 ±4393	33.4% ±3.1%	12.2% ±2.3%	39,477 ±1555	60,446 ±384	78,559 ±397	108,048 ±899	213,697 ±12153
13	Western Central Highland Wheat, Sorghum, Qat, and Livestock Zone	1,904	106,932 ±6530	33.3% ±2.7%	13.8% ±1.9%	40,236 ±803	60,484 ±344	79,548 ±443	106,473 ±772	224,891 ±23777
14	Western Coastal Plain Sorghum, Millet, and Livestock Zone	1,564	100,036 ±4561	41.1% ±2.8%	16.3% ±2%	40,452 ±560	60,517 ±372	79,218 ±553	106,067 ±744	221,441 ±9505
15	Urban	2,015	227,259 ±14660	16.8% ±1.5%	3.7% ±0.7%	42,204 ±793	60,588 ±410	79,841 ±410	108,266 ±602	330,230 ±23583

Total: 13,136 (***) This table shows national quintiles and consumption measures from the World Bank

TABLE 3 (CONTINUED)

Livelihood zone		Distribution of poor by Livelihood Zone and national quintile					Distribution of poor by Livelihood Zone and LZ 's quintile				
		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
		(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
1	Amran Rainfed Sorghum, Barley, Qat, and Livestock Zone	42.4%	51.1%	6.5%			32.0%	32.5%	27.0%	8.5%	
2	Arabian Sea Coastal Irrigated Tropical Fruit, Fodder and Livestock Zone	41.5%	48.2%	10.3%			100.0%				
3	Central and Eastern Plateau Agro-Pastoral Zone	52.8%	37.9%	9.3%			41.1%	36.3%	18.3%	4.3%	
4	Central and Eastern Wadi Palm, Wheat, Vegetable and Livestock Zone	37.0%	51.0%	12.0%			46.1%	37.1%	12.0%	4.8%	
5	Central Highland Potato, Vegetable and Livestock Zone	37.4%	59.4%	3.1%			79.9%	20.1%			
6	Eastern Plateau Sorghum, Millet and Livestock Zone	86.1%	13.9%				41.7%	28.7%	29.6%		
7	Greater Yemen Coastal and Island Fishing Zone	38.0%	49.9%	12.1%			87.7%	12.3%			
8	Northern and Eastern Desert Pastoral Zone	30.7%	57.9%	11.4%			38.1%	42.5%	13.3%	6.1%	
9	Saadah Irrigated Wheat, Fruit, Vegetable, Qat, and Livestock Zone	69.2%	24.2%	6.7%			86.4%	10.5%	3.1%		
10	Western and Central Highland Qat, Grain, Fodder and Livestock Zone	58.6%	32.7%	8.7%			49.8%	40.0%	10.1%		
11	Western and Central Wadi Sorghum, Millet, Vegetable, Fruit and Livestock Zone	66.3%	30.8%	2.9%			52.6%	36.7%	10.5%	0.2%	
12	Western Central Highland Coffee, Qat, Sorghum and Livestock Zone	55.0%	37.7%	7.3%			59.4%	33.7%	6.9%		
13	Western Central Highland Wheat, Sorghum, Qat, and Livestock Zone	60.4%	36.1%	3.5%			59.3%	37.1%	3.6%		
14	Western Coastal Plain Sorghum, Millet, and Livestock Zone	64.9%	28.7%	6.4%			48.5%	36.1%	14.5%	0.9%	
15	Urban	36.4%	53.2%	10.4%			95.7%	4.3%			

TABLE 4: AVERAGE LIVESTOCK OWNERSHIP PER HOUSEHOLD, 2005-06

Livelihood zone		Number of households in the sample	Percentage of households owning one or more animals	Percentage of households owning one or more animals by quintile (*)				
				Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Amran Rainfed Sorghum, Barley, Qat, and Livestock Zone	517	72.82% %2.92 %	71%	70.92%	79.41%	81.06%	61.72%
2	Arabian Sea Coastal Irrigated Tropical Fruit, Fodder and Livestock Zone	124	45.02% %6.17 %	50.77%	26.50%	59.38%	55.44%	28.31%
3	Central and Eastern Plateau Agro-Pastoral Zone	548	68.72% %4.27 %	77.89%	64.84%	71.26%	68.16%	61.21%
4	Central and Eastern Wadi Palm, Wheat, Vegetable and Livestock Zone	191	77.15% %5.79 %	82.38%	70.92%	75.32%	75.64%	81.82%
5	Central Highland Potato, Vegetable and Livestock Zone	259	62.84% %5.38 %	58.26%	50.40%	69.38%	69.17%	67.04%
6	Eastern Plateau Sorghum, Millet and Livestock Zone	24	100% %0 %	100%	100%	100%	100%	100%
7	Greater Yemen Coastal and Island Fishing Zone	1,662	19.61% %2.16 %	14.66%	20.30%	18.25%	21.07%	23.81%
8	Northern and Eastern Desert Pastoral Zone	112	80.96% %4.16 %	80.72%	92%	76.04%	95.05%	61.76%
9	Saadah Irrigated Wheat, Fruit, Vegetable, Qat, and Livestock Zone	404	80% %3.72 %	62.13%	74.61%	90.45%	86.49%	86.46%
10	Western and Central Highland Qat, Grain, Fodder and Livestock Zone	1,385	59.46% %3 %	68.27%	60.82%	56.22%	56.78%	55.07%
11	Western and Central Wadi Sorghum, Millet, Vegetable, Fruit and Livestock Zone	1,081	72.62% %3.07 %	72.60%	68.97%	73.10%	75.47%	72.90%
12	Western Central Highland Coffee, Qat, Sorghum and Livestock Zone	1,346	81.30% %1.95 %	75.37%	79.11%	81.76%	83.56%	86.76%
13	Western Central Highland Wheat, Sorghum, Qat, and Livestock Zone	1,904	69.90% %2.33 %	64.41%	67.75%	71.34%	71.62%	74.42%
14	Western Coastal Plain Sorghum, Millet, and Livestock Zone	1,564	66% %2.3 %	69.79%	59.38%	68.67%	70.45%	61.68%
15	Urban	2,015	9.88% %1.42 %	10.30%	8.94%	7.44%	10.02%	12.70%

Total: 13,136

(*) Uses national income quintiles

TABLE 4 (CONTINUED)

