Mission to Sana'a, Yemen
October 30 to November 8, 2006

Preparation of the Household Budget Survey 2005-2006 databases for tabulation and analysis

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Introduction

We visited Sana'a from October 30 to November 8, 2006 to help the Central Statistical Office of Yemen (CSO) in the preparation of the final databases generated by the Household Budget Survey 2005-06 (HBS). We specifically developed the following tasks:

- Detect and deal with anthropometric outliers;

- Detect and deal with food consumption outliers;

- Define criteria for qualifying a household data as usable, and drop from the datasets those that were not;

- Compute the final sampling weights; and

- Organize the HBS databases in the formats required by the users of two common statistical software (Stata and SPSS) and in a generic format (dbf) suitable for users of other programs.

We met with Mr Amin Mohie Al-Din – Chairman of the CSO, with Mr Abdul Hakin – Deputy Chairman,) and with the members of the core staff team dedicated to the HBS in the CSO Mr Ali Fadhl – Project Manager, Mr Ali Abdula Saleh – responsible for international relations, Messrs Anwar Ahmed Farhan, Abdul Latif and Mokhtar – responsible for data management, Ms Shoroq Salem and Ms Amina – responsible for sampling, and Dr Abdul Baki Alzaemey – nutritional consultant responsible for the anthropometric component.

Our visit was concurrent with the missions to Sana'a of Mr T. G. Srinivasan – World Bank senior economist and Ms Heba El-Laithy – UNDP consultant in charge of launching poverty analysis with HBS data, with whom we shared most of the tasks endeavored.

The design and implementation phases of the HBS can now be considered as finished, and so is our participation in this project. We would like to thank all of the CSO team for their help and collaboration.

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The rest of this report summarizes the activities conducted and contains recommendations for the forthcoming analytic phases.

Detection and automatic correction of outliers

We tried to fix the most extreme inconsistencies still remaining in the databases generated from the anthropometric and food consumption sections of the HBS. In order to automatically detect outliers we often used the same tools that will be used by subject matter specialists with analytic purposes later. We specifically used

- the World Health Organization (WHO) standard anthropometric tables, in order to assess the consistency between height, weight and age measures;

- food composition tables, in order to detect suspiciously low or high levels of food consumption, by way of the households' per capita energy intake; and

- specially developed unit price tables, in order to detect errors in the recording of quantities or amounts purchased.

Although our tools may have been the same, our objectives at this stage were very different from those that will be pursued by the thematic specialists in the analytic phase. For instance, in anthropometrics, we scrutinized the measures of children who seemed to be too heavy or too light for their age or height, but when doing this we were not trying to assess or qualify the nutritional status of Yemeni children – this will be the job of nutritional experts later on. We only wanted to detect possible measurement or recording errors. Similarly, we considered as doubtful the households who appeared to be consuming too few or too many calories, and the transactions with too small or too large unit prices, but our intention was not to assess the households' poverty status or the inter-regional or seasonal variation of prices – this will be done by poverty analysts and economic statisticians in the future.

Unwilling to qualify as *inconsistent* observations that are merely *unlikely*, but not necessarily *impossible*, our quality control criteria were in general much more lenient than those that specialists will use later to sort their subjects into analytic categories. For instance, whereas nutritionists will qualify as "wasted," "stunted," or "underweight" the kids for whom some of the measures are more that <u>two</u> standard deviations below their average values, we qualified as "inconsistent" the anthropometric measures beyond <u>five</u> standard deviations from the mean. In other words, very few, if any, of the kids we considered as outliers are likely to be genuinely small or large children – they are almost certainly outliers indeed.

Non-standard conventions for missing values

In spite of instructions, some interviewers filled questionnaire fields with numbers such as "999" when they were unable to record the precise answers (they fortunately didn't have many opportunities to use this outdated convention to indicate that a question was *not applicable*, because the HBS questionnaire was explicitly designed to avoid such cases.) Such numbers can be very annoying at the analytic stage because they distort most results, including averages and standard errors.

We thoroughly scanned the HBS databases to detect these 999s and replace them with blanks (or periods, in their Stata and SPSS versions.) This was not trivial because the non-standard convention was not used uniformly (sometimes "99", "9.99" or other variants were used instead of "999",) and also because some of the 99s could occasionally represent genuine amounts (such as supermarket promotions.)

Anthropometrics

The objective of this phase was to replace by blanks the values with strong evidence of being wrongly recorded in the field. However, we kept the ones for which we cannot affirm that they are incorrect or whether they simply reflect the reality in Yemen. Certainly the nutritional analysts who will work with these data will make further analysis using advanced nutritional techniques and they may decide to remove other values as well.

For identifying anthropometric outliers we worked in close collaboration with Dr Abdul Baki Alzaemey, who defined the corresponding criteria. The criteria – based on the most recent World Health Organization Anthropometric tables, released in June 2006, were the following:

For children up to 60 months:

- Replace the weight by a blank if the Z-score of weight for age is less than -6 or greater than +5.

- Replace the height by a blank if the Z-score of height for age is less than -6 or greater than +6.

For children 61 to 216 months (18 years)[3]:

- Replace the weight by a blank if the Z-score of weight for age is less than -5 or greater than +5.

- Replace the height by a blank if the Z-score of height for age is less than -4 or greater than +5.

For individuals older than 18 years:

- Replace both weigh and height by blanks if the Body Mass Index (BMI) is less than 14.4 or greater than 44.

It is important to emphasize that we did not modify the original data on "Section 6: Anthropometrics" nor deleted any individual records. Instead we created two new variables with the values dictated by the above criteria: the new *weight* and *height* variables will be either equal to the originals or blanks.

Food consumption

Section 14 contains the bulkiest and the most important part of the data collected by the HBS – the consumption and acquisition of food and some frequently purchased non-food items, reported on a weekly basis. The detection and automatic correction of outliers in this section was concurrent with various other actions of data analysis and scrutiny, performed with the help of a dedicated program developed over the Excel/VBA platform. The program did not need to hold the whole database in memory. Instead it read the file twice on a record-by-record basis. The actions performed in each of the two program *passes* are described below.

The supporting workbook (Fix_S14B.xls) contains a spreadsheet with reference and summary data for all items in Section 14. Figure 1 below shows the first and last rows:

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[3]   The HBS measured all children younger than 5 years throughout the year. In the last month of fieldwork (March 2006,) all household members were measured.

