Steps to constructing the new DHS Wealth Index

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Step 0: The wealth index is based on household data. However, there are three variables that may be created from the individual interview file: whether the household has one or more domestic servants ("Domestic"), whether any household member works their own or their families agricultural land ("Land"), and whether any household member owns a dwelling unit ("House") . Determine if the survey that will be used is raw data or standard recode. Create a folder for the wealth index process. Download the data dictionaries and data files for the household and individual questionnaires. I use CSPRO, which has the hierarchical file. If there is a man's questionnaire, download that dictionary and data as well.

Step 1: **Review the questionnaire and data dictionary** for the household survey (as well as any other documentation such a frequencies, recode doc.) to determine which variables are to be used for the wealth index, including country-specific variables. Normally included are: Source of drinking water, type of toilet, sharing of toilet facilities, material of principal floor, walls, roof, cooking fuel, household services and possessions, such as electricity, TV, radio, watch, types of vehicles, agricultural land size owned, type and number of animals owned, bank account, types of windows. The items vary somewhat between surveys as well as the categories of the core questionnaire items. All of these items will be used to distinguish one household from another so that "lumpiness" in the wealth distribution is reduced. However, since the wealth index is an indicator of the household's economic status, type of area, level of education, occupation (other than domestic servant), are NOT included since they are determinants of health status in their own right and are used along with the wealth index.

Step 2: **Create the three variables, Domestic, Land, House** from the individual data and export all relevant variables to SPSS, along with the household ID.

> **2 a: Create the variables DOMESTIC, LAND, AND HOUSE**. There various sources of information depending on the survey and its codes.

DOMESTIC: At the household level, set DOMESTIC =0. If there is a code for domestic servant in the relationship to the head of the household variable (HV101 in the household standard recode file), go through the household members and set DOMESTIC =1 if any member has that code. If the relationship to the head of the household does not have a code for domestic servant, go through the individual data file using the woman's occupation (V717 in individual standard recode). If she has code 6 ("Household and domestic") and her relationship to the head of the household is "not related", the set DOMESTIC =1. Where the proper codes are available in V716, that variable can also be used. Also check country-specific occupations for domestic and household worker categories or use personal services if the domestic and household worker occupation is not given in any of the variables. For raw data individual files, the proper codes need to be used. Then repeat for the woman's partner (V704 and V705 individual recode) and checking to make sure he is unrelated to the head of the household. If there is a

man's questionnaire, do the same using the appropriate variables from the men's individual data. Note that DOMESTIC is coded either 0 (no domestic servant) or 1 (domestic servant), no matter how many servants are in the household or the source of the information. Also note that all domestic servants should not be related to the head of the household.

LAND: Set LAND=0. Using the women's and men's individual data sets, set LAND =1 if the woman works her own or family's land (in the standard recode, V740=0 or 1). Also set LAND = 1, if the man works his own or family's land. Be sure to check for country-specific questions on land ownership. Note: if agricultural land ownership is asked about in the household questionnaire, do not use the created Land variable.

HOUSE: Set HOUSE=0. If there is a country-specific item on ownership of dwelling in the individual woman's or men's individual questionnaire, set HOUSE = 1.

Additional variables that need to be created if using the raw data files: HV009, HV012, HV013:

HV009 is the number of persons listed in the household schedule (usually qhsec01).

HV012 is the number of de jure persons listed in the household schedule (usually qhsec01 where qh05 =1).

HV013 is the number of de facto persons listed in the household schedule (usually qhsec01 where qh06=1).

Notes:

1. For raw data files, the appropriate variables and codes will have to be used upon reviewing the questionnaires.

2. These variables may also be created using non-hierarchical files by aggregating over the individual data belonging to the same household.

2b. Export the created variables and household data necessary for creating the wealth index.

Export the variables for the household ID (HHID in the standard recode), urban-rural location, household weight, HV009, HV012, HV013, the household characteristics (RECH1 and RECH3 in the standard recode and qhsec02 in the raw data file), and DOMESTIC, LAND, and HOUSE. Before exporting, select for interviewed households (HV015=1 in the standard recode, QHRESULT=1 in the raw data).

Step 3: Import the data file into SPSS (or other data analysis program capable of factor or principal components analysis) and create the wealth index indicator variables. Assign variable and value labels to each of the created indicator variables.

3a: Import the data file and save it under a new name such as assetsxxnn.sav, where xx is the country code and nn is the survey year.

3b: Indicator construction

1. Run frequencies for all categorical variables to be used in the factor analysis (also known as principal components analysis—PCA). Base the construction of the PCA indicator variables on these frequencies since not all categories may have been used. There is no need to construct indicator variables for empty categories. Also note whether there are additional categories to those in the questionnaire since some may have been created at the data entry stage from "other" answers.

2. From categorical variables, such as source of drinking water, roofing materials, etc., generate dichotomous (0-1) variables for each category of the categorical variables. Set the indicator variable to 1 if household is in that category and 0 otherwise. The "other" category is made into an indicator variable but the missing and DK categories are not. Specific variable instructions:

   a. Source of drinking water—each category is a separate indicator variable except that surface water sources (lakes, ponds, rivers, streams, etc.) is combined into one indicator variable if they are separate categories.

   b. Type of toilet and sharing of toilets—there have been two approaches used. The first is to create indicator variables for each type of toilet category and a separate indicator variable for whether the toilet is shared with other households (1 if shared, 0 if not shared or question is not applicable). The second approach is to create a set of indicator variables for each category of toilet that is shared. For example in this approach, there is an indicator variable for non-shared flush toilet connected to the sewer system and another for shared flush toilet connected to the sewer system, so that the household has a 1 value for only one of the indicator variables. In this approach the shared toilet variable should not be used in the principal components analysis. This second approach provides slightly more information on which to base the wealth index but the effect is not large.

   c. Type of floor, wall, and roof materials—Natural materials are usually combined into a single material—earth, sand, dung floors; cane, palm leaves, sod roofs; and cane, palm, trunks, brush and mud walls.

3. Use of yes-no original variables, whether standard or country-specific—these variables are recoded so that a 1 indicates if the household has a "yes" answer to the question and 0 if it does not have a "yes" answer. The 0 category includes "no" answers (coded 0 in standard recode datasets and 2 in raw datasets), missing, DK and not applicable responses.

4. Members per sleeping room—This variable is a continuous variable in the PCA. To construct members per sleeping room divide the number of de jure members

(HV012) by the number of sleeping rooms (HV216 in the standard recode). If there are no de jure members, use the number of de facto members instead. (Note if there are no de facto members, then the household should have been excluded from the analysis data set). If the number of sleeping rooms is zero, then set the number of sleeping rooms to one since household members have to sleep somewhere. If the question on sleeping rooms is not asked but a question on number of rooms is asked, use that question instead. If the number of sleeping rooms or persons is missing or DK, set the value of the variable to missing. (Mean substitution for missing values will be used in the PCA.)

5. Agricultural land—In later DHS surveys, whether the household owned agricultural land and the amount of land owned was asked. If this is the case, create a continuous landarea variable for the PCA indicating the amount owned. If the household does not own agricultural land then code 0 in the landarea indicator variable. In some surveys, the unit of measurement varies and will have to be converted to a single unit. If the amount is missing then the created landarea variable is set to missing.

6. Farm animals (livestock)—Also in later DHS surveys, households were asked whether they possessed farm animals and if so the numbers of different types were asked, the types varying by country. Similarly to agricultural land, code a continuous indicator variable for each type of farm animal. All farm animal indicator variables should be set to 0 if the household has no farm animals. If the numbers of each type of animal is missing or DK, then set the indicator variable to missing. There should be no 'not applicable' code for the farm animal indicator variables since this code is incorporated as 0.

7. Run the frequencies on all the created indicator variables, compare with the original frequencies, and correct any discrepancies.

8. Save the data file and syntax file.

Step 4: Generation of household wealth scores

There are four substeps to generating the household wealth scores. All are run with no weights.

4a: Elimination of indicator variables with no variation, usually due to no cases.

Put all indicator variables into a factor analysis, making sure that the option for univariate descriptives is used (/PRINT UNIVARIATE in SPSS). If the analysis fails, check the standard deviation for each indicator variable and delete from the factor analysis syntax all variables with zero standard deviation, meaning that there is no variation for that variable. Also check the missing value number of cases to make sure that there are no unexpected numbers, remembering that small numbers

of missings may be expected for a few of the indicator variables, especially the continuous variables, which will be assigned the mean value for that variable.