Livelihood zone		Average number of livestock ownership per household									
		Camels	Cows	Sheep and Goats	Chickens	Beehives	Horses	Donkeys	Pigeon	Rabbit	Other
		(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1	Amran Rainfed Sorghum, Barley, Qat, and Livestock Zone		0.33 ± 0.06	5.13 ± 0.69	1.73 ± 0.35			0.43 ± 0.07	0.08 ± 0.08	0.14 ± 0.14	
2	Arabian Sea Coastal Irrigated Tropical Fruit, Fodder and Livestock Zone	0.05 ± 0.04	0.04 ± 0.03	3.12 ± 0.5	0.05 ± 0.05	0.49 ± 0.37		0.20 ± 0.07			
3	Central and Eastern Plateau Agro-Pastoral Zone	0.08 ± 0.03	0.27 ± 0.23	14.74 ± 5.92	0.37 ± 0.1	1.33 ± 0.57		0.36 ± 0.08	0.30 ± 0.19	0.04 ± 0.02	
4	Central and Eastern Wadi Palm, Wheat, Vegetable and Livestock Zone	0.07 ± 0.04	0.02 ± 0.01	10.65 ± 1.58	0.50 ± 0.17	0.42 ± 0.27		0.18 ± 0.09	0.24 ± 0.15	0.09 ± 0.09	
5	Central Highland Potato, Vegetable and Livestock Zone	0.02 ± 0.02	0.62 ± 0.12	4.14 ± 1.53	1.30 ± 0.25	0.36 ± 0.23		0.40 ± 0.11	0.02 ± 0.02		
6	Eastern Plateau Sorghum, Millet and Livestock Zone	0.05 ± 0.03	1.04 ± 0.57	31.42 ± 8.01	5.18 ± 1.03			1.27 ± 0.12	0.63 ± 0.51		
7	Greater Yemen Coastal and Island Fishing Zone	0.03 ± 0.01	0.04 ± 0.01	1.53 ± 0.27	0.15 ± 0.03	0.19 ± 0.15		0.02 ± 0.01	0.27 ± 0.07	0.03 ± 0.01	0.02 ± 0.01
8	Northern and Eastern Desert Pastoral Zone	0.87 ± 0.91	0.11 ± 0.05	11.73 ± 2	0.20 ± 0.13			0.11 ± 0.04	0.04 ± 0.04	0.01 ± 0.01	
9	Saadah Irrigated Wheat, Fruit, Vegetable, Qat, and Livestock Zone	0.01 ± 0.01	0.99 ± 0.16	9.76 ± 2.49	3.16 ± 2.53	0.09 ± 0.06		0.17 ± 0.08	0.01 ± 0.01	0.01	
10	Western and Central Highland Qat, Grain, Fodder and Livestock Zone	0.02 ± 0.01	0.40 ± 0.06	3.86 ± 0.56	1.16 ± 0.15	0.33 ± 0.16		0.25 ± 0.04	0.07 ± 0.03	0.03 ± 0.02	0.01 ± 0.01
11	Western and Central Wadi Sorghum, Millet, Vegetable, Fruit and Livestock Zone	0.02 ± 0.01	0.67 ± 0.1	4.35 ± 0.55	5.05 ± 3.43	0.95 ± 0.56		0.56 ± 0.07	0.25 ± 0.11		0.02 ± 0.02
12	Western Central Highland Coffee, Qat, Sorghum and Livestock Zone	0.01	0.82 ± 0.05	6.09 ± 0.72	1.53 ± 0.22	0.20 ± 0.06		0.65 ± 0.05	0.10 ± 0.04	0.01 ± 0.01	
13	Western Central Highland Wheat, Sorghum, Qat, and Livestock Zone	0.02 ± 0.01	0.59 ± 0.05	4.66 ± 0.49	0.84 ± 0.12	0.20 ± 0.11		0.52 ± 0.04	0.03 ± 0.02	0.03 ± 0.02	
14	Western Coastal Plain Sorghum, Millet, and Livestock Zone	0.01 ± 0.01	0.50 ± 0.04	3.47 ± 0.44	1.09 ± 0.15	0.68 ± 0.23		0.38 ± 0.04	0.14 ± 0.05	0.01	0.01
15	Urban	0.01 ± 0.01	0.04 ± 0.02	0.71 ± 0.18	0.20 ± 0.04			0.03 ± 0.01	0.05 ± 0.02	0.01 ± 0.01	0.02 ± 0.02

TABLE 4 (CONTINUED)

Livelihood zone		Average number of livestock ownership per household, by LZ quintiles (Quintile 1)									
		Camels	Cows	Sheep and Goats	Chickens	Beehives	Horses	Donkeys	Pigeon	Rabbit	Other
		(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)
1	Amran Rainfed Sorghum, Barley, Qat, and Livestock Zone		0.18	3.20	1.86		0.49				
2	Arabian Sea Coastal Irrigated Tropical Fruit, Fodder and Livestock Zone	0.05	0.04	1.35	0.20		0.15				
3	Central and Eastern Plateau Agro-Pastoral Zone	0.07	0.05	15.36	0.52	0.26	0.80			0.02	
4	Central and Eastern Wadi Palm, Wheat, Vegetable and Livestock Zone	0.04		13.49	0.19		0.20				
5	Central Highland Potato, Vegetable and Livestock Zone		0.34	2.20	1.28	0.29	0.76				
6	Eastern Plateau Sorghum, Millet and Livestock Zone		1.80	16.80	2.20		1.40				
7	Greater Yemen Coastal and Island Fishing Zone	0.03	0.01	0.71	0.10		0.00		0.18	0.02	0.01
8	Northern and Eastern Desert Pastoral Zone	0.50		8.57	0.36		0.09				
9	Saadah Irrigated Wheat, Fruit, Vegetable, Qat, and Livestock Zone		0.29	6.64	0.28		0.15			0.01	
10	Western and Central Highland Qat, Grain, Fodder and Livestock Zone	0.02	0.39	3.88	1.17		0.16		0.00		
11	Western and Central Wadi Sorghum, Millet, Vegetable, Fruit and Livestock Zone	0.04	0.37	3.50	1.67	0.02	0.48		0.65		0.09
12	Western Central Highland Coffee, Qat, Sorghum and Livestock Zone	0.02	0.69	6.15	1.25	0.13	0.58		0.07		0.01
13	Western Central Highland Wheat, Sorghum, Qat, and Livestock Zone	0.02	0.38	4.11	0.63	0.10	0.44			0.00	
14	Western Coastal Plain Sorghum, Millet, and Livestock Zone	0.02	0.47	2.44	1.00	0.77	0.31		0.01		
15	Urban		0.07	0.48	0.21		0.04		0.08	0.02	