Figure 1
Reference and summary data used for scrutiny of Section 14

Code	Name	Field Unit	Reference Unit	Rial / RU	Kcal / RU	Kcal / FU				881,186	Log (Amount)		Log (Quantity)		Log (Price)		Median	Log (Cons)	
										Count	Mean	SD	Mean	SD	Mean	SD	Price	Mean	SD
101	Wheat (local)	1				3,230.0				291	2.59110	0.75590	0.67832	0.84461	1.91278	0.36842	69.9	0.29866	0.80228
102	Wheat (imported)	1				3,430.0				11,303	3.18072	0.49452	1.43416	0.53815	1.74657	0.08187	54.0	0.97886	0.48147
103	Barley	1				800.0				252	2.62178	0.67682	0.62616	0.88871	1.99562	0.37944	80.0	0.29822	0.79333
104	Corn(Roman)	1				800.0				861	2.54811	0.65265	0.63371	0.78177	1.91440	0.23025	80.6	0.38826	0.56673
105	Corn(thin)	1				800.0				861	2.81784	0.50060	0.89307	0.55961	1.92476	0.19548	80.0	0.51186	0.51814
106	Millet	1				3,410.0				371	2.59576	0.41812	0.64214	0.43385	1.95362	0.12348	100.0	0.38257	0.48619
107	Sorghum	1				3,450.0				61	2.43837	0.67622	0.54226	0.71802	1.89611	0.23744	70.0	0.50880	0.50057
108	Other Grains	1				800.0				115	2.28514	0.60064	0.17602	0.73659	2.10912	0.32346	120.0	0.10154	0.63993
109	Basmati Rice	1				3,630.0				5,308	2.75320	0.54615	0.64327	0.57317	2.10993	0.08597	120.0	0.45297	0.41187
110	American Rice	1				3,630.0				5,600	2.47857	0.44890	0.51090	0.46148	1.96767	0.09484	92.2	0.30484	0.41161
111	Other varieties Rice	1				3,630.0				14,765	2.57829	0.43284	0.61945	0.45973	1.95884	0.07769	100.0	0.44347	0.36966
112	Flour	1				3,410.0				13,178	2.89618	0.54772	1.11134	0.58743	1.78484	0.08183	55.3	0.78677	0.46625
2004	Drug expenses	4				0.0				7,424	2.77353	0.60162	0.00000	0.00000	2.77353	0.60162	600.0	2.77356	0.60215
2005	Physical/Medical expenses (Physican f	4				0.0				990	2.61603	0.44063	0.00000	0.00000	2.61603	0.44063	400.0	2.61919	0.44144
2006	Medical invesstigation expenses (lab, r	4				0.0				562	2.65972	0.46656	0.00000	0.00000	2.65972	0.46656	400.0	2.65610	0.46701
2007	Medical appliances (eye glasses, hear	4				0.0				327	3.07265	0.50416	0.00000	0.00000	3.07265	0.50416	1,200.0	3.07540	0.50670
2008	prescription Drugs	4				0.0				58	2.63784	0.67229	0.00000	0.00000	2.63784	0.67229	380.0	2.63784	0.67229
2009	Medical paraphernalia (cotton, syringe	4				0.0				183	2.27106	0.53915	0.00000	0.00000	2.27106	0.53915	200.0	2.27106	0.53915
2010	Medical Services (injections, nurse, aic	4				0.0				250	2.34975	0.59676	0.00000	0.00000	2.34975	0.59676	200.0	2.36328	0.61104
2314	Magazines & newspapers	4				0.0				1,684	2.07579	0.34265	0.00000	0.00000	2.07579	0.34265	120.0	2.07820	0.34640
2315	Buying or Renting Video and Music Ca	4				0.0				113	2.47835	0.43848	0.00000	0.00000	2.47835	0.43848	300.0	2.48671	0.44550
2316	Tickets for Movi Theater, Plays and Fe	4				0.0				77	2.81374	0.64164	0.00000	0.00000	2.81374	0.64164	600.0	2.84141	0.62253
2403	Ready made food	4	1	3,000	3,000	1.0				26,468	2.69236	0.56532	0.00000	0.00000	2.69236	0.56532	470.0	2.73938	0.57177
2404	Drinky juices tea outside house	4	1	100	320	3.2				22,463	2.68828	0.55398	0.00000	0.00000	2.68828	0.55398	200.0	2.68847	0.55085

Columns **C** to **G** contain underline external technical coefficients used to estimate the energy supplied by each item. For most items, the number of Kilo-calories is reported in column **G**, in reference to the so-called *field unit* used to record the quantities, coded in Column **C** as 1 (kilos,) 2 (pieces) or 3 (liters.) For certain items (such as bread or spices) for which the HBS only recorded the amounts spent, not the quantities, columns **D** to **F** contain conversion coefficients used to estimate the quantities and energy intakes from the amounts.

The other columns contain underline internal coefficients, obtained by the program from the database itself during the first pass:

- Columns **G** to **R** refer to weekly purchases. Column **G** contains the number of weekly transactions reported, and Column **R** the median unit price. The other columns contain the mean and the standard deviation of the decimal logarithms of, respectively, the amounts spent, the quantities purchased, and the unit prices.

- Columns **S** and **T** contain the mean and the standard deviation of the decimal logarithm of the quantity consumed in the week.

During the second pass, the program uses these internal coefficients to detect unlikely combinations of item codes, amounts and quantities (when applicable,) and to eventually fix the problems so detected. (All operations are done with decimal logarithms, but this will not be said explicitly in the rest of this explanation, for the sake of simplicity.) If the unit price of a transaction is more than 4 standard deviations away from the mean, it is considered to be an outlier, and then either the amount or the quantity is fixed, depending on which of the two is farther from its respective mean, and as long as the other one is less than 3 standard deviations from its mean. The magnitude to be fixed is estimated from the correct one using the median price, unless there are reasons

to assume that the problem is due to an accidental shift in the location of the decimal point (a common error of both interviewers and data entry operators,) in which case the correction is done by multiplying the incorrect magnitude by an adequate power of 10.

The process will be illustrated with an example. One of the HBS interviewers reported that Household Number 2301801 purchased 1.5 kilos of imported wheat (food item code 102) for 7,400 Rials in the fourth survey week – an implicit unit price of almost 5,000 Rials per kilo. Based on the 11,303 purchases of imported wheat reported by the HBS for all households in the whole survey year, the program found that the mean and standard deviation of Log_{10}(unit price) for imported rice were, respectively, 1.74657 and 0.08187 (see row 4 in Figure 1,) meaning that the lower and upper bounds for the acceptable unit prices are $10^{1.74657 - 4 \times 0.08187}$ and $10^{1.74657 + 4 \times 0.08187}$, or 26.25 and 118.59 Rials per kilo. The implicit unit price of 5,000 Rials per kilo is therefore too high to be credible. Either the amount paid must have been less that 7,400 Rials or the quantity purchased must have been more than 1.5 kilos. To decide which of the two is more likely to have been the case, the program considers that the average amount paid in all 11,303 purchases is $10^{3.18072} = 1,516$ Rials and the average quantity purchased is $10^{1.43416} = 27.17$ kilos. Since the 7,400 Rials amount spent in the suspicious transaction is only +1.4 standard deviations above the average, whereas the 1.5 kilos are -2.3 standard deviations below the average, the program decides that the quantity must be wrong and needs to be fixed. The median unit price of all 11,303 purchases is 54 Rials per kilo, which suggests that the real quantity purchased must have been around 7,400 / 54 = 137 kilos. Since this is close to 150, the program decides that the quantity must have been 150.0 kilos, but was wrongly recorded as 1.500.

2,970 of the 1.5 million transactions reported on Section 14 were fixed with this algorithm. As in the case of anthropometric measures, we did not modify any of the original data in Section 14. We just added three additional fields to each record – for the (eventually fixed) values of the amount spent, the quantity purchased and the quantity consumed from all sources (market, self-production or gifts.)

As a by-product of the scrutiny of Section 14, the program computed the total per capita energy intake, the total per capita food expenditure and the share of food in total expenditure for each of the 13,227 present at that moment in the HBS databases. In agreement with Mr Srinivasan and Ms El-Laithy, we subsequently dropped from the HBS databases the households for which all three indicators were low enough to make further analyses unreliable. We sorted into this category 91 households reported as consuming less than 800 Kcal/capita/day, spending less than 1,000 Rials/capita/month on food and less than 10 percent of their budget on food.

Households conserved in the final databases

The target sample size was 14,400 households. Four questionnaires never arrived to the data entry office, therefore only 13,396 were entered. Of those, 996 households were qualified by the field workers as either (1) interview not complete, (2) household empty or destroyed or (3) refusal; and were subsequently dropped from the databases by the CSO prior to our arrival. The same was done with 173 households without any food consumption recorded in the diary.

As said before, during the course of this mission we identified and removed form the databases an additional 91 households with extremely low food consumption. Figure 2 below gives the distribution of the remaining 13,136 households by Governorate and survey month.