4b: Factor analysis of common variables

For the common wealth score, using the indicator variables successfully run in step 4a, select the subset indicator variables which are thought to have the same relationship with the underlying economic status dimension in both urban and rural areas and select out those that do not apply to one or another area or are thought to indicate different levels of wealth. An example is number of chickens since having a few chickens in an urban area may indicate a poor urban household compared to those with no chickens while in rural areas having some chickens may indicate a household that is wealthier than one with no chickens. The selection of which variables to be included in the common factor analysis is based on one's understanding and experience. The factor analysis should be run with the following options: principal components extraction using correlation method with one factor extracted, substitution of mean for missing values, estimation of the factor scores using the regression method, saving of the factor scores for each household onto the data file using the name COM, printing of univariate descriptives, initial and extracted communalities, and factor score coefficient. The data should be unweighted.

4c. Factor analysis for urban areas

For the urban wealth score, first select the cases of the data file for urban areas. Then for the urban factor analysis, , select the subset indicator variables which are thought to be relevant to urban areas again using the indicator variables successfully run in step 4a. Rural-type indicators may also be relevant in urban areas but with a different relationship to wealth. The selection of which variables to be included in the urban factor analysis is again based on one's understanding and experience. Run the factor analysis as for the common variables in 4b. above but changing the name of the saved factor score variable to URB. If an indicator variable has no standard deviation, it should be deleted from the analysis. The data should be unweighted.

4d. Repeat factor analysis for rural areas

Remember to start with the variable list from step 4a since some indicator variables may be relevant for rural areas even though there are no cases for urban areas.

Step 5: Estimation of composite wealth scores

Save the syntax, data and output files. The factor score values will now be in the data set from the common variables (COM1 in SPSS) for all cases, from the urban factor analysis (URB1) in the set of cases in urban areas with missing values for rural areas, and from rural factor analysis (RUR1) in the rural set of cases with missing values for urban areas. The urban and rural wealth scores will be regressed on the common wealth scores to obtain the parameters to estimate the composite wealth score.

5a. Urban and rural regressions

Select urban area cases. Run a regression with the common factor score (COM1) as the dependent variable and the urban area factor score (URB1) as the independent variable. The data should be unweighted. Note the constant term and the coefficient. Also check the significance of the regression and terms. They should be highly significant.

Repeat for rural areas selecting rural cases using the rural area factor score (RUR1) as the independent variable.

5b. Calculate combined score

Using all cases, **f**irst make a new variable for the combined score, COMBSCOR, with five decimal places and set it equal to 0. Then for each area calculate the combined score using the appropriate urban or rural factor scores, constants and coefficients obtained in substep 5a.

Step 6: Calculate the wealth quintiles and their cutpoints.

6a. Calculate weighted number of household members

Multiply the number of dejure household members by the household sampling weight divided by 1,000,000 to obtain a variable called HHMEMWT. Set the analysis sample weight equal to HHMEMWT. If there are no dejure members, use the number of defacto household members.

6b. Divide the factor scores into five equal parts (quintiles)

There are two ways to achieve the quintiles. Using the appropriate wealth score, determine the weighted cumulative percentage distribution of the wealth score, determine the wealth score values that correspond to the four cut point values of the quintiles (<20%, <40%, <60%, and <80%). Create a new variable for the quintiles and recode for those wealth score values less than or equal to the first cutpoint , greater than the first and less than or equal to the second cutpoint, greater than the second and less than or equal to the third cutpoint, greater than the third and less than or equal to the fourth cutpoint, and greater than the fourth cutpoint. In most cases, the cumulative distribution will not be smooth at 20%, 40% and so on, such that a single wealth score value may increase the cumulation by several percentage points. In this case, use the value of the cutpoint that is immediately below 20%, 40%, and so on.

For the combined score quintiles use all cases and the COMBSCOR variable to create the quintile variable NCOMBSCO.   For urban quintiles, select for just urban areas and use the URB1 variable to create NURB1. For rural quintiles, select for just rural areas and use the RUR1 variable to create NRUR1.

An alternative procedure in SPSS is to use the RANK command with the option for five ntiles and ties set to the mean. The procedure automatically adds the above name quintile variables to the data file.

Save the syntax, data, and output files.

Step 7: Check on the quintile distributions

7a. Run frequency distributions on the quintile variables weighted by HHMEMWT as check. The percents for each quintile values should be very close 20%.

7b. Distribute the indicator variables by the quintiles

Change the sample weighting to the household weight. Select all cases. Crosstabulate all the indicator variables by NCOMBSCOR. Pivot the table so that percentages are in the cells, indicator variables in rows and quintiles are in columns. Change cells so that all are with 2 decimals . Check to see if each indicator variable is related to the wealth quintiles in the expected directions (e.g. percent with a TV increases with quintile, percent with a refrigerator are mostly in the top two quintiles, etc.). Be especially, sensitive if the quintiles are "flipped" for most variables (e.g. percent with a TV decreases with increasing quintile value). If this is the case, then check the coding of all indicator values to make sure that they haven't been coded 2 and 1 instead of 0 and 1 for no and yes responses. Also check if there are "unusual variables" that may mean different things at various economic levels, such as having a "dacha" in eastern Europe and former Soviet Union nations, where for the poor in urban areas a "dacha" means a garden plot with a shed whereas for the urban rich, a "dacha" means a large country house for vacations. This indicator variable was removed from the factor analysis and the rest of the results were satisfactory.

Step 8:

Turn weighting off. Use all cases. Write out a data file (nnxxscores.dat) with the household ID information, the combined wealth index score and quintile (COMBSCOR AND NCOMBSCOR), the urban wealth score and quintile (URB1 AND NURB1), and the rural score and quintile (RUR1 and NRUR1). Note the format for the data file.

Close the scores data file. Save the syntax and output files.

Step 9 (optional but useful): Histograms and Gini Coefficient.

9a. Histogram: For a histogram of households, use hweight as the weight variable. For a histogram of the household population, use hhmemwt as the weight variable. In SPSS there are two alternatives: GRAPH and FREQUENCIES:

GRAPH

 /HISTOGRAM(NORMAL)=combscor

 /TITLE= 'Distribution of Households by Wealth Scores Ethiopia 2010'.

Or

FREQUENCIES

 VARIABLES=combscor /FORMAT=NOTABLE

/STATISTICS=STDDEV MEAN

/HISTOGRAM NORMAL

/ORDER= ANALYSIS

The FREQUENCIES procedure adds a normal curve to the histogram but requires that the label be changed in the output after tabulation.

9b.

Appendix: Syntax examples

Example CSPRO syntax for exporting Tanzania raw data file to SPSS:

```
{Application 'CSEXPORT' logic file generated by CSPro }

PROC GLOBAL

numeric i;
file SPSS_EXPORT;

PROC TZIQ60_FF


PROC HOUSEHOLD

preproc

domestic=0;house=0;land=0;

if qhresult<>1 then skip case;endif;
hv012=0; hv013=0;hv009=soccurs(qhsec01);
i=1;while i<= soccurs(qhsec01) do

  if qh05(i)=1 then hv012=hv012+1;endif;
  if qh06(i)=1 then hv013=hv013+1;endif;

i=i+1;enddo;

postproc


set behavior() export ( SPSS , ItemOnly );

export to SPSS_EXPORT case_id (QHclust, qhnumber)
        qhweight,qhtype,HV009, HV012, HV013, qhsec02, domestic,
house, land ;


proc INDIVIDUAL

preproc

if q811=913 and qh03(qline)=12   then domestic=1;endif;
if q806=913 and qh03(qline)=12   then domestic=1;endif;
if q826a>=1 and q826a<=3         then house=1;endif;
if q826b>=1 and q826b<=3 then land=1;endif;
```