TABLE 4 (CONTINUED)

Livelihood zone		Average number of livestock ownership per household, by LZ quintiles (Quintile 2)									
		Camels	Cows	Sheep and Goats	Chickens	Beehives	Horses	Donkeys	Pigeon	Rabbit	Other
		(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)
1	Amran Rainfed Sorghum, Barley, Qat, and Livestock Zone		0.25	5.20	2.14		0.41				
2	Arabian Sea Coastal Irrigated Tropical Fruit, Fodder and Livestock Zone	0.07	0.03	1.80							
3	Central and Eastern Plateau Agro-Pastoral Zone	0.10	0.85	25.50	0.01	1.35	0.33		0.05		
4	Central and Eastern Wadi Palm, Wheat, Vegetable and Livestock Zone			7.36	0.39	0.05	0.07				
5	Central Highland Potato, Vegetable and Livestock Zone		0.40	1.03	0.86	0.34	0.17				
6	Eastern Plateau Sorghum, Millet and Livestock Zone		1.75	27.50	6.75		1.50				
7	Greater Yemen Coastal and Island Fishing Zone	0.03	0.01	1.21	0.12	0.09	0.03		0.18	0.02	
8	Northern and Eastern Desert Pastoral Zone	1.06	0.15	13.10	0.19		0.15				
9	Saadah Irrigated Wheat, Fruit, Vegetable, Qat, and Livestock Zone		0.55	8.13	0.49	0.06	0.16				
10	Western and Central Highland Qat, Grain, Fodder and Livestock Zone	0.01	0.47	4.03	1.46	0.14	0.23		0.02		
11	Western and Central Wadi Sorghum, Millet, Vegetable, Fruit and Livestock Zone	0.01	0.46	3.28	1.61	0.01	0.56		0.45		
12	Western Central Highland Coffee, Qat, Sorghum and Livestock Zone	0.00	0.70	5.46	1.95	0.02	0.61		0.03		
13	Western Central Highland Wheat, Sorghum, Qat, and Livestock Zone	0.01	0.46	4.69	0.66	0.11	0.45		0.00		
14	Western Coastal Plain Sorghum, Millet, and Livestock Zone		0.40	2.86	1.26	0.24	0.31		0.02	0.01	
15	Urban		0.02	0.34	0.17		0.03		0.05		

TABLE 4 (CONTINUED)

Livelihood zone		Average number of livestock ownership per household, by LZ quintiles (Quintile 3)									
		Camels	Cows	Sheep and Goats	Chickens	Beehives	Horses	Donkeys	Pigeon	Rabbit	Other
		(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)	(46)	(47)
1	Amran Rainfed Sorghum, Barley, Qat, and Livestock Zone		0.37	5.42	1.56		0.38				
2	Arabian Sea Coastal Irrigated Tropical Fruit, Fodder and Livestock Zone	0.03		5.27		2.23	0.30				
3	Central and Eastern Plateau Agro-Pastoral Zone	0.08	0.19	14.88	0.76	2.08	0.29		0.90		
4	Central and Eastern Wadi Palm, Wheat, Vegetable and Livestock Zone			9.71	0.55	0.58	0.04			0.45	
5	Central Highland Potato, Vegetable and Livestock Zone		0.50	3.11	1.00	0.95	0.32		0.10	0.01	
6	Eastern Plateau Sorghum, Millet and Livestock Zone		0.24	42.97	4.57		1.62		3.24		
7	Greater Yemen Coastal and Island Fishing Zone	0.03	0.05	1.85	0.13		0.03		0.24		0.03
8	Northern and Eastern Desert Pastoral Zone	2.60	0.16	9.14	0.00		0.18			0.02	
9	Saadah Irrigated Wheat, Fruit, Vegetable, Qat, and Livestock Zone	0.04	1.37	12.47	1.09	0.12	0.18				
10	Western and Central Highland Qat, Grain, Fodder and Livestock Zone	0.01	0.26	2.93	1.01	0.33	0.26		0.11		
11	Western and Central Wadi Sorghum, Millet, Vegetable, Fruit and Livestock Zone	0.01	0.70	4.39	1.45	0.13	0.58		0.00	0.01	
12	Western Central Highland Coffee, Qat, Sorghum and Livestock Zone		0.67	4.40	1.09	0.15	0.56		0.01	0.00	
13	Western Central Highland Wheat, Sorghum, Qat, and Livestock Zone	0.04	0.65	4.40	0.95	0.31	0.51		0.01	0.00	
14	Western Coastal Plain Sorghum, Millet, and Livestock Zone	0.02	0.38	3.75	1.16	0.23	0.45		0.06		
15	Urban	0.00	0.01	0.41	0.13		0.03			0.01	

TABLE 4 (CONTINUED)

Livelihood zone		Average number of livestock ownership per household, by LZ quintiles (Quintile 4)									
		Camels	Cows	Sheep and Goats	Chickens	Beehives	Horses	Donkeys	Pigeon	Rabbit	Other
		(48)	(49)	(50)	(51)	(52)	(53)	(54)	(55)	(56)	(57)
1	Amran Rainfed Sorghum, Barley, Qat, and Livestock Zone		0.42	7.51	1.68		0.43			0.02	
2	Arabian Sea Coastal Irrigated Tropical Fruit, Fodder and Livestock Zone		0.02	3.87	0.04		0.45				
3	Central and Eastern Plateau Agro-Pastoral Zone	0.05	0.23	9.87	0.26	1.81	0.22		0.44	0.07	
4	Central and Eastern Wadi Palm, Wheat, Vegetable and Livestock Zone			7.25	1.09	0.72	0.16		0.72		
5	Central Highland Potato, Vegetable and Livestock Zone		0.76	4.63	0.94		0.27				
6	Eastern Plateau Sorghum, Millet and Livestock Zone	0.23	0.91	37.07	5.50		1.00				
7	Greater Yemen Coastal and Island Fishing Zone	0.02	0.05	1.48	0.14	0.13	0.02		0.16	0.06	
8	Northern and Eastern Desert Pastoral Zone		0.08	21.43	0.25		0.06				
9	Saadah Irrigated Wheat, Fruit, Vegetable, Qat, and Livestock Zone		1.27	11.94	1.03	0.26	0.26		0.02	0.02	
10	Western and Central Highland Qat, Grain, Fodder and Livestock Zone	0.02	0.36	3.20	1.08	1.00	0.28		0.11	0.09	0.01
11	Western and Central Wadi Sorghum, Millet, Vegetable, Fruit and Livestock Zone	0.06	0.90	5.50	1.91	1.05	0.57		0.07		
12	Western Central Highland Coffee, Qat, Sorghum and Livestock Zone	0.01	0.96	6.86	1.52	0.27	0.78		0.14	0.07	
13	Western Central Highland Wheat, Sorghum, Qat, and Livestock Zone	0.02	0.68	5.14	0.77	0.40	0.60		0.11	0.01	
14	Western Coastal Plain Sorghum, Millet, and Livestock Zone	0.01	0.55	3.75	1.06	0.43	0.46		0.13	0.02	0.02
15	Urban		0.02	0.80	0.26		0.04				