Figure 2
Distribution of the households in the HBS databases
by governorate and survey month

| | | Result of HH interview | | | | Food consumption | | |
	Total	Partial completed	Refused	HH destroyed	HH empty	Not reported	Low consumption	Usable households
Governorate								
Ibb	1,008	17	4	1	27	18	8	933
Abyan	576	10	3	1	28	13	2	519
Sana'a City	1,872	76	14	7	69	37	14	1,655
Al-Baida	576	6	1	1	15	3	1	549
Taiz	1,152	44	13	5	32	13	13	1,032
Al-Jawf	431	4	1	3	38	0	0	385
Hajja	720	5	1	10	19	0	0	685
Al-Hodeida	1,296	20		2	25	20	11	1,218
Hadramout	720	19		2	31	0	2	666
Dhamar	720	11	4	1	17	2	4	681
Shabwah	432	28	7	3	24	11	0	359
Sa'adah	573	5		1	19	4	1	543
Sana'a Region	288	1		1	18	1	0	267
Aden	864	32	14	3	61	27	11	716
Laheg	576	15	6	3	19	7	7	519
Mareb	432	17	4	4	17	7	1	382
Al-Mahweet	576	6			22	2	8	538
Al-Maharh	288	1		1	3	1	1	281
Amran	576	13	2	2	18	3	1	537
Al-Dhale	432	12	2		19	4	6	389
Remah	288	3		1	2			282
Month								
1	1,200	39	2	3	30	6	11	1,109
2	1,200	35	7	4	32	9	6	1,107
3	1,200	42	8	8	38	14	7	1,083
4	1,200	48	8	2	47	11	6	1,078
5	1,197	37	11	2	55	14	9	1,069
6	1,200	28	12	2	50	15	3	1,090
7	1,200	29	11	4	47	15	5	1,089
8	1,200	29	2	6	48	18	7	1,090
9	1,200	16	3	8	42	11	6	1,114
10	1,200	16	6	3	42	20	9	1,104
11	1,199	10	3	7	46	18	10	1,105
12	1,200	16	3	3	46	22	12	1,098
Total	14,396	345	76	52	523	173	91	13,136

Sampling weights

(For a better understanding of this section we reproduce in Appendix 2 a summary description of the HBS sampling design prepared by Mr Srinivasan.)

During the course of this mission, we computed the sampling weights (or raising factors,) needed to produce unbiased estimates from the survey. We first computed the probability p_{ijh} of selecting household ijh in Enumeration Area (EA) jh of stratum h as

$$p_{ijk} = \frac{k_h n_{jh}}{n_h} \frac{m_{jh}}{n'_{jh}}$$

where

k_h is the number of EAs selected in stratum h;

n_{jh} is the number of households in EA jh, according to the pre-census estimates available at the time the EAs were selected;

n_h is the number of households in stratum h, according to the pre-census estimates;

m_{jh} is the number of households in the final database in EA jh; and

n'_{jh} is the number of households in EA jh, according to the final census figures.

We then computed the nominal weight w_{ijh} of household ijh as the inverse of its selection probability:

$$w_{ijk} = \frac{1}{p_{ijh}}$$

We finally computed the *adjusted* weight ω_{ijh} of household ijh as

$$\omega_{ijh} = w_{ijh} \frac{n'_h}{\sum_h w_{ijh}}$$

Where n'_h is the number of households in stratum h, according to the final census figures.

The final adjustment intends to have the HBS *sum of weights* match the official CSO number of households figures in all strata.

Structure of the databases

All data files were organized into 14 themes and delivered to CSO in three formats: SPSS (.sav), Stata (.dta) and dbf. Each theme corresponds to a specific statistical unit:

1. *Households*: contains data on the cover, dwelling conditions and household-level information on agriculture and credits.

2. *Individuals*: demographics, education, health and unemployment.

3. *Enterprises*: general information about each family enterprise

4. *Jobs*: information on each job conducted by a household member during the past 12 months.

5. *Wages*: specific information on each job conducted by a household member for wages.

6. *Crops*: crops grown during the past 12 months.

7. _Types of land_: information on various types of agricultural land owned or operated by the household during the past 12 months.

8. _Enterprise incomes/expenditures_: income and expenditures on specific items for each family enterprise.

9. _Other sources of income_: information on non-work income received by household members during the past 12 months.

10. _Durable goods_: durable goods owned by the household.

11. _Credits_: Credits or loans obtained by household members.

12. _Food consumption_: Acquisition and consumption of food and other frequently purchased items.

13. _Non-food consumption_: Acquisition of non-food items

14. _Anthropometrics_: Weight and height of children up to 6 years old (and all household members during the last survey month.)

All records in the fourteen files contain the following key information:

- Household identification number

- Sampling weight

- Stratum (governorate and urban/rural)

- Cluster

- Governorate

- Area (urban/rural)

- Survey month

- Household size

The complete content of each file is given in Appendix 1.

Conclusions and recommendations

No more data cleaning

The activities and actions developed during this mission are generally considered to be a part of the "data cleaning" phase of a household survey project. Two questions that can naturally be asked at this point are [1] Is the HBS database now totally consistent? and, [2] does it need more "cleaning" before being delivered to end users for tabulation and analysis? The answer to the first question is probably not. The answer to the second question is definitely not.

We have already taken care of the most serious inconsistencies – those that could have led to wrong conclusions in poverty and nutritional analyses. Survey analysts are very likely to find more inconsistencies as a part of their endeavors, but this is not a reason for spending additional time and efforts to further refine the HBS data. There are in fact three powerful reasons for not doing this and delivering the HBS database to users as soon as possible.

- The first reason is that the databases generated by a survey as large and complex as the Yemen HBS can never be considered as perfect – there will be always something else that could be done, but the opportunity cost of doing it as

a prerequisite for further tabulation is just too high. The database already represents a reality that is more than a year old, and it looses its policy-making value with each month that passes. Delivery is urgent.

- Another reason is that serious data analysts do understand that datasets from complex surveys are imperfect. They have analytic tools and expertise to deal with this situation and they prefer to do it themselves rather than relying of somebody else's criteria, especially when the later is not properly documented.

- The third reason is that solving the remaining inconsistencies may occasionally imply making imputations, which at this point – many miles and months away from the place and time where the data were collected – can only be made by guesswork.

We strongly recommend <u>not to submit the HBS to further "data cleaning</u>."

Use statistical software

The CSO has traditionally used tailor-made computer programs for tabulating census and survey data. We recommend that the institution evolves towards the use of standard statistical software (such as Ariel, Stata or SPSS) for this purpose. This will reduce the time and human resources needed to prepare tables and make the tables much more reliable. It will also foster analytic thinking throughout the institution, allow analysts to directly interact with the data, without intermediaries, and open the way to advanced models and techniques that can hardly be programmed on a case-by-case basis.

A simple illustration of the superiority of statistical software over tailor-made programs is the need to obtain weighed estimates from survey data. This is a non-trivial challenge for any programmer, but is easily solved by anyone using standard statistical software.

Recommendations for future surveys

A key factor for the success of complex surveys is the effective integration of computer-based quality controls to fieldwork. This can be achieved by implementing a high-quality data entry program and deploying dedicated data entry operators and PCs to perform data entry and consistency controls on a household-by-household basis as a part of field operations, so that errors and inconsistencies are solved by means of eventual revisits to the households. The direct benefits of this methodology are:

- it significantly improve the quality of the information collected by the survey, because the errors and inconsistencies will be detected while the interviewers are still in the field rather than by office "cleansing" later.

- it generates databases that are ready for tabulation and analysis in a timely fashion; in fact, as the survey is conducted, thus giving the survey managers the ability to effectively monitor field operations.

- it fosters the application of uniform criteria by all the interviewers and throughout the whole period of data collection,

The improvements in quality and timing of this alternative are such that we strongly recommend that the CSO considers to use it for future rounds of the HBS and in any other complex surveys.