Example SPSS syntax for raw data (Ethiopia 2010):

```
DATA LIST FILE='C:\HNP2A\ETHIOPIA 2010\EXPORTEDET10' RECORDS=1
 /
 QHCLUST      1-3
 QHNUMBER     4-6
 QHWEIGHT     7-14
 QHTYPE       15-15
 HV009        16-18
 HV012        19-21
 HV013        22-24
 QH101        25-25
 QH102        26-27
 QH102A       28-29
 QH103        30-30
 QH104        31-33
 QH104A       34-34
 QH105        35-35
 QH106        36-42    (A)
 QH107        43-44
 QH108        45-45
 QH109        46-47
 QH110A       48-48
 QH110B       49-49
 QH110C       50-50
 QH110D       51-51
 QH110E       52-52
 QH110F       53-53
 QH110G       54-54
 QH110H       55-55
 QH110I       56-56
 QH110J       57-57
 QH110K       58-58
 QH110L       59-59
 QH111        60-61
 QH112        62-62
 QH113        63-63
 QH114        64-65
 QH115        66-67
 QH116        68-69
 QH117        70-71
 QH118A       72-72
 QH118B       73-73
 QH118C       74-74
 QH118D       75-75
 QH119        76-76
 QH120        77-80    (1)
 QH121        81-81
 QH122A       82-83
 QH122B       84-85
 QH122C       86-87
```

```
QH122D      88-89
QH122E      90-91
QH122F      92-93
QH122G      94-95
QH123       96-96
QH124       97-97
QH125       98-98
QH126        99-101   (A)
QH127      102-102
DOMESTIC  103-103
HOUSE      104-104
LAND       105-105
.
VARIABLE LABELS
  QHCLUST   "Cluster number"
 /QHNUMBER "Household number"
 /QHWEIGHT "Household weight (6 decimals)"
 /QHTYPE    "Type of place of residence"
 /HV009     "Total persons in household"
 /HV012     "Number of usual residents"
 /HV013     "Number who slept in HH last night"
 /QH101     "Frequency of smoking inside house"
 /QH102     "Source of drinking water"
 /QH102A    "Source of non-drinking water"
 /QH103     "Location of source for water"
 /QH104     "Time to water and back (mins)"
 /QH104A    "Person fetching water"
 /QH105     "Do anything to water to make safe to drink"
 /QH106     "What do you usually do to make water safe to drink"
 /QH107     "Type of toilet facility"
 /QH108     "Share facilities with other households"
 /QH109     "Number of households sharing toilet"
 /QH110A    "Electricity"
 /QH110B    "Watch/Clock"
 /QH110C    "Radio"
 /QH110D    "Television"
 /QH110E    "Mobile telephone"
 /QH110F    "Telephone (non-mobile)"
 /QH110G    "Refrigerator"
 /QH110H    "Table"
 /QH110I    "Chair"
 /QH110J    "Bed with cotton/sponge/spring mattress"
 /QH110K    "Electric mitad"
 /QH110L    "Kerosene lamp/pressure lamp"
 /QH111     "Type of cooking fuel"
 /QH112     "Food cooked in the house / in separate building /
outdoors"
 /QH113     "Household has separate room used as kitchen"
 /QH114     "Main material of floor"
 /QH115     "Main roof material"
 /QH116     "Main wall material"
 /QH117     "Number of rooms used for sleeping"
```

```
/QH118A    "Bicycle"
/QH118B    "Motorcycle or Scooter"
/QH118C    "Animal-drawn cart"
/QH118D    "Car or Truck"
/QH119     "Own land usable for agriculture"
/QH120     "Hectares for agricultural land"
/QH121     "Livestock, herds or farm animals"
/QH122A    "Cattle"
/QH122B    "Horses / donkeys / mules"
/QH122C    "Camels"
/QH122D    "Goats"
/QH122E    "Sheep"
/QH122F    "Chickens"
/QH122G    "Beehives"
/QH123     "Bank account"
/QH124     "Place for handwashing observed"
/QH125     "Presence of water observed"
/QH126     "Presence of soap, detergent or other cleansing agent
observed"
/QH127     "Test salt for Iodine"
/DOMESTIC "Domestic servant in household"
/HOUSE     "Owns a dwelling"
/LAND      "Owns agricultural land"
.
MISSING VALUE
 QH101     (9)
/QH102     (99)
/QH102A    (99)
/QH103     (9)
/QH104     (999)
/QH104A    (9)
/QH105     (9)
/QH107     (99)
/QH108     (9)
/QH109     (99)
/QH110A    (9)
/QH110B    (9)
/QH110C    (9)
/QH110D    (9)
/QH110E    (9)
/QH110F    (9)
/QH110G    (9)
/QH110H    (9)
/QH110I    (9)
/QH110J    (9)
/QH110K    (9)
/QH110L    (9)
/QH111     (99)
/QH112     (9)
/QH113     (9)
/QH114     (99)
/QH115     (99)
```

```
 /QH116     (99)
 /QH117     (99)
 /QH118A    (9)
 /QH118B    (9)
 /QH118C    (9)
 /QH118D    (9)
 /QH119     (9)
 /QH120     (100)
 /QH121     (9)
 /QH122A    (99)
 /QH122B    (99)
 /QH122C    (99)
 /QH122D    (99)
 /QH122E    (99)
 /QH122F    (99)
 /QH122G    (99)
 /QH123     (9)
 /QH124     (9)
 /QH125     (9)
 /QH127     (9)
.
VALUE LABELS
  QHTYPE
     1 "Urban"
     2 "Rural"
 /QH101
     1 "Daily"
     2 "Weekly"
     3 "Monthly"
     4 "Less than monthly"
     5 "Never"
 /QH102
    11 "Piped - into dwelling"
    12 "Piped - into yard/plot"
    13 "Piped - public tap / standpipe"
    21 "Borehole"
    31 "Dug well - protected"
    32 "Dug well - unprotected"
    41 "Spring - protected"
    42 "Spring - unprotected"
    51 "Rainwater"
    61 "Tanker truck"
    71 "Cart with small tank"
    81 "Surface water (river/dam/lake/pond/stream/canal/irrigation
channel"
    91 "Bottled water"
    96 "Other"
 /QH102A
    11 "Piped - into dwelling"
    12 "Piped - into yard/plot"
    13 "Piped - public tap / standpipe"
    21 "Borehole"
```

```
    31 "Dug well - protected"
    32 "Dug well - unprotected"
    41 "Spring - protected"
    42 "Spring - unprotected"
    51 "Rainwater"
    61 "Tanker truck"
    71 "Cart with small tank"
    81 "Surface water (river/dam/lake/pond/stream/canal/irrigation
channel"
    96 "Other"
 /QH103
     1 "In own dwelling"
     2 "In own yard/plot"
     3 "Elsewhere"
 /QH104
   996 "On premises"
   998 "Don't know"
 /QH104A
     1 "Adult woman"
     2 "Adult man"
     3 "Female child < 15 years"
     4 "Male child < 15 years"
     6 "Other"
 /QH105
     1 "Yes"
     2 "No"
     8 "Don't know"
 /QH106
'A      ' "Boil"
'B      ' "Add bleach/chlorine/water guard/pur/bishan gari/aquatabs"
'C      ' "Strain through a cloth"
'D      ' "Use water filter (ceramic/bio sand/composite)"
'E      ' "Solar disinfection"
'F      ' "Let it stand and settle"
'X      ' "Other"
'Z      ' "Don't know"
 /QH107
    11 "Flush - to piped sewer system"
    12 "Flush - to septic tank"
    13 "Flush - to pit latrine"
    14 "Flush - to somewhere else"
    15 "Flush - don't know where"
    21 "Pit latrine - ventilated improved pit (VIP)"
    22 "Pit latrine - with slab"
    23 "Pit latrine - without slab / open pit"
    31 "Composting toilet"
    41 "Bucket toilet"
    51 "Hanging toilet / hanging latrine"
    61 "No facility/bush/field"
    96 "Other"
 /QH108
     1 "Yes"
```

```
      2 "No"
/QH109
     95 "10 or more households"
     98 "Don't know"
/QH110A
      1 "Yes"
      2 "No"
/QH110B
      1 "Yes"
      2 "No"
/QH110C
      1 "Yes"
      2 "No"
/QH110D
      1 "Yes"
      2 "No"
/QH110E
      1 "Yes"
      2 "No"
/QH110F
      1 "Yes"
      2 "No"
/QH110G
      1 "Yes"
      2 "No"
/QH110H
      1 "Yes"
      2 "No"
/QH110I
      1 "Yes"
      2 "No"
/QH110J
      1 "Yes"
      2 "No"
/QH110K
      1 "Yes"
      2 "No"
/QH110L
      1 "Yes"
      2 "No"
/QH111
      1 "Electricity"
      2 "LPG"
      3 "Natural gas"
      4 "Biogas"
      5 "Kerosene"
      6 "Charcoal"
      7 "Wood"
      8 "Straw / shrubs / grass"
      9 "Agricultural crop"
     10 "Animal dung"
     95 "No food cooked in HH"
```

```
    96 "Other"
/QH112
     1 "In the house"
     2 "In a separate building"
     3 "Outdoors"
     6 "Other"
/QH113
     1 "Yes"
     2 "No"
/QH114
    11 "Earth, sand"
    12 "Dung"
    21 "Wood planks"
    22 "Palm, bamboo"
    31 "Parquet, polished wood"
    32 "Vinyl, asphalt strips"
    33 "Ceramic tiles"
    34 "Cement"
    35 "Carpet"
    96 "Other"
/QH115
    11 "No roof"
    12 "Thatch / palm leaf / mud"
    21 "Rustic mat"
    22 "Reed / bamboo"
    23 "Wood planks"
    24 "Cardboard"
    31 "Corrugate iron / metal"
    32 "Wood"
    33 "Asbestos / cement fiber"
    34 "Cement / concrete"