TABLE 4 (CONTINUED)

Livelihood zone		Average number of livestock ownership per household, by LZ quintiles (Quintile 5)									
		Camels	Cows	Sheep and Goats	Chickens	Beehives	Horses	Donkeys	Pigeon	Rabbit	Other
		(58)	(59)	(60)	(61)	(62)	(63)	(64)	(65)	(66)	(67)
1	Amran Rainfed Sorghum, Barley, Qat, and Livestock Zone		0.45	4.36	1.41		0.47		0.41	0.69	0.01
2	Arabian Sea Coastal Irrigated Tropical Fruit, Fodder and Livestock Zone	0.13	0.10	3.17			0.07				
3	Central and Eastern Plateau Agro-Pastoral Zone	0.10	0.04	8.11	0.26	1.14	0.17		0.11	0.09	
4	Central and Eastern Wadi Palm, Wheat, Vegetable and Livestock Zone	0.31	0.09	15.94	0.22	0.77	0.45		0.49		
5	Central Highland Potato, Vegetable and Livestock Zone	0.11	1.12	9.84	2.44	0.22	0.46				
6	Eastern Plateau Sorghum, Millet and Livestock Zone		0.40	35.20	7.60		0.80				
7	Greater Yemen Coastal and Island Fishing Zone	0.03	0.05	2.38	0.26	0.73	0.01		0.57	0.04	0.05
8	Northern and Eastern Desert Pastoral Zone	0.02	0.16	7.23	0.21		0.06		0.20	0.03	
9	Saadah Irrigated Wheat, Fruit, Vegetable, Qat, and Livestock Zone		1.49	9.66	13.04		0.11		0.02		
10	Western and Central Highland Qat, Grain, Fodder and Livestock Zone	0.02	0.52	5.22	1.09	0.20	0.34		0.09	0.06	0.04
11	Western and Central Wadi Sorghum, Millet, Vegetable, Fruit and Livestock Zone	0.01	0.92	5.07	18.73	3.58	0.63		0.06	0.01	0.00
12	Western Central Highland Coffee, Qat, Sorghum and Livestock Zone	0.01	1.07	7.57	1.84	0.45	0.70	0.00	0.22		
13	Western Central Highland Wheat, Sorghum, Qat, and Livestock Zone	0.02	0.77	4.99	1.21	0.09	0.57	0.00	0.04	0.14	0.01
14	Western Coastal Plain Sorghum, Millet, and Livestock Zone	0.02	0.68	4.55	0.95	1.75	0.35		0.50	0.01	0.01
15	Urban	0.05	0.08	1.50	0.22		0.03	0.01	0.13	0.05	0.08

TABLE 5: AVERAGE VALUE OF ASSET OWNERSHIP

Livelihood zone		Number of households in the sample	Average value of assets owned by the household, Riials	Average value of assets owned by the household, by quintile (Rials)				
				Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
		(1)	(3)	(4)	(5)	(6)	(7)	(8)
1	Amran Rainfed Sorghum, Barley, Qat, and Livestock Zone	517	702,491 ±207872	119,675 ±35525	795,752 ±454615	771,989 ±218660	625,523 ±209158	1,610,510 ±650490
2	Arabian Sea Coastal Irrigated Tropical Fruit, Fodder and Livestock Zone	124	354,942 ±100445	12,767 ±4227	60,179 ±23870	278,686 ±220587	218,158 ±44595	543,268 ±76253
3	Central and Eastern Plateau Agro-Pastoral Zone	548	694,621 ±141041	275,587 ±71953	440,836 ±94484	589,400 ±94693	732,205 ±129228	1,657,424 ±631648
4	Central and Eastern Wadi Palm, Wheat, Vegetable and Livestock Zone	191	789,391 ±177030	316,245 ±51064	828,777 ±232042	583,704 ±159615	1,283,028 ±595269	880,244 ±281914
5	Central Highland Potato, Vegetable and Livestock Zone	259	343,870 ±119199	10,587 ±4085	428,852 ±321910	552,529 ±245401	165,514 ±40971	418,542 ±109542
6	Eastern Plateau Sorghum, Millet and Livestock Zone	24	431,755 ±208293	191,643 ±0	7,681 ±975	256,000 ±0	7,875 ±0	1,837,000 ±0
7	Greater Yemen Coastal and Island Fishing Zone	1,662	386,706 ±31024	63,028 ±23422	225,003 ±73386	238,028 ±32884	368,764 ±59280	513,602 ±48211
8	Northern and Eastern Desert Pastoral Zone	112	826,485 ±178465	620,651 ±424776	630,781 ±64007	1,289,254 ±761300	287,642 ±118306	1,289,440 ±397790
9	Saadah Irrigated Wheat, Fruit, Vegetable, Qat, and Livestock Zone	404	738,626 ±187652	160,435 ±51175	322,127 ±123795	527,362 ±244126	738,291 ±228332	1,742,292 ±632022
10	Western and Central Highland Qat, Grain, Fodder and Livestock Zone	1,385	198,725 ±24572	42,134 ±9582	192,180 ±77386	186,304 ±47245	198,132 ±36119	349,671 ±51114
11	Western and Central Wadi Sorghum, Millet, Vegetable, Fruit and Livestock Zone	1,081	172,255 ±33319	93,274 ±61410	163,042 ±49230	177,624 ±52847	85,844 ±18483	367,989 ±101838
12	Western Central Highland Coffee, Qat, Sorghum and Livestock Zone	1,346	223,385 ±28484	164,871 ±65734	105,197 ±27791	157,848 ±39238	189,198 ±38724	454,261 ±83051
13	Western Central Highland Wheat, Sorghum, Qat, and Livestock Zone	1,904	367,802 ±46826	98,889 ±27051	148,470 ±28058	193,784 ±26945	398,538 ±67685	867,641 ±168842
14	Western Coastal Plain Sorghum, Millet, and Livestock Zone	1,564	150,530 ±24860	38,698 ±9077	48,960 ±10597	119,877 ±24553	180,985 ±47536	379,377 ±109374
15	Urban	2,015	627,242 ±52689	118,298 ±46978	183,331 ±42922	268,216 ±47308	341,821 ±34997	887,277 ±85156