In future rounds of the HBS, the CSO may also consider to re-visit some of the same households already visited by the survey in 2004-2006. A panel survey of this kind would have many analytic advantages. If this is to an option, we strongly recommend entering the names of household members in the HBS database now. This is almost costless, very easy to do now that the paper forms are still in good conditions and the names are legible, and it would facilitate enormously the organization of a panel survey in the future. (The names should obviously be kept in the CSO's internal database only – not delivered to external data users.)

Appendix 1

**Yemen Household Budget Survey 2005-2006
Structure of the databases**

1. Data file: S00_HHOLD

Section	Variable	Label
KEY INFORMATION	*HH_ID*	*Household identification number*
	Weight	*Sampling weight*
	Stratum	*Stratum*
	Cluster	*Cluster number*
	Govern	*Governorate code*
	Area	*Area (Urban / Rural)*
	Month	*Survey month*
	HH_size	*Size of the household*
Cover	HH	HH number in cluster
Cover	DISTRICT	District
Cover	RESULT	Result of HH interview
Section 3. Dwelling Conditions	Q0301	Type of house
Section 3. Dwelling Conditions	Q0302	Main material used for external walls
Section 3. Dwelling Conditions	Q0303	Main material used for ceiling
Section 3. Dwelling Conditions	Q0304	Main material used for floor
Section 3. Dwelling Conditions	Q0305	Main Way of water services to house
Section 3. Dwelling Conditions	Q0306	Main source of water (4-9 in ques. 305)
Section 3. Dwelling Conditions	Q0307_1C	Person ID #1 (responsible of fetching water)
Section 3. Dwelling Conditions	Q0307_2C	Person ID #2 (responsible of fetching water)
Section 3. Dwelling Conditions	Q0307_3C	Person ID #3 (responsible of fetching water)
Section 3. Dwelling Conditions	Q0307_4C	Person ID #4 (responsible of fetching water)
Section 3. Dwelling Conditions	Q0307_5C	Person ID #5 (responsible of fetching water)
Section 3. Dwelling Conditions	Q0307_6C	Non HH member 9% code (responsible of fetching water)
Section 3. Dwelling Conditions	Q0307_1N	Person #1 (Number of times of fetching water)
Section 3. Dwelling Conditions	Q0307_2N	Person #2 (Number of times of fetching water)
Section 3. Dwelling Conditions	Q0307_3N	Person #3 (Number of times of fetching water)
Section 3. Dwelling Conditions	Q0307_4N	Person #4 (Number of times of fetching water)
Section 3. Dwelling Conditions	Q0307_5N	Person #5 (Number of times of fetching water)
Section 3. Dwelling Conditions	Q0307_6N	Non HH member #6 (Number of times of fetching water)
Section 3. Dwelling Conditions	Q0308	The average time(in minutes) for collecting water (for one time/one person
Section 3. Dwelling Conditions	Q0309	Is the main water supply sufficient?
Section 3. Dwelling Conditions	Q0310	How do you address shortage in water supply
Section 3. Dwelling Conditions	Q0311	Ways of treatment drinking water
Section 3. Dwelling Conditions	Q0312	Type of sewage disposal
Section 3. Dwelling Conditions	Q0313	Describe type of toilet you have
Section 3. Dwelling Conditions	Q0314	Place of toilet
Section 3. Dwelling Conditions	Q0315	Main source of lighting
Section 3. Dwelling Conditions	Q0316	Power supply duration(days/month)
Section 3. Dwelling Conditions	Q0317	Power supply duration(hrs/day)
Section 3. Dwelling Conditions	Q0318	Kitchen status
Section 3. Dwelling Conditions	Q0319	The main energy sources used for cooking
Section 3. Dwelling Conditions	Q03201	Exposed to (Smoke from cars)
Section 3. Dwelling Conditions	Q03202	Exposed to (Smoke from cooking)
Section 3. Dwelling Conditions	Q03203	Exposed to (Animals' odor)
Section 3. Dwelling Conditions	Q03204	Exposed to (Sewer system odor)
Section 3. Dwelling Conditions	Q03205	Exposed to (Garbage odor)
Section 3. Dwelling Conditions	Q03206	Exposed to (Dust from factories)
Section 3. Dwelling Conditions	Q03207	Exposed to (Dust or odors from other sources)
Section 3. Dwelling Conditions	Q03208	Exposed to (Bad ventilation)
Section 3. Dwelling Conditions	Q03209	Exposed to (Dampness)
Section 3. Dwelling Conditions	Q032010	Exposed to (Stagnant water pool)
Section 3. Dwelling Conditions	Q032011	Exposed to (noise)
Section 3. Dwelling Conditions	Q032012	Exposed to (no nothing)
Section 3. Dwelling Conditions	Q0321	Main means of garbage disposal
Section 3. Dwelling Conditions	Q0322	Number of rooms in total in house
Section 3. Dwelling Conditions	Q0323	Number of sleeping rooms in house
Section 3. Dwelling Conditions	Q0324	The legal status of the dwelling
Section 3. Dwelling Conditions	Q0325	Ability to sell dwelling
Section 3. Dwelling Conditions	Q0326	Cost of dwelling if sold(Riyals)
Section 3. Dwelling Conditions	Q0327	Monthly rent of dwelling if rented(Riyals)
Section 3. Dwelling Conditions	Q0328	Monthly rent of renting other dwelling like the current(Riyals)