    35 "Roofing shingles"
    96 "Other"
/QH116
    11 "No walls"
    12 "Cane / trunks / bamboo / reed"
    13 "Dirt"
    21 "Bamboo / wood with mud"
    22 "Stone with mud"
    23 "Uncovered adobe"
    24 "Plywood"
    25 "Cardboard"
    26 "Reused wood"
    31 "Cement"
    32 "Stone with lime / cement"
    33 "Bricks"
    34 "Cement blocks"
    35 "Covered adobe"
    36 "Wood planks / shingles"
    96 "Other"
/QH118A
     1 "Yes"
```

```
     2 "No"
/QH118B
     1 "Yes"
     2 "No"
/QH118C
     1 "Yes"
     2 "No"
/QH118D
     1 "Yes"
     2 "No"
/QH119
     1 "Yes"
     2 "No"
/QH120
 95.0 "More than 95"
 99.8 "Unknown"
/QH121
     1 "Yes"
     2 "No"
/QH122A
     0 "None"
    95 "95 or more"
    98 "Unknown"
/QH122B
     0 "None"
    95 "95 or more"
    98 "Unknown"
/QH122C
     0 "None"
    95 "95 or more"
    98 "Unknown"
/QH122D
     0 "None"
    95 "95 or more"
    98 "Unknown"
/QH122E
     0 "None"
    95 "95 or more"
    98 "Unknown"
/QH122F
     0 "None"
    95 "95 or more"
    98 "Unknown"
/QH122G
     0 "None"
    95 "95 or more"
    98 "Unknown"
/QH123
     1 "Yes"
     2 "No"
/QH124
     1 "Observed"
```

```
     2 "Not observed, not in dwelling / yard / plot"
     3 "Not observed, no permission to see"
     4 "Not observed, other reason"
 /QH125
     1 "Water is available"
     2 "Water is not available"
 /QH126
'A  ' "Soap or detergent (bar, liquid, powder, paste)"
'B  ' "Ash, mud, sand"
'C  ' "None"
 /QH127
     1 "Iodine present"
     2 "No iodine"
     3 "No salt in household"
     6 "Salt not tested"
.
EXECUTE.

*{Construct Variables}.

*{Members per sleeping room}.
if (hv012=0) hv012=hv013.
if (qh117>0) memsleep=trunc(hv012/qh117).
if (qh117=0) memsleep=hv012.
if (memsleep>=98) memsleep=98.

VARIABLE LABELS
 MEMSLEEP "Number of members per sleeping room".
value labels memsleep 0 'Less than 1 per room'.

*{Drinking water supply}.
compute h2oires=0.
if (qh102=11) h2oires=1.
var labels h2oires "Piped into dwelling".
compute h2oyrd=0.
if (qh102=12) h2oyrd=1.
var labels h2oyrd "Piped into yard/plot".
compute h2opub=0.
if (qh102=13) h2opub=1.
var labels h2opub "Public tap / standpipe".
compute h2obwell=0.
if (qh102=21) h2obwell=1.
var labels h2obwell "Tube well or borehole".
compute h2ipwell=0.
if (qh102=31) h2ipwell=1.
var labels h2ipwell "Protected dug well".
compute h2iowell=0.
if (qh102=32) h2iowell=1.
var labels h2iowell "Unprotected dug well".
compute h2opspg=0.
if (qh102=41) h2opspg=1.
var labels h2opspg "Protected Spring".
```

```
compute h2ouspg=0.
if (qh102=42) h2ouspg=1.
var labels h2ouspg "Unprotected Spring".
compute h2orain=0.
if (qh102=51) h2orain=1.
var labels h2orain "Water from rain".
compute h2otruck=0.
if (qh102=61) h2otruck=1.
var labels h2otruck "Water from tanker truck".
compute h2ocart=0.
if (qh102=71) h2ocart=1.
var labels h2ocart "Water from cart with small tank".
compute h2osurf=0.
if (qh102=81) h2osurf=1.
var labels h2osurf "Surface water-river, lake, dam, etc.".
compute h2obot=0.
if (qh102=91) h2obot=1.
var labels h2obot "Water from bottle".
compute h2ooth=0.
if (qh102=96) h2ooth=1.
var labels h2ooth "Other water source".

*{Toilet facility}.
compute flushs=0.
if (qh107=11) flushs=1.
var labels flushs "Flush toilet to sewer".
compute flusht=0.
if (qh107=12) flusht=1.
var labels flusht "Flush toilet to septic tank".
compute flushp=0.
if (qh107=13) flushp=1.
var labels flushp "Flush toilet to pit latrine".
compute flushe=0.
if (qh107=14 or qh107=15) flushe=1.
var labels flushe "Flush toilet to elsewhere".
compute latvip=0.
if (qh107=21) latvip=1.
var labels latvip "VIP latrine".
compute latpits=0.
if (qh107=22) latpits=1.
var labels latpits "Pit latrine with slab".
compute latpit=0.
if (qh107=23) latpit=1.
var labels latpit "Traditional pit latrine".
compute latcomp=0.
if (qh107=31) latcomp=1.
var labels latcomp 'Composting toilet/ecosan'.
compute latpail=0.
if (qh107=41) latpail=1.
var labels latpail 'Bucket toilet'.
compute lathang=0.
if (qh107=51) lathang=1.
```

```
var labels lathang 'Hanging toilet/latrine'.
compute latbush=0.
if (qh107=61) latbush=1.
var labels latbush "No facility/bush/field".
compute latoth=0.
if (qh107=96) latoth=1.
var labels latoth 'Other type of latrine/toilet'.


compute latshare=0.
if (qh108=1) latshare=1.
var labels latshare 'Shares latrine/toilet with other households'.



*{Flooring}.
compute dirtfloo=0.
if (qh114=11 or qh114=12) dirtfloo=1.
var labels dirtfloo "Earth, sand, dung floor".
compute woodfloo=0.
if (qh114=21 or qh114=22) woodfloo=1.
var labels woodfloo "Rudimentary wood plank, palm, bamboo floor".
compute prqfloo=0.
if (qh114=31) prqfloo=1.
var labels prqfloo "Polished wood floor".
compute vinlfloo=0.
if (qh114=32) vinlfloo=1.
var labels vinlfloo "Vinyl, asphalt strip floor".
compute tilefloo=0.
if (qh114=33) tilefloo=1.
var labels tilefloo "Ceramic tile floor".
compute cemtfloo=0.
if (qh114=34) cemtfloo=1.
var labels cemtfloo "Cement floor".
compute rugfloo=0.
if (qh114=35) rugfloo=1.
var labels rugfloo "Carpeted floor".
compute othfloo=0.
if (qh114=96) othfloo=1.
var labels othfloo "Other type of flooring".

*{Walls}.
compute nowall=0.
if (qh116=11) nowall=1.
var labels nowall "No walls".
compute natwall=0.
if (qh116=12 or qh116=13) natwall=1.
var labels natwall "Cane/palm/trunks/dirt walls".
compute mudwall=0.
if (qh116=21) mudwall=1.
var labels mudwall "Bamboo with mud walls".
compute mdstwall=0.
if (qh116=22) mdstwall=1.
var labels mdstwall "Stone with mud walls".
```

```
compute adobwall=0.
if (qh116=23) adobwall=1.
var labels adobwall "Uncovered adobe walls".
compute plywall=0.
if (qh116=24) plywall=1.
var labels plywall "Plywood walls".
compute cardwall=0.
if (qh116=25) cardwall=1.
var labels cardwall "Cardboard walls".
compute rwoodwall=0.
if (qh116=26) rwoodwall=1.
var labels rwoodwall "Reused wood walls".
compute cmtwall=0.
if (qh116=31) cmtwall=1.
var labels cmtwall "Cement walls".
compute stonwall=0.
if (qh116=32) stonwall=1.
var labels stonwall "Stone walls with lime/cement".
compute brkwall=0.
if (qh116=33) brkwall=1.
var labels brkwall "Baked brick walls".
compute cmtbwall=0.
if (qh116=34) cmtbwall=1.
var labels cmtbwall "Cement block walls".
compute cadobwall=0.
if (qh116=35) cadobwall=1.
var labels cadobwall "Covered adobe walls".
compute woodwall=0.
if (qh116=36) woodwall=1.
var labels woodwall "Wood planks, shingles walls".
compute othwall=0.
if (qh116=96) othwall=1.
var labels othwall "Other type of walls".

*{Roofing}.
compute noroof=0.
if (qh115=11) noroof=1.
var labels noroof "No roof".
compute natroof=0.
if (qh115=12) natroof=1.
var labels natroof "Thatch/palm/sod roof".
compute matroof=0.
if (qh115=21) matroof=1.
var labels matroof "Rustic mat / plastic roof".
compute bambroof=0.
if (qh115=22) bambroof=1.
var labels bambroof "Reed / bamboo roof".
compute wproof=0.
if (qh115=23) wproof=1.
var labels wproof "Wood planks roof".
compute cardroof=0.
if (qh115=24) cardroof=1.
```

```
var labels cardroof "Cardboard roof".
compute metroof=0.
if (qh115=31) metroof=1.
var labels metroof "Iron sheet roof".
compute woodroof=0.
if (qh115=32) woodroof=1.
var labels woodroof "Wood roof".
compute asbroof=0.
if (qh115=33) asbroof=1.
var labels asbroof "Asbestos / cement fiber roof".
compute cmtroof=0.
if (qh115=34) cmtroof=1.
var labels cmtroof "Concrete roof".
compute shngroof=0.
if (qh115=35) shngroof=1.
var labels shngroof "Roofing shingles roof".
compute othroof=0.
if (qh115=96) othroof=1.
var labels othroof "Other type of roof".

*{Cooking Fuel}.
compute cookelec=0.
if (qh111=1) cookelec=1.
var labels cookelec "Electricity for cooking".
compute cooklpg=0.
if (qh111=2) cooklpg=1.
var labels cooklpg "LPG for cooking".
compute cookgas=0.
if (qh111=3) cookgas=1.