Total: 13,136

TABLE 6: FOOD SOURCES, BY VALUE

	Livelihood zone	Number of households in the sample	FEWS Average annual income per capita, Riials	FEWS Average annual expenditure per capita, Riials	Food source shares			Total expenditures	
					Purchased	Own production	Received free	Food	Non-food
					(4)	(5)	(6)	(7)	(8)
1	Amran Rainfed Sorghum, Barley, Qat, and Livestock Zone	517	149,864 ±23,932	130,026 ±17738	73.96% ±3.16 %	19.47% ±2.57 %	6.56% ±1.28 %	49.49% ±1.47 %	50.51% ±1.47 %
2	Arabian Sea Coastal Irrigated Tropical Fruit, Fodder and Livestock Zone	124	154,768 ±62,176	183,003 ±37481	99.27% ±0.47 %	0.55% ±0.47 %	0.18% ±0.13 %	57.37% ±2.69 %	42.63% ±2.69 %
3	Central and Eastern Plateau Agro-Pastoral Zone	548	137,302 ±21,250	106,565 ±10370	87.04% ±4.38 %	11.71% ±4.38 %	1.25% ±0.37 %	49.32% ±1.74 %	50.68% ±1.74 %
4	Central and Eastern Wadi Palm, Wheat, Vegetable and Livestock Zone	191	98,649 ±23,262	97,569 ±6363	89.14% ±3.46 %	9.64% ±3.61 %	1.22% ±0.68 %	53.82% ±1.43 %	46.18% ±1.43 %
5	Central Highland Potato, Vegetable and Livestock Zone	259	116,553 ±20,162	115,793 ±12629	76.25% ±4.45 %	16.89% ±4.11 %	6.86% ±0.99 %	54.48% ±2.71 %	45.52% ±2.71 %
6	Eastern Plateau Sorghum, Millet and Livestock Zone	24	26,653 ±16,297	79,544 ±34708	85.67% ±6.16 %	13.92% ±6.26 %	0.40% ±0.1 %	40.34% ±4.99 %	59.66% ±4.99 %
7	Greater Yemen Coastal and Island Fishing Zone	1,662	227,578 ±21,509	225,859 ±16347	94.66% ±0.55 %	1.27% ±0.36 %	4.08% ±0.47 %	43.81% ±0.76 %	56.19% ±0.76 %
8	Northern and Eastern Desert Pastoral Zone	112	189,872 ±68,834	163,284 ±39644	91.96% ±5.63 %	7.84% ±5.68 %	0.21% ±0.18 %	53.43% ±4.85 %	46.57% ±4.85 %
9	Saadah Irrigated Wheat, Fruit, Vegetable, Qat, and Livestock Zone	404	231,324 ±29,979	220,349 ±32028	71.70% ±4.9 %	24.11% ±4.6 %	4.18% ±1.07 %	58.78% ±2.33 %	41.22% ±2.33 %
10	Western and Central Highland Qat, Grain, Fodder and Livestock Zone	1,385	121,956 ±12,664	127,988 ±9691	83.41% ±1.59 %	9.32% ±1.24 %	7.27% ±1.03 %	49.11% ±0.93 %	50.89% ±0.93 %
11	Western and Central Wadi Sorghum, Millet, Vegetable, Fruit and Livestock Zone	1,081	146,865 ±14,899	123,991 ±10393	83.31% ±2.04 %	12.57% ±1.66 %	4.12% ±0.73 %	56.18% ±1.42 %	43.82% ±1.42 %
12	Western Central Highland Coffee, Qat, Sorghum and Livestock Zone	1,346	121,487 ±13,608	127,590 ±12271	71.58% ±1.64 %	19.88% ±1.34 %	8.54% ±0.75 %	53.23% ±1.07 %	46.77% ±1.07 %
13	Western Central Highland Wheat, Sorghum, Qat, and Livestock Zone	1,904	142,203 ±26,618	129,059 ±17113	81.50% ±1.4 %	11.99% ±1.06 %	6.50% ±0.67 %	51.82% ±0.84 %	48.18% ±0.84 %
14	Western Coastal Plain Sorghum, Millet, and Livestock Zone	1,564	166,316 ±45,302	158,728 ±42129	81.84% ±1.61 %	11.58% ±1.15 %	6.58% ±0.74 %	53.61% ±1.1 %	46.39% ±1.1 %
15	Urban	2,015	267,226 ±33,065	278,706 ±20796	95.68% ±0.48 %	0.76% ±0.3 %	3.56% ±0.35 %	37.10% ±0.55 %	62.90% ±0.55 %

Total: 13,136

TABLE 6 (CONTINUED)