Section 9: Agriculture and fishing activities	Q0901	Manage plots of land
Section 9: Agriculture and fishing activities	Q0902	Measuring unit
Section 9: Agriculture and fishing activities	Q0903	Total area of the plots
Section 9: Agriculture and fishing activities	S0916	Did you hire non-household members in agric activities during the past 12M
Section 9: Agriculture and fishing activities	S0917M	How many hire non-household members? (males)
Section 9: Agriculture and fishing activities	S0917F	How many hire non-household members? (females)
Section 9: Agriculture and fishing activities	Q0918	Any livestock producing activities?
Section 9: Agriculture and fishing activities	Q0919_01	Number of Camels
Section 9: Agriculture and fishing activities	Q0919_02	Number of Cows
Section 9: Agriculture and fishing activities	Q0919_03	Number of Sheep&Goats
Section 9: Agriculture and fishing activities	Q0919_04	Number of Chicken
Section 9: Agriculture and fishing activities	Q0919_05	Number of Bee-hives
Section 9: Agriculture and fishing activities	Q0919_06	Number of Donkeys
Section 9: Agriculture and fishing activities	Q0919_07	Number of Horses
Section 9: Agriculture and fishing activities	Q0919_08	Number of Pigeon
Section 9: Agriculture and fishing activities	Q0919_09	Number of Rabbit
Section 9: Agriculture and fishing activities	Q091910	Number of other animals
Section 9: Agriculture and fishing activities	Q0920	Did the HH sell any animals during the last 12 months?
Section 9: Agriculture and fishing activities	Q0921	How much did your HH receive from sales of animals during the past 12M
Section 9: Agriculture and fishing activities	Q0922	Did any agricultural extension officers provide you with technical advice?
Section 9: Agriculture and fishing activities	Q0923_01	Expenses on Fertiliser
Section 9: Agriculture and fishing activities	Q0923_02	Expenses on Pesticides
Section 9: Agriculture and fishing activities	Q0923_03	Expenses on Seeds and seedlings
Section 9: Agriculture and fishing activities	Q0923_04	Expenses on Bags and tarpaulins
Section 9: Agriculture and fishing activities	Q0923_05	Expenses on Farm tools
Section 9: Agriculture and fishing activities	Q0923_06	Expenses on Fuel for drying crops
Section 9: Agriculture and fishing activities	Q0923_07	Expenses on Tractor hire (including fuel cost)
Section 9: Agriculture and fishing activities	Q0923_08	Expenses on Hire Irrigation equipment
Section 9: Agriculture and fishing activities	Q0923_09	Expenses on Transportation
Section 9: Agriculture and fishing activities	Q0923_10	Expenses on Agricultural credit repayment
Section 9: Agriculture and fishing activities	Q0923_11	Expenses on Seeds and young plants
Section 9: Agriculture and fishing activities	Q0923_12	Expenses on Workers
Section 9: Agriculture and fishing activities	Q0923_13	Expenses on Fuel (for vehicles, drying crops, irrigation, etc.)
Section 9: Agriculture and fishing activities	Q0923_14	Expenses on Irrigation (do not include fuel)
Section 9: Agriculture and fishing activities	Q0923_15	Expenses on Storage facilities
Section 9: Agriculture and fishing activities	Q0923_16	Expenses on Improvements on land or buildings
Section 9: Agriculture and fishing activities	Q0923_17	Expenses on Repair and maintenance of equipment
Section 9: Agriculture and fishing activities	Q0923_18	Expenses on Fodder
Section 9: Agriculture and fishing activities	Q0923_19	Expenses on Veterinary
Section 9: Agriculture and fishing activities	Q0923_20	Expenses on Repayment of loans
Section 9: Agriculture and fishing activities	Q0923_21	Expenses on Other 1
Section 9: Agriculture and fishing activities	Q0923_22	Expenses on Other 2
Section 9: Agriculture and fishing activities	Q0923_23	Expenses on Other 3
Section 9: Agriculture and fishing activities	Q0923_24	Expenses on TOTAL
Section 9: Agriculture and fishing activities	Q0924	Is any of the HH members works in fishing during the last 12 months?
Section 9: Agriculture and fishing activities	Q0925	Owner of the boat you work on?
Section 9: Agriculture and fishing activities	Q0926	What kind of technologies do you use for fishing?
Section 9: Agriculture and fishing activities	Q0927	Does the boat you work on allow for overnight fishing?
Section 9: Agriculture and fishing activities	Q0928	Does the boat have storage facility?
Section 9: Agriculture and fishing activities	Q0929	What is the total storage capacity of the boat(KG)
Section 9: Agriculture and fishing activities	Q0930	Do you use any referigeration facilities?
Section 9: Agriculture and fishing activities	Q0931_1	Expenses on (Worker fees(cash&in-kind))during the past 12 months
Section 9: Agriculture and fishing activities	Q0931_2	Expenses on (Ice)during the past 12 months
Section 9: Agriculture and fishing activities	Q0931_3	Expenses on (Repair and maintenance of nets and traps)during the past 12M
Section 9: Agriculture and fishing activities	Q0931_4	Expenses on (Boat Fuel and repair and maintenance of boat)during the past
Section 9: Agriculture and fishing activities	Q0931_5	Expenses on (Boat rent (cash))during the past 12 months
Section 9: Agriculture and fishing activities	Q0931_6	Expenses on (Transportation of fish to market)during the past 12 months
Section 9: Agriculture and fishing activities	Q0931_7	Expenses on (Services(technical assistance))during the past 12 months
Section 9: Agriculture and fishing activities	Q0931_8	Expenses on (Other)during the past 12 months
Section 9: Agriculture and fishing activities	Q0931_9	Expenses on (Total)during the past 12 months
Section 9: Agriculture and fishing activities	Q0932_1	Receive from (Proceeds from sale of fish) during the past 12 months
Section 9: Agriculture and fishing activities	Q0932_2	Receive from (Value of fish,shrimp consumed in household) during the past
Section 9: Agriculture and fishing activities	Q0932_3	Receive from (Value of fish given away as gift, charity,barter) during the past

Section	Variable	Label
Section 9: Agriculture and fishing activities	Q0932_4	Receive from (Value of fish used for drying) during the past 12 months
Section 9: Agriculture and fishing activities	Q0932_5	Receive from (Value of fish sauce) during the past 12 months
Section 9: Agriculture and fishing activities	Q0932_6	Receive from (Value of fish used for animal feed) during the past 12 months
Section 9: Agriculture and fishing activities	Q0932_7	Receive from (Value of fish used for other) during the past 12 months
Section 9: Agriculture and fishing activities	Q0932_8	Receive from (Total) during the past 12 months
Section 13: Loans and credits	Q1301	Does the HH have outstanding loans,debts to the others
Section 13: Loans and credits	Q1312	If the HH need a loan can get it?
Section 13: Loans and credits	Q1313	From which source they can get the Loan

2. Data file: S01_INDIV

Section	Variable	Label
	HH_ID	*Household identification number*
	Weight	*Sampling weight*
	Stratum	*Stratum*
	Cluster	*Cluster number*
KEY INFORMATION	*Govern*	*Governorate code*
	Area	*Area (Urban / Rural)*
	Month	*Survey month*
	HH_size	*Size of the household*
Section 1: Demographic Information	**IND_ID**	Individual identification number
Section 1: Demographic Information	Q0102	Sex
Section 1: Demographic Information	Q0103M	Age(months)
Section 1: Demographic Information	Q0103Y	Age(year)
Section 1: Demographic Information	Q0104M	Birth date(months)
Section 1: Demographic Information	Q0104Y	Birth date(year)
Section 1: Demographic Information	Q0105	Relationship
Section 1: Demographic Information	Q0106	Nationality
Section 1: Demographic Information	Q0107	Born in this place
Section 1: Demographic Information	Q0108_V	Village/City of birth
Section 1: Demographic Information	Q0108_D	District of birth
Section 1: Demographic Information	Q0108_G	Governorate/Countery of birth
Section 1: Demographic Information	Q0109	Marital Status
Section 1: Demographic Information	Q0110	Spouse's id code
Section 1: Demographic Information	Q0111	Mother id
Section 1: Demographic Information	Q0112	Father id
Section 1: Demographic Information	Q0113	Person away from HH during the past 12 months
Section 1: Demographic Information	Q0114	Reasons for been away
Section 1: Demographic Information	Q0115	Number of months been away during the past 12 months
Section 4. Health	Q0401	Suffer from a disability or chroinc illness
Section 4. Health	Q0402	Kind of disability
Section 4. Health	Q0403	Kind of chroinc illness
Section 4. Health	Q0404	How did name become disabled or chronically ill
Section 4. Health	Q0405	When did name become disabled or chronically ill YEAR
Section 4. Health	Q0406_1	Source of support (1)
Section 4. Health	Q0406_2	Source of support (2)
Section 4. Health	Q0406_3	Source of support (3)
Section 4. Health	Q0406_4	Source of support (4)
Section 4. Health	Q0406_5	Source of support (5)
Section 4. Health	Q0406_6	Source of support (6)
Section 4. Health	Q0406_7	Source of support (7)
Section 4. Health	Q0407	Was(name) sufferd from an accident or illness during the past month(not include
Section 4. Health	Q0408	What type of illness or accident did name suffer during the last month (illnesses
Section 4. Health	Q0409	What type of illness or accident did name suffer during the last month (accidents
Section 4. Health	Q0410	Did name receive medical care because of this illness or accident
Section 4. Health	Q0411_1	Where did receive medical care
Section 4. Health	Q0411_2	Establishment name
Section 4. Health	Q0412	Where is this health facility?
Section 4. Health	Q0413_1	Transportation cost to the health facility(Money spent during past month)
Section 4. Health	Q0413_2	Medicine's cost(Money spent during past month)
Section 4. Health	Q0413_3	Medical fees(Money spent during past month)
Section 4. Health	Q0413_4	Total(Money spent during past month)
Section 4. Health	Q0414	Why(name) didn't receive medical care for this illness or accident?