var labels cookgas "Natural gas for cooking".
compute cookbio=0.
if (qh111=4) cookbio=1.
var labels cookbio "Biogas for cooking".
compute cookkero=0.
if (qh111=5) cookkero=1.
var labels cookkero "Kerosene for cooking".
compute cookchar=0.
if (qh111=6) cookchar=1.
var labels cookchar "Charcoal for cooking".
compute cookwood=0.
if (qh111=7 ) cookwood=1.
var labels cookwood "Wood for cooking".
compute cookstraw=0.
if (qh111=8) cookstraw=1.
var labels cookstraw "Straw for cooking".
compute cookcrop=0.
if (qh111=9) cookcrop=1.
var labels cookcrop "Agricultural crop for cooking".
compute cookdung=0.
if (qh111=10) cookdung=1.
var labels cookdung "Dung for cooking".
compute cooknone=0.
```

```
if (qh111=95) cooknone=1.
var labels cooknone 'Does not cook'.
compute cookoth=0.
if (qh111=96) cookoth=1.
var labels cookoth "Other fuel for cooking".

*{Reset missing values to "does not have", change 2 code to 0}.
if (qh110a<>1) qh110a=0.
if (qh110b<>1) qh110b=0.
if (qh110c<>1) qh110c=0.
if (qh110d<>1) qh110d=0.
if (qh110e<>1) qh110e=0.
if (qh110f<>1)  qh110f=0.
if (qh110g<>1) qh110g=0.
if (qh110h<>1) qh110h=0.
if (qh110i<>1) qh110i=0.
if (qh110j<>1) qh110j=0.
if (qh110k<>1) qh110k=0.
if (qh110l<>1) qh110l=0.

if (qh118a<>1) qh118a=0.
if (qh118b<>1) qh118b=0.
if (qh118c<>1) qh118c=0.
if (qh118d<>1) qh118d=0.

if (qh119<>1) qh119=0.
if (qh119<>1) qh120=0.

compute landarea=0.
if (not(missing(qh120))) landarea=qh120.
if (qh119<>1) landarea=0.
FREQUENCIES landarea.

if (qh121<>1) qh121=0.
if (qh121<>1) qh122a=0.
if (qh121<>1) qh122b=0.
if (qh121<>1) qh122c=0.
if (qh121<>1) qh122d=0.
if (qh121<>1) qh122e=0.
if (qh121<>1) qh122f=0.
if (qh121<>1) qh122g=0.

missing values qh122a to qh122g (98,99).

if (qh123<>1) qh123=0.

*{Lighting fuel—Not available in Ethiopia}.
*compute eleclgt=0.
*if (qh106=1) eleclgt=1.
*var labels eleclgt "Electricity for lighting".
*compute sunlgt=0.
*if (qh106=2) sunlgt=1.
```

```
*var labels sunlgt "Solar electricity for lighting".
*compute gaslgt=0.
*if (qh106=3) gaslgt=1.
*var labels gaslgt "Gas for lighting".
*compute hurrlgt=0.
*if (qh106=4) hurrlgt=1.
*var labels hurrlgt "Pariffin-hurricane lamp".
*compute preslgt=0.
*if (qh106=5) preslgt=1.
*var labels preslgt "Pariffin-pressure lamp".
*compute wicklgt=0.
*if (qh106=6) wicklgt=1.
*var labels wicklgt "Wick lamp for lighting".
*compute candlgt=0.
*if (qh106=8) candlgt=1.
*var labels candlgt "Candles for lighting".
*compute woodlgt=0.
*if (qh106=7) woodlgt=1.
*var labels woodlgt "Firewood for lighting".
*compute othlgt=0.
*if (qh106=96) othlgt=1.
*var labels othlgt "Other type of lighting".


*{Solid waste/garbage collection—Not available in Ethiopia}.

execute.


* Check on indicator variable creation.

FREQUENCIES VARIABLES=QHTYPE HV009 HV012 HV013 QH102 QH107 QH108
QH110A QH110B QH110C QH110D QH110E
    QH110F QH110G QH110H QH110I QH110J QH110K QH110L QH111 QH114 QH115
QH116 QH117 QH118A QH118B QH118C
    QH118D QH119 QH120 QH121 QH122A QH122B QH122C QH122D QH122E QH122F
QH122G QH123 DOMESTIC HOUSE LAND
  /ORDER=ANALYSIS.


FREQUENCIES VARIABLES=memsleep h2oires h2oyrd h2opub h2obwell h2ipwell
h2iowell h2opspg h2ouspg
    h2orain h2otruck h2ocart h2osurf h2obot h2ooth flushs flusht
flushp flushe latvip latpits latpit
    latcomp latpail lathang latbush latoth latshare dirtfloo woodfloo
prqfloo vinlfloo tilefloo
    cemtfloo rugfloo othfloo nowall natwall mudwall stonwall adobwall
plywall cardwall rwoodwall
    cmtwall brkwall cmtbwall cadobwall woodwall othwall noroof natroof
matroof bambroof wproof cardroof
    metroof woodroof asbroof cmtroof shngroof othroof cookelec cooklpg
cookgas cookbio cookkero
```

```
     cookchar cookwood cookstraw cookcrop cookdung cooknone cookoth
  /ORDER=ANALYSIS.

save outfile="c:\hnp2a\Ethiopia 2010\etassets.sav".

*********************************.
*** Factor Analysis to Test Distribution of created variables.

FACTOR
  /VARIABLES QH108 QH110A QH110B QH110C QH110D QH110E QH110F QH110G
QH110H QH110I QH110J QH110K
     QH110L QH118A QH118B QH118C QH118D QH119 QH120 QH121 QH122A QH122B
QH122C QH122D QH122E QH122F
     QH122G QH123 DOMESTIC HOUSE LAND h2oires h2oyrd h2opub h2obwell
h2ipwell h2iowell h2opspg h2ouspg
     h2orain h2otruck h2ocart h2osurf h2obot h2ooth flushs flusht
flushp flushe latvip latpits latpit
     latcomp latpail lathang latbush latoth latshare dirtfloo woodfloo
prqfloo vinlfloo tilefloo
     cemtfloo rugfloo othfloo nowall natwall mudwall stonwall adobwall
plywall cardwall rwoodwall
     cmtwall brkwall cmtbwall cadobwall woodwall othwall noroof natroof
matroof bambroof wproof cardroof
     metroof woodroof asbroof cmtroof shngroof othroof cookelec cooklpg
cookgas cookbio cookkero
     cookchar cookwood cookstraw cookcrop cookdung cooknone cookoth
landarea
  /MISSING MEANSUB
  /ANALYSIS QH108 QH110A QH110B QH110C QH110D QH110E QH110F QH110G
QH110H QH110I QH110J QH110K
     QH110L QH118A QH118B QH118C QH118D QH119 QH120 QH121 QH122A QH122B
QH122C QH122D QH122E QH122F
     QH122G QH123 DOMESTIC HOUSE LAND h2oires h2oyrd h2opub h2obwell
h2ipwell h2iowell h2opspg h2ouspg
     h2orain h2otruck h2ocart h2osurf h2obot h2ooth flushs flusht
flushp flushe latvip latpits latpit
     latcomp latpail lathang latbush latoth latshare dirtfloo woodfloo
prqfloo vinlfloo tilefloo
     cemtfloo rugfloo othfloo nowall natwall mudwall stonwall adobwall
plywall cardwall rwoodwall
     cmtwall brkwall cmtbwall cadobwall woodwall othwall noroof natroof
matroof bambroof wproof cardroof
     metroof woodroof asbroof cmtroof shngroof othroof cookelec cooklpg
cookgas cookbio cookkero
     cookchar cookwood cookstraw cookcrop cookdung cooknone cookoth
landarea
  /PRINT UNIVARIATE INITIAL EXTRACTION
  /CRITERIA FACTORS(1) ITERATE(25)
  /EXTRACTION PC
  /ROTATION NOROTATE
  /METHOD=CORRELATION.
```

```
**********************************.
*** Common Factor Analysis.

FILTER OFF.
USE ALL.
EXECUTE.

**** Redo removing area-specific variables ****.
FACTOR
  /VARIABLES QH108 QH110A QH110B QH110C QH110D QH110E QH110F QH110G
QH110H QH110I QH110J QH110K
    QH110L QH118A QH118B QH118C QH118D  QH123 DOMESTIC HOUSE LAND
h2oires h2oyrd h2opub h2obwell h2ipwell h2iowell h2opspg h2ouspg
    h2orain h2otruck h2ocart h2osurf h2obot h2ooth flushs flusht
flushp flushe latvip latpits latpit
    latcomp latpail lathang latbush latoth latshare dirtfloo woodfloo
prqfloo vinlfloo tilefloo
    cemtfloo rugfloo othfloo nowall natwall mudwall stonwall adobwall
plywall cardwall rwoodwall
    cmtwall brkwall cmtbwall cadobwall woodwall othwall noroof natroof
matroof bambroof wproof cardroof
    metroof woodroof asbroof cmtroof shngroof othroof cookelec cooklpg
cookgas cookbio cookkero
    cookchar cookwood cookstraw cookcrop cookdung cooknone cookoth
  /MISSING MEANSUB
  /ANALYSIS QH108 QH110A QH110B QH110C QH110D QH110E QH110F QH110G
QH110H QH110I QH110J QH110K
    QH110L QH118A QH118B QH118C QH118D  QH123 DOMESTIC HOUSE LAND
h2oires h2oyrd h2opub h2obwell h2ipwell h2iowell h2opspg h2ouspg
    h2orain h2otruck h2ocart h2osurf h2obot h2ooth flushs flusht
flushp flushe latvip latpits latpit
    latcomp latpail lathang latbush latoth latshare dirtfloo woodfloo
prqfloo vinlfloo tilefloo
    cemtfloo rugfloo othfloo nowall natwall mudwall stonwall adobwall
plywall cardwall rwoodwall
    cmtwall brkwall cmtbwall cadobwall woodwall othwall noroof natroof
matroof bambroof wproof cardroof
    metroof woodroof asbroof cmtroof shngroof othroof cookelec cooklpg
cookgas cookbio cookkero
    cookchar cookwood cookstraw cookcrop cookdung cooknone cookoth
  /PRINT UNIVARIATE INITIAL EXTRACTION FSCORE
  /CRITERIA FACTORS(1) ITERATE(25)
  /EXTRACTION PC
  /ROTATION NOROTATE
  /SAVE REG(ALL COM)
  /METHOD=CORRELATION.
```

```
**  Urban Area.

USE ALL.