Livelihood zone		National Quintiles									
		Quintile 1		Quintile 2		Quintile 3		Quintile 4		Quintile 5	
		Food	Non-food	Food	Non-food	Food	Non-food	Food	Non-food	Food	Non-food
		(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1	Amran Rainfed Sorghum, Barley, Qat, and Livestock Zone	54.80% ±1.87 %	45.20% ±1.87 %	57.24% ±2.49 %	42.76% ±2.49 %	52.46% ±1.58 %	47.54% ±1.58 %	52.40% ±1.69 %	47.60% ±1.69 %	58.63% ±1.65 %	41.37% ±1.65 %
2	Arabian Sea Coastal Irrigated Tropical Fruit, Fodder and Livestock Zone	49.32% ±1.9 %	50.68% ±1.9 %	57.74% ±1.6 %	42.26% ±1.6 %	47.72% ±1.7 %	52.28% ±1.7 %	52.32% ±1.34 %	47.68% ±1.34 %	55.47% ±1.1 %	44.53% ±1.1 %
3	Central and Eastern Plateau Agro-Pastoral Zone	48.26% ±1.83 %	51.74% ±1.83 %	55.57% ±2.17 %	44.43% ±2.17 %	47.13% ±1.04 %	52.87% ±1.04 %	50.64% ±1.77 %	49.36% ±1.77 %	52.15% ±1.18 %	47.85% ±1.18 %
4	Central and Eastern Wadi Palm, Wheat, Vegetable and Livestock Zone	45.47% ±1.97 %	54.53% ±1.97 %	55.04% ±1.86 %	44.96% ±1.86 %	46.33% ±1.02 %	53.67% ±1.02 %	47.69% ±1.66 %	52.31% ±1.66 %	49.79% ±1.1 %	50.21% ±1.1 %
5	Central Highland Potato, Vegetable and Livestock Zone	45.05% ±2.4 %	54.95% ±2.4 %	40.17% ±3 %	59.83% ±3 %	39.69% ±0.77 %	60.31% ±0.77 %	43.95% ±1.39 %	56.05% ±1.39 %	45.32% ±1.57 %	54.68% ±1.57 %
6	Eastern Plateau Sorghum, Millet and Livestock Zone	64.63% ±1.68 %	35.37% ±1.68 %	58.97% ±0.97 %	41.03% ±0.97 %	47.68% ±4.8 %	52.32% ±4.8 %	58.78% ±2.9 %	41.22% ±2.9 %	56.66% ±1.49 %	43.34% ±1.49 %
7	Greater Yemen Coastal and Island Fishing Zone	59.10% ±8.8 %	40.90% ±8.8 %	55.30% ±3.58 %	44.70% ±3.58 %	58.01% ±6.35 %	41.99% ±6.35 %	59.46% ±1.56 %	40.54% ±1.56 %	56.66% ±1.27 %	43.34% ±1.27 %
8	Northern and Eastern Desert Pastoral Zone	62.80% ±2.82 %	37.20% ±2.82 %	54.65% ±2.36 %	45.35% ±2.36 %	50.57% ±5.48 %	49.43% ±5.48 %	56.45% ±2.31 %	43.55% ±2.31 %	54.63% ±1.63 %	45.37% ±1.63 %
9	Saadah Irrigated Wheat, Fruit, Vegetable, Qat, and Livestock Zone	61.03% ±1.24 %	38.97% ±1.24 %	54.80% ±3.82 %	45.20% ±3.82 %	63.93% ±6.61 %	36.07% ±6.61 %	54.83% ±2.05 %	45.17% ±2.05 %	52.91% ±1.52 %	47.09% ±1.52 %
10	Western and Central Highland Qat, Grain, Fodder and Livestock Zone	51.43% ±2.74 %	48.57% ±2.74 %	52.15% ±4.17 %	47.85% ±4.17 %	43.57% ±5.9 %	56.43% ±5.9 %	51.12% ±1.96 %	48.88% ±1.96 %	46.74% ±1.74 %	53.26% ±1.74 %
11	Western and Central Wadi Sorghum, Millet, Vegetable, Fruit and Livestock Zone	53.61% ±3.16 %	46.39% ±3.16 %	31.33% ±0 %	68.67% ±0 %	60.50% ±2.92 %	39.50% ±2.92 %	59.03% ±1.5 %	40.97% ±1.5 %	46.19% ±1.33 %	53.81% ±1.33 %
12	Western Central Highland Coffee, Qat, Sorghum and Livestock Zone	49.45% ±1.96 %	50.55% ±1.96 %	45.83% ±2.93 %	54.17% ±2.93 %	61.87% ±3.47 %	38.13% ±3.47 %	55.40% ±1.79 %	44.60% ±1.79 %	44.29% ±0.9 %	55.71% ±0.9 %
13	Western Central Highland Wheat, Sorghum, Qat, and Livestock Zone	48.77% ±2.3 %	51.23% ±2.3 %	39.07% ±0 %	60.93% ±0 %	60.49% ±2.7 %	39.51% ±2.7 %	55.05% ±1.49 %	44.95% ±1.49 %	42.98% ±0.93 %	57.02% ±0.93 %
14	Western Coastal Plain Sorghum, Millet, and Livestock Zone	47.65% ±1.95 %	52.35% ±1.95 %	56.40% ±0 %	43.60% ±0 %	58.63% ±2.35 %	41.37% ±2.35 %	50.86% ±1.33 %	49.14% ±1.33 %	39.68% ±0.73 %	60.32% ±0.73 %
15	Urban	45.91% ±4.38 %	54.09% ±4.38 %	44.13% ±0 %	55.87% ±0 %	53.04% ±5.27 %	46.96% ±5.27 %	48.07% ±1.39 %	51.93% ±1.39 %	33.45% ±0.5 %	66.55% ±0.5 %

TABLE 6 (CONTINUED)