Section 4. Health	Q0415	Does name smoke?
Section 4. Health	Q0416	Does name chew qat?
Section 4. Health	Q0417	How many days does name chew
Section 4. Health	Q0418	Has the name been exposed to chemical fertilizer or pesticides during the past
Section 4. Health	Q0419	Has name ever suffered from a lesion/diseas due to job
Section 4. Health	Q0420_1	type of diseases(job related)
Section 4. Health	Q0420_2	type of injuries from accidents(job related)
Section 4. Health	Q0421	With regard to the worst accident/disease/injury, how severe was it?
Section 4. Health	Q0422	Do you regulary see a health professional?
Section 4. Health	Q0423	Recived any medical care during delivery(women 10-49 ever married)
Section 4. Health	Q0424	Suffered from delivery complication(women 10-49 ever married)
Section 4. Health	Q0425	Currently pregnant(women 10-49 ever married)
Section 4. Health	Q0426	Depended totaly on breast feeding the first six months(child 5 years and less)
Section 4. Health	Q0427	Has the child immunization(child 5 years and less)
Section 4. Health	Q0428	Does (child) have immunization card(child 5 years and less)
Section 4. Health	Q0429	Has the child taken TB vaccination(child 5 years and less)
Section 4. Health	Q0430	Has the child taken Polio vaccination(child 5 years and less)
Section 4. Health	Q0431	How many times the child take vaccination against Polio(child 5 years and less)
Section 4. Health	Q0432	Has the child taken DPT(child 5 years and less)
Section 4. Health	Q0433	How many times the child take vaccination against DPT(child 5 years and less)
Section 4. Health	Q0434	Has the child taken measle(child 5 years and less)
Section 4. Health	Q0435	Has the child taken hapatities(child 5 years and less)
Section 5. Education	Q0501	Attended school
Section 5. Education	Q0502	Reasons not attended school
Section 5. Education	Q0503	ead and write
Section 5. Education	Q0504	Ever attended literacy classes
Section 5. Education	Q0505_C	Last class the name complete it succefuly
Section 5. Education	Q0505_L	Educational level
Section 5. Education	Q0506	What's the highest grade (name) has completed?
Section 5. Education	Q0507	Years the name spend in studying including the repating
Section 5. Education	Q0508	Currently enrolled in school or other educational organization
Section 5. Education	Q0509	Was name enrolled in school in the past 12 months
Section 5. Education	Q0510_C	Class is currently enrolled in school
Section 5. Education	Q0510_L	Educational level
Section 5. Education	Q0511	Write the school name which (name) currently enrolled
Section 5. Education	Q0512	School Type
Section 5. Education	Q0513	Old was (name) when entered first class
Section 5. Education	Q0514	Is (name) still enrolled in school, unversity or droped out
Section 5. Education	Q0515	The main reason for dropped out or not enrolled
Section 5. Education	Q0516	Receive a scholarship and/or financial assistance from out of the household
Section 5. Education	Q0517	Receive in total value of all benefts from out of school in the past 12 months
Section 5. Education	Q0518	Receive in total value of all benefts from school in the past 12 months
Section 5. Education	Q0519_1	HH Spend on education in the past 12 months(School fees)
Section 5. Education	Q0519_2	HH Spend on education in the past 12 months(Uniform school)
Section 5. Education	Q0519_3	HH Spend on education in the past 12 months(sport clothes)
Section 5. Education	Q0519_4	HH Spend on education in the past 12 months(Books and school supplies)
Section 5. Education	Q0519_5	HH Spend on education in the past 12 months(Food, board and lodging)
Section 5. Education	Q0519_6	HH Spend on education in the past 12 months(Transport)
Section 5. Education	Q0519_7	HH Spend on education in the past 12 months(Others)
Section 5. Education	Q0519_8	HH Spend on education in the past 12 months(Total)
Section 8. Unemployment and job search	Q0801	Working houres during the past seven days
Section 8. Unemployment and job search	Q0802	Reasons for not working during the past seven days
Section 8. Unemployment and job search	Q0803	don't want more work (exclude household work in won home)
Section 8. Unemployment and job search	Q0804	Why don't you want want work(more work)
Section 8. Unemployment and job search	Q0805	When did you last take any action to look for work of any type
Section 8. Unemployment and job search	Q0806_1	Steps to find work or more work (first answer)
Section 8. Unemployment and job search	Q0806_2	Steps to find work or more work (2nd answer)
Section 8. Unemployment and job search	Q0806_3	Steps to find work or more work (3nd answer)
Section 8. Unemployment and job search	Q0806_4	Steps to find work or more work (4nd answer)
Section 8. Unemployment and job search	Q0807	Was this person a wage job during the past 12 munths
Section 8. Unemployment and job search	Q0808	Have you ever had a full-time wage job
Section 8. Unemployment and job search	Q0809	Type of anther work did the person do before the last 12 months
Section 8. Unemployment and job search	Q0810_M	When (month) did the person stop the last full time job he had?
Section 8. Unemployment and job search	Q0810_Y	When (years) did the person stop the last full time job he had?

3. Data file: S02_Entreprises

Section	Variable	Label
KEY INFORMATION	*HH_ID*	*Household identification number*
	Weight	*Sampling weight*
	Stratum	*Stratum*
	Cluster	*Cluster number*
	Govern	*Governorate code*
	Area	*Area (Urban / Rural)*
	Month	*Survey month*
	HH_size	*Size of the household*
Section 2. Activities	**ENT_NB**	Entreprise Number
Section 2. Activities	Q0205	Activity Code
Section 2. Activities	Q0206_1	Person ID (Main responsible)
Section 2. Activities	Q0206_2	Person ID (2nd responsible)
Section 2. Activities	Q0206_3	Person ID (3rd responsible)
Section 2. Activities	Q0206_4	Person ID (4th responsible)
Section 2. Activities	Q0206_5	Person ID (5th responsible)

4. Data file: S02_Jobs

Section	Variable	Label
KEY INFORMATION	*HH_ID*	*Household identification number*
	Weight	*Sampling weight*
	Stratum	*Stratum*
	Cluster	*Cluster number*
	Govern	*Governorate code*
	Area	*Area (Urban / Rural)*
	Month	*Survey month*
	HH_size	*Size of the household*
Section 2. Activities	**IND_IN**	Individual ID
Section 2. Activities	**JSN**	Job serial number
Section 2. Activities	Q0201	Occupation Code
Section 2. Activities	Q0202	Type of work
Section 2. Activities	Q0202_C	Enterprise code
Section 2. Activities	Q0203_T	Number of working months (during the past 12 months)
Section 2. Activities	Q0203_01	January
Section 2. Activities	Q0203_02	February
Section 2. Activities	Q0203_03	March
Section 2. Activities	Q0203_04	April
Section 2. Activities	Q0203_05	May
Section 2. Activities	Q0203_06	June
Section 2. Activities	Q0203_07	July
Section 2. Activities	Q0203_08	August
Section 2. Activities	Q0203_09	September
Section 2. Activities	Q0203_10	October
Section 2. Activities	Q0203_11	November
Section 2. Activities	Q0203_12	December
Section 2. Activities	Q0204_1	Working hours on Saturday
Section 2. Activities	Q0204_2	Working hours on Sunday
Section 2. Activities	Q0204_3	Working hours on Monday
Section 2. Activities	Q0204_4	Working hours on Tuesday
Section 2. Activities	Q0204_5	Working hours on Wednesday
Section 2. Activities	Q0204_6	Working hours on Thursday
Section 2. Activities	Q0204_7	Working hours on Friday
Section 2. Activities	Q0204_T	Total number of Working hours during the past week