COMPUTE filter_$=(qhtype = 1).
VARIABLE LABEL filter_$ 'qhtype = 1 (FILTER)'.
VALUE LABELS filter_$  0 'Not Selected' 1 'Selected'.
FORMAT filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE .


WEIGHT
   OFF.



FACTOR
   /VARIABLES QH108 QH110A QH110B QH110C QH110D QH110E QH110F QH110G
QH110H QH110I QH110J QH110K
     QH110L QH118A QH118B QH118C QH118D QH119 QH120 QH121 QH122A QH122B
QH122C QH122D QH122E QH122F
     QH122G QH123 DOMESTIC HOUSE LAND h2oires h2oyrd h2opub h2obwell
h2ipwell h2iowell h2opspg h2ouspg
     h2orain h2otruck h2ocart h2osurf h2obot h2ooth flushs flusht
flushp flushe latvip latpits latpit
     latcomp latpail lathang latbush latoth latshare dirtfloo woodfloo
prqfloo vinlfloo tilefloo
     cemtfloo rugfloo othfloo nowall natwall mudwall stonwall adobwall
plywall cardwall rwoodwall
     cmtwall brkwall cmtbwall cadobwall woodwall othwall noroof natroof
matroof bambroof wproof cardroof
     metroof woodroof asbroof cmtroof shngroof othroof cookelec cooklpg
cookgas cookbio cookkero
     cookchar cookwood cookstraw cookcrop cookdung cooknone cookoth
landarea
  /MISSING MEANSUB
  /ANALYSIS QH108 QH110A QH110B QH110C QH110D QH110E QH110F QH110G
QH110H QH110I QH110J QH110K
     QH110L QH118A QH118B QH118C QH118D QH119 QH120 QH121 QH122A QH122B
QH122C QH122D QH122E QH122F
     QH122G QH123 DOMESTIC HOUSE LAND h2oires h2oyrd h2opub h2obwell
h2ipwell h2iowell h2opspg h2ouspg
     h2orain h2otruck h2ocart h2osurf h2obot h2ooth flushs flusht
flushp flushe latvip latpits latpit
     latcomp latpail lathang latbush latoth latshare dirtfloo woodfloo
prqfloo vinlfloo tilefloo
     cemtfloo rugfloo othfloo nowall natwall mudwall stonwall adobwall
plywall cardwall rwoodwall
     cmtwall brkwall cmtbwall cadobwall woodwall othwall noroof natroof
matroof bambroof wproof cardroof
     metroof woodroof asbroof cmtroof shngroof othroof cookelec cooklpg
cookgas cookbio cookkero
```

```
     cookchar cookwood cookstraw cookcrop cookdung cooknone cookoth
landarea
  /PRINT UNIVARIATE INITIAL EXTRACTION FSCORE
  /CRITERIA FACTORS(1) ITERATE(25)
  /EXTRACTION PC
  /ROTATION NOROTATE
  /SAVE REG(ALL URB)
  /METHOD=CORRELATION.


** Rural Area.

USE ALL.
COMPUTE filter_$=(qhtype = 2).
VARIABLE LABEL filter_$ 'qhtype = 2 (FILTER)'.
VALUE LABELS filter_$  0 'Not Selected' 1 'Selected'.
FORMAT filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE .


FACTOR
  /VARIABLES QH108 QH110A QH110B QH110C QH110D QH110E QH110F QH110G
QH110H QH110I QH110J QH110K
     QH110L QH118A QH118B QH118C QH118D QH119 QH120 QH121 QH122A QH122B
QH122C QH122D QH122E QH122F
     QH122G QH123 DOMESTIC HOUSE LAND h2oires h2oyrd h2opub h2obwell
h2ipwell h2iowell h2opspg h2ouspg
     h2orain h2otruck h2ocart h2osurf h2obot h2ooth flushs flusht
flushp flushe latvip latpits latpit
     latcomp latpail lathang latbush latoth latshare dirtfloo woodfloo
prqfloo vinlfloo tilefloo
     cemtfloo rugfloo othfloo nowall natwall mudwall stonwall plywall
cardwall rwoodwall
     cmtwall brkwall cmtbwall cadobwall woodwall othwall noroof natroof
matroof bambroof wproof cardroof
     metroof woodroof asbroof cmtroof shngroof othroof cookelec cooklpg
cookbio cookkero
     cookchar cookwood cookstraw cookcrop cookdung cooknone cookoth
landarea
  /MISSING MEANSUB
  /ANALYSIS QH108 QH110A QH110B QH110C QH110D QH110E QH110F QH110G
QH110H QH110I QH110J QH110K
     QH110L QH118A QH118B QH118C QH118D QH119 QH120 QH121 QH122A QH122B
QH122C QH122D QH122E QH122F
     QH122G QH123 DOMESTIC HOUSE LAND h2oires h2oyrd h2opub h2obwell
h2ipwell h2iowell h2opspg h2ouspg
     h2orain h2otruck h2ocart h2osurf h2obot h2ooth flushs flusht
flushp flushe latvip latpits latpit
     latcomp latpail lathang latbush latoth latshare dirtfloo woodfloo
prqfloo vinlfloo tilefloo
```

```
      cemtfloo rugfloo othfloo nowall natwall mudwall stonwall plywall
cardwall rwoodwall
      cmtwall brkwall cmtbwall cadobwall woodwall othwall noroof natroof
matroof bambroof wproof cardroof
      metroof woodroof asbroof cmtroof shngroof othroof cookelec cooklpg
cookbio cookkero
      cookchar cookwood cookstraw cookcrop cookdung cooknone cookoth
landarea
 /PRINT UNIVARIATE INITIAL EXTRACTION FSCORE
  /CRITERIA FACTORS(1) ITERATE(25)
  /EXTRACTION PC
  /ROTATION NOROTATE
  /SAVE REG(ALL RUR)
  /METHOD=CORRELATION.



* Calculate regressions with total score.
** Urban Area.

USE ALL.
COMPUTE filter_$=(qhtype = 1).
VARIABLE LABEL filter_$ 'qhtype = 1 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMAT filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE .


REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT COM1
  /METHOD=ENTER URB1  .

** Rural Area.

USE ALL.
COMPUTE filter_$=(qhtype = 2).
VARIABLE LABEL filter_$ 'qhtype = 2 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMAT filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE .


REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA
  /CRITERIA=PIN(.05) POUT(.10)
```

```
  /NOORIGIN
  /DEPENDENT COM1
  /METHOD=ENTER RUR1   .

FILTER OFF.
USE ALL.
EXECUTE .


*** Calculate combined wealth score from Urban and Rural Scores.
compute combscor=0.
print formats combscor (F11.5).
** Urban.
if (qhtype = 1) combscor=1.232+0.856* URB1.
** Rural.
if (qhtype = 2) combscor=(-0.544)+0.352* RUR1.
execute.


*Calculate quintiles and scores for data file.
compute hhmemwt=qhweight*hv012/1000000.
weight by hhmemwt.
VARIABLE LABELS hhmemwt 'HH members weighting for Index' .

** Urban Area.
USE ALL.
COMPUTE filter_$=(qhtype = 1).
VARIABLE LABEL filter_$ 'qhtype = 1 (FILTER)'.
VALUE LABELS filter_$  0 'Not Selected' 1 'Selected'.
FORMAT filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE .

RANK
  VARIABLES=urb1  (A) /RANK /NTILES (5) /PRINT=YES
  /TIES=MEAN .

** Rural Area.

USE ALL.
COMPUTE filter_$=(qhtype = 2).
VARIABLE LABEL filter_$ 'qhtype = 2 (FILTER)'.
VALUE LABELS filter_$  0 'Not Selected' 1 'Selected'.
FORMAT filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE .

RANK
  VARIABLES=rur1  (A) /RANK /NTILES (5) /PRINT=YES
  /TIES=MEAN .

** National combined score.
```

```
FILTER OFF.
USE ALL.
EXECUTE .

RANK
  VARIABLES=combscor  (A) /RANK /NTILES (5) /PRINT=YES
  /TIES=MEAN .

FREQUENCIES
  VARIABLES=combscor  /FORMAT=NOTABLE
  /NTILES= 5
  /STATISTICS=STDDEV MINIMUM MAXIMUM MEAN MEDIAN MODE SKEWNESS SESKEW
  KURTOSIS SEKURT
  /ORDER=  ANALYSIS .


*** Check on quintiles.

frequencies variables=ncombsco.

compute hhwt=qhweight/1000000.
weight by hhwt.
VARIABLE LABELS hhwt 'HH weights' .

MEANS TABLES=QH108 QH110A QH110B QH110C QH110D QH110E QH110F QH110G
QH110H QH110I QH110J QH110K
    QH110L QH118A QH118B QH118C QH118D QH119 QH120 QH121 QH122A QH122B
QH122C QH122D QH122E QH122F
    QH122G QH123 DOMESTIC HOUSE LAND h2oires h2oyrd h2opub h2obwell
h2ipwell h2iowell h2opspg h2ouspg
    h2orain h2otruck h2ocart h2osurf h2obot h2ooth flushs flusht
flushp flushe latvip latpits latpit
    latcomp latpail lathang latbush latoth latshare dirtfloo woodfloo
prqfloo vinlfloo tilefloo
    cemtfloo rugfloo othfloo nowall natwall mudwall stonwall adobwall
plywall cardwall rwoodwall
    cmtwall brkwall cmtbwall cadobwall woodwall othwall noroof natroof
matroof bambroof wproof cardroof
    metroof woodroof asbroof cmtroof shngroof othroof cookelec cooklpg
cookgas cookbio cookkero
    cookchar cookwood cookstraw cookcrop cookdung cooknone cookoth
landarea
    by Ncombsco
  /CELLS MEAN COUNT STDDEV.


save outfile="c:\hnp2a\Ethiopia 2010\et10assets.sav".

WEIGHT
  OFF.
```

```
*** Write out scores file.

write formats combscor (f11.5).

WRITE OUTFILE='c:\hnp2a\Ethiopia 2010\et10scores.dat'
  TABLE
  /qhclust qhnumber combscor ncombsco urb1 nurb1 rur1 nrur1.
EXECUTE.

save outfile="c:\hnp2a\Ethiopia 2010\et10assets.sav".
```