Livelihood zone		Food source shares by LZ quintile														
		Quintile 1			Quintile 2			Quintile 3			Quintile 4			Quintile 5		
		Purchased	Own production	Received free	Purchased	Own production	Received free	Purchased	Own production	Received free	Purchased	Own production	Received free	Purchased	Own production	Received free
		(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)
1	Amran Rainfed Sorghum, Barley, Qat, and Livestock Zone	77.05%	7.27%	15.68%	75.14%	16.77%	8.09%	75.02%	21.92%	3.06%	73.11%	23.41%	3.48%	69.40%	28.21%	2.39%
2	Arabian Sea Coastal Irrigated Tropical Fruit, Fodder and Livestock Zone	98.47%	1.48%	0.05%	99.41%	0.59%		99.13%		0.87%	100%			99.32%	0.68%	
3	Central and Eastern Plateau Agro-Pastoral Zone	94.47%	3.15%	2.39%	89.10%	9.82%	1.08%	89.30%	9.21%	1.49%	83.58%	15.49%	0.93%	78.70%	20.92%	0.38%
4	Central and Eastern Wadi Palm, Wheat, Vegetable and Livestock Zone	97.32%	1.03%	1.66%	94.27%	4.64%	1.09%	90.24%	8.94%	0.82%	83.46%	15.85%	0.69%	80.25%	17.90%	1.85%
5	Central Highland Potato, Vegetable and Livestock Zone	76.89%	6.18%	16.93%	89.73%	5.59%	4.68%	82.25%	11.28%	6.47%	65.54%	29.70%	4.77%	66.86%	31.98%	1.16%
6	Eastern Plateau Sorghum, Millet and Livestock Zone	67.91%	31.98%	0.11%	89.09%	10.82%	0.09%	83.55%	15.23%	1.22%	97.98%	1.46%	0.57%	93.81%	6.16%	0.03%
7	Greater Yemen Coastal and Island Fishing Zone	92.33%	0.12%	7.55%	95.23%	0.84%	3.93%	96.30%	0.66%	3.05%	94.97%	2.14%	2.89%	94.46%	2.58%	2.96%
8	Northern and Eastern Desert Pastoral Zone	97.34%	1.72%	0.94%	98.82%	1.18%		89.02%	10.98%		84.46%	15.54%		90.13%	9.87%	
9	Saadah Irrigated Wheat, Fruit, Vegetable, Qat, and Livestock Zone	85.28%	6.09%	8.63%	79.98%	15.25%	4.77%	73.06%	22.96%	3.98%	63.87%	35.48%	0.65%	56.16%	40.99%	2.85%
10	Western and Central Highland Qat, Grain, Fodder and Livestock Zone	80.26%	7.46%	12.28%	82.67%	7.37%	9.96%	84.67%	10.26%	5.07%	84.42%	9.53%	6.04%	85.01%	12.01%	2.98%
11	Western and Central Wadi Sorghum, Millet, Vegetable, Fruit and Livestock Zone	84.74%	4.86%	10.40%	86.76%	8.76%	4.48%	85.79%	11.97%	2.23%	80.84%	17.42%	1.74%	78.40%	19.88%	1.72%
12	Western Central Highland Coffee, Qat, Sorghum and Livestock Zone	76.82%	8.58%	14.60%	75.12%	14.73%	10.15%	71.87%	18.74%	9.39%	68.09%	27.77%	4.13%	65.95%	29.62%	4.43%
13	Western Central Highland Wheat, Sorghum, Qat, and Livestock Zone	80.02%	5.66%	14.32%	83.59%	9.18%	7.23%	82.15%	13.24%	4.61%	81.02%	14.46%	4.52%	80.73%	17.47%	1.79%
14	Western Coastal Plain Sorghum, Millet, and Livestock Zone	78.27%	6.93%	14.80%	84.03%	9.45%	6.52%	85.18%	10.19%	4.63%	81.07%	15.06%	3.87%	80.64%	16.27%	3.09%
15	Urban	92.95%	0.82%	6.23%	95.47%	1.04%	3.49%	97.17%	0.49%	2.34%	95.85%	0.74%	3.40%	96.97%	0.68%	2.35%

TABLE 6 (CONTINUED)

Livelihood zone		Outstanding debt as a share of FEWS cash expenditure	Outstanding debt as a share of FEWS cash expenditure by LZ quintile				
			Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
			(34)	(35)	(36)	(37)	(38)
1	Amran Rainfed Sorghum, Barley, Qat, and Livestock Zone	7.66% ±1.5 %	14.57%	4.55%	5.83%	9.24%	4.06%
2	Arabian Sea Coastal Irrigated Tropical Fruit, Fodder and Livestock Zone	2.38% ±2.3 %		0.39%	0.47%	1.87%	10.11%
3	Central and Eastern Plateau Agro-Pastoral Zone	9.81% ±2.2 %	20.42%	8.78%	5.29%	10.24%	4.02%
4	Central and Eastern Wadi Palm, Wheat, Vegetable and Livestock Zone	7.21% ±1.8 %	3.53%	6.14%	12.95%	6.14%	7.43%
5	Central Highland Potato, Vegetable and Livestock Zone	5% ±1.8 %	3.65%	1.94%	4.05%	7.32%	5.63%
6	Eastern Plateau Sorghum, Millet and Livestock Zone	6.15% ±2.9 %		6.60%	5.10%	6%	14.66%
7	Greater Yemen Coastal and Island Fishing Zone	6.49% ±1.7 %	13.61%	3.95%	6.23%	3.50%	5.16%
8	Northern and Eastern Desert Pastoral Zone	8.75% ±4.9 %	26.70%	3.92%	5.71%	2.63%	1.67%
9	Saadah Irrigated Wheat, Fruit, Vegetable, Qat, and Livestock Zone	9.97% ±3.5 %	19.52%	10.22%	10.35%	5.95%	3.54%
10	Western and Central Highland Qat, Grain, Fodder and Livestock Zone	9.87% ±1.5 %	13.27%	6.60%	7.31%	9.88%	12.29%
11	Western and Central Wadi Sorghum, Millet, Vegetable, Fruit and Livestock Zone	5.97% ±0.9 %	10.27%	5.90%	5.49%	4.56%	3.62%
12	Western Central Highland Coffee, Qat, Sorghum and Livestock Zone	13.31% ±1.8 %	22.54%	18.39%	9.15%	8.75%	7.65%
13	Western Central Highland Wheat, Sorghum, Qat, and Livestock Zone	10.87% ±1 %	13.69%	9.87%	9.50%	11.47%	9.84%
14	Western Coastal Plain Sorghum, Millet, and Livestock Zone	8.47% ±0.9 %	14.88%	8.56%	8.63%	6.03%	4.23%
15	Urban	17.75% ±2.4 %	35.88%	15.58%	10.31%	14.84%	12.07%