5. Data file: S07_Wage

Section	Variable	Label
KEY INFORMATION	**HH_ID**	*Household identification number*
	Weight	*Sampling weight*
	Stratum	*Stratum*
	Cluster	*Cluster number*
	Govern	*Governorate code*
	Area	*Area (Urban / Rural)*
	Month	*Survey month*
	HH_size	*Size of the household*
Section 7. Wage earnings	**IND_ID**	Individual ID
Section 7. Wage earnings	**JSN**	Job serial number from field (q201)
Section 7. Wage earnings	S0702	Economic Activity
Section 7. Wage earnings	S0703	Economic Sector
Section 7. Wage earnings	S0704	Temporary job funded by the one of the institutions of teh social security netw
Section 7. Wage earnings	S0705	Program funded temporary job
Section 7. Wage earnings	S0706	Hours of work (hrs/week)
Section 7. Wage earnings	S0707M	Since when have (name) worked for this employer (months)
Section 7. Wage earnings	S0707Y	Since when have (name) worked for this employer (years)
Section 7. Wage earnings	S0708	How to get the job
Section 7. Wage earnings	S0709	Period of getting salery
Section 7. Wage earnings	S0710_1	Benefts getting from job (Health care coverage)
Section 7. Wage earnings	S0710_2	Benefts getting from job (Pension)
Section 7. Wage earnings	S0710_3	Benefts getting from job (Paid leave)
Section 7. Wage earnings	S0711	Last pay (Riyals)
Section 7. Wage earnings	S0712	Usual amount (Riyals)
Section 7. Wage earnings	S0713	Total additional fees either in cash or in-kind (Riyals)

6. Data file: S09_Crops

Section	Variable	Label
KEY INFORMATION	**HH_ID**	*Household identification number*
	Weight	*Sampling weight*
	Stratum	*Stratum*
	Cluster	*Cluster number*
	Govern	*Governorate code*
	Area	*Area (Urban / Rural)*
	Month	*Survey month*
	HH_size	*Size of the household*
Section 9: Agriculture and fishing activities	**S09_CC**	Crop code
Section 9: Agriculture and fishing activities	S0911	1 Yes
Section 9: Agriculture and fishing activities	S0912_Q	How much did you produce (Quantity)
Section 9: Agriculture and fishing activities	S0912_U	How much did you produced (Unit)
Section 9: Agriculture and fishing activities	S0913	How much did you sell or expect to sell (Quantity)?
Section 9: Agriculture and fishing activities	S0914	Price per units specilized in Q.(912) Riyals/Unit
Section 9: Agriculture and fishing activities	S0915	Total sales (Riyals)

7. Data file: S09_Type Of Land

Section	Variable	Label
KEY INFORMATION	**HH_ID**	*Household identification number*
	Weight	*Sampling weight*
	Stratum	*Stratum*
	Cluster	*Cluster number*
	Govern	*Governorate code*
	Area	*Area (Urban / Rural)*
	Month	*Survey month*
	HH_size	*Size of the household*
Section 9: Agriculture and fishing activities	**Q0904**	Type of ownership
Section 9: Agriculture and fishing activities	Q0905	Area of the plots
Section 9: Agriculture and fishing activities	Q0906	ID CODE of owner
Section 9: Agriculture and fishing activities	Q0907	Expected amount for similar land
Section 9: Agriculture and fishing activities	Q0908	Number of cultivated seasons during the past 12 months
Section 9: Agriculture and fishing activities	Q0909	Cultivited area of this holding during the past 12 months

8. Data file: S11_Other Income

Section	Variable	Label
KEY INFORMATION	**HH_ID**	*Household identification number*
	Weight	*Sampling weight*
	Stratum	*Stratum*
	Cluster	*Cluster number*
	Govern	*Governorate code*
	Area	*Area (Urban / Rural)*
	Month	*Survey month*
	HH_size	*Size of the household*
Section 10: Private Business Activities	**ENT_NB**	Enterprise Number
Section 10: Private Business Activities	S10_LN	Line number (Cost / Revenue / others)
Section 10: Private Business Activities	S10_AMNT	Cost / Number

9. Data file: S11_Other Income

Section	Variable	Label
KEY INFORMATION	**HH_ID**	*Household identification number*
	Weight	*Sampling weight*
	Stratum	*Stratum*
	Cluster	*Cluster number*
	Govern	*Governorate code*
	Area	*Area (Urban / Rural)*
	Month	*Survey month*
	HH_size	*Size of the household*
Section 11: Other income	**IND_ID**	Individual ID
Section 11: Other income	**S11_SC**	Source code
Section 11: Other income	S11_INCOME	Income during 12 months (Riyals)

10. Data file: S12_Durables

Section	Variable	Label
KEY INFORMATION	**HH_ID**	*Household identification number*
	Weight	*Sampling weight*
	Stratum	*Stratum*
	Cluster	*Cluster number*
	Govern	*Governorate code*
	Area	*Area (Urban / Rural)*
	Month	*Survey month*
	HH_size	*Size of the household*
Section 12: Inventory of durable goods	**Q1201C**	Durable good
Section 12: Inventory of durable goods	Q1201N	Number owned
Section 12: Inventory of durable goods	Q1202	The cost if presented (Riyals)

11. Data file: S13_Credits

Section	Variable	Label
	HH_ID	*Household identification number*
	Weight	*Sampling weight*
	Stratum	*Stratum*
KEY INFORMATION	*Cluster*	*Cluster number*
	Govern	*Governorate code*
	Area	*Area (Urban / Rural)*
	Month	*Survey month*
	HH_size	*Size of the household*
Section 13: Loans and credits	**LN**	Loan number
Section 13: Loans and credits	Q1302	Source of the loan
Section 13: Loans and credits	Q1303	Main reason for borrowed the money
Section 13: Loans and credits	Q1304_M	When you get the loan? (month)
Section 13: Loans and credits	Q1304_Y	When you get the loan? (year)
Section 13: Loans and credits	Q1305	Period in months to settle the loan
Section 13: Loans and credits	Q1306	What was the total amount of the loan? (no interset(
Section 13: Loans and credits	Q1307	What's the type of loan?
Section 13: Loans and credits	Q1308_C	How everage monthly/YY/TOT interest? (code)
Section 13: Loans and credits	Q1308_R	How everage monthly/YY/TOT interest? (Average %)
Section 13: Loans and credits	Q1309	How much estimited amount from loan payment (including interests)?
Section 13: Loans and credits	Q1310_1	Person (1) ID of HH responsible for paying-back
Section 13: Loans and credits	Q1310_2	Person (2) ID of HH repbonsible for paying-back
Section 13: Loans and credits	Q1310_3	Person (3) ID of HH responsible for paying-back
Section 13: Loans and credits	Q1311	Could you borrow from the same source again

12. Data file: S06_Anthropo

Section	Variable	Label
	HH_ID	*Household identification number*
	Weight	*Sampling weight*
	Stratum	*Stratum*
KEY INFORMATION	*Cluster*	*Cluster number*
	Govern	*Governorate code*
	Area	*Area (Urban / Rural)*
	Month	*Survey month*
	HH_size	*Size of the household*
Section 6: Anthropometrics	**IND_ID**	Individual ID
Section 6: Anthropometrics	MEASURED	Was the (name) measured?
Section 6: Anthropometrics	REASON	Reason not measured
Section 1:	Gender	Gender
Calculated	AgeMonths	Age in months
Section 6: Anthropometrics	Q0604_H	Height in CM from S6
Section 6: Anthropometrics	Q0606_W	Weight in KG from S6
Calculated	ZWA	ZScore Weight by Age
Calculated	ZSA	ZScore Stature by Age
Calculated	ZWS	ZScore Weight by Stature
Calculated	BMI	Body mass index
Section 1:	DoB_M	Birth date (Months)
Section 1:	DoB_Y	Birth date (Year)
Calculated	ACTION	Action proposed'
Calculated	HEIGHT_CM	Height CM
Calculated	WEIGHT_KG	Weight KG