Examples of Histogram SPSS syntax.

```
*** Histogram of combined wealth score values.

weight by hhwt.

GRAPH
  /HISTOGRAM(NORMAL)=combscor
  /TITLE= 'Distribution of Households by Wealth Scores Ethiopia 2010'.

FREQUENCIES
  VARIABLES=combscor  /FORMAT=NOTABLE
  /STATISTICS=STDDEV MEAN
  /HISTOGRAM  NORMAL
  /ORDER=  ANALYSIS
```

Example of ISSA Gini coefficient syntax.

```
PROC GINI
Table float(1) popdist wlthindg colpop total+hv025+shregion
        exclude(totals,specval)
  Title("Distribution of Household Population by Wealth Score",
        "Peru 2000");

Table float(1) wlthdist wlthindg colwlth total+hv025+shregion
        exclude(totals,specval)
  Title("Share of Wealth by Wealth Score",
        "Peru 2000");

Table float(1) coef total+hv025+shregion
        exclude(totals,specval)
  Title("Gini Coefficient",
        "Peru 2000");
PROC PEIR41
preproc
level 0;


{Find minimum and maximum wealth score}
wlthmin=0;
wlthmax=0;

w=open(scores);
while loadcase(scores) do
  if wlthindf<wlthmin then wlthmin=wlthindf;endif;
  if wlthindf>wlthmax then wlthmax=wlthindf;endif;
enddo;
w=close(scores);
d=display(12,wlthmin,wlthmax);

{----------------------------------------------------------------}
level 1
if hv015<>1 then skip case;endif;
hweight=hv005/1000000;


{Load in wealth index and quintiles}

if !loadcase(scores,hhid) then
    e=errmsg(1,hhid);
endif;

{Determine tabulation categories as 1/100 of range of wealth scores}
wlthrng=wlthmax-wlthmin; {Note that wlthmin is a negative number}

wlthindg=int((wlthindf-wlthmin)/(wlthrng/100));
{x=display(10,wlthindf, wlthindg);}
```

```
{Tabulate household population and wealth score by weath groups}
colpop=0;
x=xtab(popdist,hweight*hv009);

colwlth=0;ginico=notappl;
x=xtab(wlthdist,hweight*(wlthindf-wlthmin))


{-----------------------------------------------------------------}
postproc
level 0

popsum=0; wlthsum=0;

k=0; while k<=(2+5) do    {Do for total, urban-rural layers, 5 regions}

  popsum=0; wlthsum=0;
  {Cumulate population and wealth scores}
  i=0;while i<=100 do
    popsum=popsum+popdist(i,0,k);
    wlthsum=wlthsum+wlthdist(i,0,k);
  i=i+1;enddo;

  {Calculate cumulated percentages}
  popdist(0,1,k)=popdist(0,0,k);
  popdist(0,2,k)=100*popdist(0,1,k)/popsum;
  wlthdist(0,1,k)=wlthdist(0,0,k);
  wlthdist(0,2,k)=100*wlthdist(0,1,k)/wlthsum;

  i=1;while i<=100 do
    popdist(i,1,k)=popdist(i-1,1,k)+popdist(i,0,k);
    popdist(i,2,k)=100*popdist(i,1,k)/popsum;
    wlthdist(i,1,k)=wlthdist(i-1,1,k)+wlthdist(i,0,k);
    wlthdist(i,2,k)=100*wlthdist(i,1,k)/wlthsum;
  i=i+1;enddo;

  {Calculate Gini Coefficient}
  g=(popdist(0,2,k)/100)*(wlthdist(0,2,k)/100);
  i=1;while i<100 do
      g=g+((popdist(i,2,k)-popdist(i-
1,2,k))/100)*((wlthdist(i,2,k)+wlthdist(i-1,2,k))/100);
  i=i+1;enddo;
  g=g+((100-popdist(99,2,k))/100)*((100+wlthdist(99,2,k))/100);

  g=1-g;if g<0 then g=-g;endif;
  coef(k)=100*g;   {Put into table for display}

k=k+1;enddo;
```