TABLE 7: SHARE OF INCOME FROM SALES OF CROPS AND ANIMAL PRODUCTS

Livelihood zone		Number of households in the sample	FEWS Average annual income per capita, Rials	UNDP Average annual income per capita, Rials	Share of income from food crops			
					Grains	Fruits	Vegetables	Legumes
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Amran Rainfed Sorghum, Barley, Qat, and Livestock Zone	517	149,864 ±23,932	107,052 ±8303	0.72% ±0.4 %	0.40% ±0.3 %	0.65% ±0.4 %	
2	Arabian Sea Coastal Irrigated Tropical Fruit, Fodder and Livestock Zone	124	154,768 ±62,176	140,138 ±57778				
3	Central and Eastern Plateau Agro-Pastoral Zone	548	137,302 ±21,250	127,940 ±16491	0.19% ±0.1 %	0.50% ±0.5 %	0.14% ±0.1 %	
4	Central and Eastern Wadi Palm, Wheat, Vegetable and Livestock Zone	191	98,649 ±23,262	106,035 ±22847	1.66% ±0.9 %	0.01%	0.16% ±0.1 %	0.22% ±0.1 %
5	Central Highland Potato, Vegetable and Livestock Zone	259	116,553 ±20,162	119,017 ±18746	0.71% ±0.4 %	0.06% ±0.1 %	14.12% ±6.5 %	0.08%
6	Eastern Plateau Sorghum, Millet and Livestock Zone	24	26,653 ±16,297	39,423 ±16037	7.65% ±0.4 %		3.05% ±2.4 %	
7	Greater Yemen Coastal and Island Fishing Zone	1,662	227,578 ±21,509	181,494 ±12350	0.03%	0.22% ±0.2 %	0.01%	
8	Northern and Eastern Desert Pastoral Zone	112	189,872 ±68,834	161,459 ±25818	0.88% ±0.7 %	18.16% ±9.4 %	0.01%	
9	Saadah Irrigated Wheat, Fruit, Vegetable, Qat, and Livestock Zone	404	231,324 ±29,979	124,370 ±9786	0.70% ±0.4 %	6.42% ±3 %	2.94% ±1.2 %	
10	Western and Central Highland Qat, Grain, Fodder and Livestock Zone	1,385	121,956 ±12,664	109,644 ±7814	0.44% ±0.2 %	0.29% ±0.2 %	0.95% ±0.7 %	0%
11	Western and Central Wadi Sorghum, Millet, Vegetable, Fruit and Livestock Zone	1,081	146,865 ±14,899	128,431 ±10068	1.15% ±0.4 %	1.08% ±0.5 %	0.56% ±0.4 %	0.42% ±0.4 %
12	Western Central Highland Coffee, Qat, Sorghum and Livestock Zone	1,346	121,487 ±13,608	104,853 ±4177	0.58% ±0.2 %	0.25% ±0.1 %	1.86% ±0.9 %	0.04%
13	Western Central Highland Wheat, Sorghum, Qat, and Livestock Zone	1,904	142,203 ±26,618	125,198 ±20066	1.87% ±0.4 %	0.76% ±0.3 %	1.13% ±0.5 %	0%
14	Western Coastal Plain Sorghum, Millet, and Livestock Zone	1,564	166,316 ±45,302	115,386 ±11436	0.80% ±0.4 %	0.26% ±0.1 %	0.16% ±0.1 %	0.06%
15	Urban	2,015	267,226 ±33,065	231,485 ±23575	0.13% ±0.1 %	0.32% ±0.2 %	0.17% ±0.1 %	0.03%

Total: 13,136

TABLE 7 (CONTINUED)

Livelihood zone	Share of income from cash crops							Share of income from fish / livestock and animal products							
	Sesame	Cotton	Coffee	Tobacco	Qat	Animal feed	Other crops	Fish	Animals	Eggs	Milk	Honey	Ghee	Other products	
	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	
1	Amran Rainfed Sorghum, Barley, Qat, and Livestock Zone			0%		23.42% ±4.7 %	0.21% ±0.1 %			4.37% ±0.8 %	0.07%		0.17%		
2	Arabian Sea Coastal Irrigated Tropical Fruit, Fodder and Livestock Zone						0.00%	1.92% ±1.5 %	0.78% ±0.2 %			0.82% ±0.6 %			
3	Central and Eastern Plateau Agro-Pastoral Zone					3.80% ±2.5 %	0.60% ±0.3 %	0.15% ±0.1 %	3.36% ±2.9 %	8.25% ±4 %	0%	0.03%	0.74% ±0.4 %	0%	
4	Central and Eastern Wadi Palm, Wheat, Vegetable and Livestock Zone	0.46% ±0.4 %				0.09% ±0.1 %	1.43% ±0.8 %	0.25% ±0.2 %		13.43% ±6.6 %	0%		0.85% ±0.6 %		
5	Central Highland Potato, Vegetable and Livestock Zone					6.74% ±4.6 %	0.10% ±0.1 %			4% ±1.1 %	0%		0.36% ±0.2 %	0.22% ±0.2 %	
6	Eastern Plateau Sorghum, Millet and Livestock Zone	1% ±0.4 %				11.39% ±7.8 %	8.58% ±5.9 %			19.94% ±2.4 %				0.40% ±0.2 %	
7	Greater Yemen Coastal and Island Fishing Zone	0%	0.01%		0.02%		0.15% ±0.1 %	0.10%	2.30% ±0.6 %	0.62% ±0.2 %	0%	0.06%	0.13% ±0.1 %	0%	
8	Northern and Eastern Desert Pastoral Zone	0% ±0.2 %				0.15% ±0.2 %	1.45% ±1.1 %	0.48% ±0.4 %	0.05% ±0.1 %	19.47% ±3.8 %				0.02%	
9	Saadah Irrigated Wheat, Fruit, Vegetable, Qat, and Livestock Zone					2.61% ±1.8 %	5.60% ±2.4 %	0.21% ±0.1 %		7.29% ±1.3 %	0%		0.05%	0.12% ±0.1 %	
10	Western and Central Highland Qat, Grain, Fodder and Livestock Zone	0%				0.04%	6.65% ±1.8 %	0.36% ±0.2 %		0.07% ±0.1 %	3.42% ±0.8 %	0%	0%	0.10% ±0.1 %	0%
11	Western and Central Wadi Sorghum, Millet, Vegetable, Fruit and Livestock Zone	0.07% ±0.1 %	0%	0.21% ±0.1 %	0.01%	4.66% ±1.8 %	1.77% ±0.6 %	0.21% ±0.1 %		7.33% ±1.3 %	0.02%		0.25% ±0.2 %	0.51% ±0.2 %	0.06% ±0.1 %
12	Western Central Highland Coffee, Qat, Sorghum and Livestock Zone	0.01%				1.05% ±0.5 %	7.98% ±1.7 %	0.23% ±0.1 %	0.27% ±0.2 %		4.38% ±0.4 %	0%		0.13% ±0.1 %	0.39% ±0.1 %
13	Western Central Highland Wheat, Sorghum, Qat, and Livestock Zone	0% ±0.1 %				0.24% ±0.1 %	15.49% ±2.3 %	0.83% ±0.3 %	0.13% ±0.1 %		5.23% ±0.6 %	0%	0%	0.37% ±0.2 %	0.30% ±0.1 %
14	Western Coastal Plain Sorghum, Millet, and Livestock Zone	0.00%	0.09% ±0.1 %	0%	0.15% ±0.1 %	4.80% ±1.2 %	1.38% ±0.4 %	0%	1.30% ±1.2 %	5.42% ±0.7 %	0%	0.01%	0.39% ±0.1 %	0.31% ±0.1 %	0.04%
15	Urban	0.00%		0%		1.37% ±0.5 %	0.03%	0.01%		0.30% ±0.1 %	0%	0%		0%	