13. Data file: S14_Diary

Section	Variable	Label
KEY INFORMATION	*HH_ID*	*Household identification number*
	Weight	*Sampling weight*
	Stratum	*Stratum*
	Cluster	*Cluster number*
	Govern	*Governorate code*
	Area	*Area (Urban / Rural)*
	Month	*Survey month*
	HH_size	*Size of the household*
Section 14: Weekly consumption of food	**WEEK**	Week number
Section 14: Weekly consumption of food	**CODE**	Item code
Section 14: Weekly consumption of food	P_AMNT	Purchases (amount in Ryals)
Section 14: Weekly consumption of food	P_QTY	Purchases (quantity)
Section 14: Weekly consumption of food	UNIT	Unit of measurement
Section 14: Weekly consumption of food	C_MKT_Q	Quantity consumed from the Market
Section 14: Weekly consumption of food	C_SELF_Q	Quantity consumed from the Self production
Section 14: Weekly consumption of food	C_GIFT_Q	Quantity consumed from the Gifts
Section 14: Weekly consumption of food	V_SELF_AMNT	Value of what was Self-produced
Section 14: Weekly consumption of food	V_GIFT_AMNT	Value of what was received free
Section 14: Weekly consumption of food	ACTION	ACTION
Calculated	Purch_V	Old or Adjusted value of purchases
Calculated	Purch_Q	Old or Adjusted quantity purchased
Calculated	Consu_Q	Old or Adjusted quantity consumed

14. Data file: S151617_Non-food

Section	Variable	Label
KEY INFORMATION	*HH_ID*	*Household identification number*
	Weight	*Sampling weight*
	Stratum	*Stratum*
	Cluster	*Cluster number*
	Govern	*Governorate code*
	Area	*Area (Urban / Rural)*
	Month	*Survey month*
	HH_size	*Size of the household*
SectionS 15/16 AND 17: Expenditures on Non-Food Services and Commodities	SECT	Section number
SectionS 15/16 AND 17: Expenditures on Non-Food Services and Commodities	CODE	Commodity / Service CODE
SectionS 15/16 AND 17: Expenditures on Non-Food Services and Commodities	UNIT	Measuring Unit
SectionS 15/16 AND 17: Expenditures on Non-Food Services and Commodities	P_QTY	Bought form the market (Quantity)
SectionS 15/16 AND 17: Expenditures on Non-Food Services and Commodities	P_AMOUNT	Bought form the market (Amount)
SectionS 15/16 AND 17: Expenditures on Non-Food Services and Commodities	G_QTY	Gift (Quantity)
SectionS 15/16 AND 17: Expenditures on Non-Food Services and Commodities	G_AMOUNT	Gift (Amount)
SectionS 15/16 AND 17: Expenditures on Non-Food Services and Commodities	T_QTY	Total (Quantity)
SectionS 15/16 AND 17: Expenditures on Non-Food Services and Commodities	T_AMOUNT	Total (Amount)

Appendix 2

**Yemen Household Budget Survey 2005-2006
Sample design**

The 2005-06 Household Budget Survey (HBS) is an important resource to estimate poverty, its proximate causes and effects of public action on poverty. The HBS provides the database for monitoring poverty as Yemen has just started implementing its second PRSP (2006-2010). This is the third HBS since the unification is 1990.

The main objectives of the HBS 2005/2006 are:

1. Producing aggregates of the statistical indicators at the level of the urban and rural communities of each governorate in order to serve the purposes of economic and social development-planning on the central and local levels.

2. Updating the National Accounts estimates in order to enable specialists and development planners to determine each governorate's share in the GDP, through the household's consumption structures.

3. Collecting information about the variation in living standards between the urban and rural communities of each governorate, and between those of different governorates.

Sample Frame and Stratification

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.

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 (*seps*).[4]

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 (see Box 1.) The final sample allocation is as show in Figure 3.

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[4] This design varies significantly from that used for the HBS 1998, where the study community was allocated in 12 strata, 7 of which were urban and 5 were rural, and each stratum consisted of several governorates, except the capital (Sana'a) and the city of Aden, which were considered two distinct urban strata. The sample size of the HBS 1998 was set at 15120 households drawn from 420 PSUs, cluster size was set at 18 households.

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Box 1. Allocation of Sample across Strata

The results of the 1998 Household Budget Survey were used to assign the sample size that needed to obtain accurate data at governorate level. The procedure used in allocating the sample households for the HBS 2004/2005 had the following steps:

1. 50% of the total sample was distributed proportional to the household counts of the strata.

2. 50% of the total sample size was distributed uniformly amongst strata.

3. Since the larger variation of the living conditions in urban communities result in higher expected standard error for these communities (based on data from HBS 1998), the sample was redistributed between urban and rural strata to achieve uniform expected relative standard errors for overall urban and rural strata (RSE 1.1%). The total sample allocation had total of 9,228 urban and 5,172 rural households.

4. 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.

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Figure 3
Yemen Household Budget Survey 2004-2005
Sampling strata, allocation of the sample and
Relative Standard Errors for Per Capita Consumption

Governorate	HH counts (2994)			PSUs			Nominal Sample (HHs)			R S E (%)		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
11 Ibb	50,404	249,674	**300,078**	43	41	**84**	516	492	**1,008**	6.98	11.81	**9.42**
12 Abyan	13,795	42,332	**56,127**	30	18	**48**	360	216	**576**	5.71	7.32	**5.29**
13 Sec. of the Capital	247,668		**247,668**	156		**156**	1,872		**1,872**	4.44		**4.44**
14 Al Baydha	13,424	53,004	**66,428**	29	19	**48**	348	228	**576**	7.70	10.98	**7.95**
15 Taiz	79,029	283,521	**362,550**	56	40	**96**	672	480	**1,152**	6.14	10.13	**7.51**
16 Al Jawf	7,682	47,940	**55,622**	22	14	**36**	264	168	**432**	7.51	13.52	**11.33**
17 Hajjah	17,416	174,819	**192,235**	30	30	**60**	360	360	**720**	10.93	8.79	**7.73**
18 Al Hodiedah	109,974	236,347	**346,321**	75	33	**108**	900	396	**1,296**	7.07	5.85	**4.52**
19 Hadramout	56,084	63,137	**119,221**	41	19	**60**	492	228	**720**	17.92	24.68	**15.67**
20 Dhamar	24,639	161,267	**185,906**	31	29	**60**	372	348	**720**	11.92	5.98	**5.40**
21 Shabwah	8,657	41,101	**49,758**	21	15	**36**	252	180	**432**	7.83	13.94	**11.75**
22 Saadah	13,620	70,513	**84,133**	28	20	**48**	336	240	**576**	5.41	5.65	**4.77**
23 Sanaa		116,086	**116,086**		24	**24**		288	**288**		6.76	**6.76**
24 Aden	89,605		**89,605**	72		**72**	864		**864**	4.61		**4.61**
25 Lahaj	9,057	93,661	**102,718**	25	23	**48**	300	276	**576**	8.21	10.18	**8.82**
26 Marib	3,728	23,653	**27,381**	22	14	**36**	264	168	**432**	9.21	13.34	**10.79**
27 Al Mahweet	4,647	63,785	**68,432**	27	21	**48**	324	252	**576**	4.61	5.48	**5.00**
28 Al Mahrah	5,459	5,705	**11,164**	12	12	**24**	144	144	**288**	14.90	12.38	**9.63**
29 Amran	19,073	85,919	**104,992**	27	21	**48**	324	252	**576**	6.86	4.91	**4.23**
30 Al Dhalea	8,094	51,010	**59,104**	22	14	**36**	264	168	**432**	11.21	6.54	**5.84**
31 Raimah		55,086	**55,086**		24	**24**		288	**288**		6.40	**6.40**
Total	**782,055**	**1,918,560**	**2,700,615**	**769**	**431**	**1,200**	**9,228**	**5,172**	**14,400**	**2.49**	**2.98**	**2.07**