Standard Recode Example:

CSPro Export Application

```
{Application 'CMEXPORT' logic file generated by CSPro }
PROC GLOBAL

numeric i;
file SPSS_EXPORT;


PROC CMIR60_FF

PROC HOUSEHOLD

preproc

domestic=0;house=0;land=0;

if HV015<>1 then skip case;endif;

postproc


set behavior() export ( SPSS , ItemOnly );

export to SPSS_EXPORT case_id (HHID)
        HV005,HV025,HV009, HV012, HV013, RECH2, RECH3, domestic,
house, land ;


proc WOMAN

preproc

if V716=95 and HV101(V003)=12   then domestic=1;endif;
if V704=95 and HV101(V003)=12   then domestic=1;endif;
if V745A>=1 and V745A<=3 then house=1;endif;
if V745B>=1 and V745B<=3 then land=1;endif;
if v740=1 or v740=1 then land=1;endif;
```

SPSS syntax:

```
DATA LIST FILE='C:\HNP2A\CAMEROON 2011\CMEXPORTED' RECORDS=1
 /
 HHID          1-12     (A)
 HV005        13-20
 HV025        21-21
 HV009        22-23
 HV012        24-25
 HV013        26-27
 HV201        28-29
 HV202        30-31
 HV204        32-34
 HV205        35-36
 HV206        37-37
 HV207        38-38
 HV208        39-39
 HV209        40-40
 HV210        41-41
 HV211        42-42
 HV212        43-43
 HV213        44-45
 HV214        46-47
 HV215        48-49
 HV216        50-51
 HV217        52-52
 HV218        53-54
 HV219        55-55
 HV220        56-57
 HV221        58-58
 HV225        59-59
 HV226        60-61
 HV227        62-62
 HV228        63-63
 HV230A       64-64
 HV230B       65-65
 HV232        66-66
 HV232B       67-67
 HV232C       68-68
 HV232D       69-69
 HV232E       70-70
 HV232Y       71-71
 HV234        72-74
 HV234A       75-75
 HV235        76-76
 HV236        77-77
 HV237        78-78
 HV237A       79-79
 HV237B       80-80
 HV237C       81-81
 HV237D       82-82
```

```
HV237E      83-83
HV237F      84-84
HV237G      85-85
HV237H      86-86
HV237I      87-87
HV237J      88-88
HV237K      89-89
HV237X      90-90
HV237Z      91-91
HV238       92-93
HV239       94-94
HV240       95-95
HV241       96-96
HV242       97-97
HV243A      98-98
HV243B      99-99
HV243C     100-100
HV243D     101-101
HV244      102-102
HV245      103-105
HV246      106-106
HV246A     107-108
HV246B     109-110
HV246C     111-112
HV246D     113-114
HV246E     115-116
HV246F     117-118
HV246G     119-120
HV246H     121-122
HV246I     123-124
HV246J     125-126
HV246K     127-128
HV247      129-129
HV252      130-130
HV253      131-131
HV253A     132-132
HV253B     133-133
HV253C     134-134
HV253D     135-135
HV253E     136-136
HV253F     137-137
HV253G     138-138
HV253H     139-139
HV253X     140-140
HV253Z     141-141
HV270      142-142
HV271      143-150
HML1       151-152
HML1A      153-153
HML2       154-155
SHSTRUCT   156-158
SHQLANG    159-159
```

```
SHILANG      160-160
SHINTERP     161-161
SHTYPE1      162-162
SH104A       163-164
SH105A       165-166
SH105B       167-168
SH105C       169-170
SH105D       171-172
SH105AA      173-174
SH111G       175-175
SH111H       176-176
SH111I       177-177
SH111J       178-178
SH111K       179-179
SH111L       180-180
SH111M       181-181
SH111N       182-182
SH111O       183-183
SH111P       184-184
SH111Q       185-185
SH111R       186-186
SH125F       187-188
SH127        189-189
SH128        190-190
SH129A       191-191
SH129B       192-192
SH129C       193-193
SH129X       194-194
SH129Y       195-195
SH130        196-196
SH131A       197-197
SH131B       198-198
SH131C       199-199
SH131D       200-200
SH131X       201-201
SH131Y       202-202
SH132        203-203
SH133        204-204
SH134A       205-205
SH134B       206-206
SH134C       207-207
SH134D       208-208
SH134E       209-209
SH134F       210-210
SH134G       211-211
SH134H       212-212
SH134I       213-213
SH134Y       214-214
SH135A       215-215
SH135B       216-216
SH135C       217-217
SH135D       218-218
```

```
 SH135E     219-219
 SH135F     220-220
 SH135Y     221-221
 SH136A     222-222
 SH136B     223-223
 SH136C     224-224
 SH136Y     225-225
 SH201      226-226
 SH202      227-227
 SH203      228-228
 SH204      229-230
 SH205      231-231
 SH206      232-232
 SH209      233-233
 SH210      234-234
 SH211      235-235
 SH212A     236-236
 SH212B     237-237
 SH212C     238-238
 SH212D     239-239
 SH212E     240-240
 SH212X     241-241
 SH212Y     242-242
 SH601      243-243
 SH604      244-244
 SH608      245-245
 SH612      246-246
 SH616      247-247
 SH620      248-248
 SH624      249-249
 SH701      250-250
 SH702      251-252
 DOMESTIC   253-253
 HOUSE      254-254
 LAND       255-255
.
VARIABLE LABELS
  HHID      "Case Identification"
 /HV005     "Household sample weight (6 decimals)"
 /HV025     "Type of place of residence"
 /HV009     "Number of household members"
 /HV012     "Number of de jure members"
 /HV013     "Number of de facto members"
 /HV201     "Source of drinking water"
 /HV202     "Source of non-drinking water"
 /HV204     "Time to get to water source (minutes)"
 /HV205     "Type of toilet facility"
 /HV206     "Has electricity"
 /HV207     "Has radio"
 /HV208     "Has television"
 /HV209     "Has refrigerator"
 /HV210     "Has bicycle"
```

```
/HV211      "Has motorcycle/scooter"
/HV212      "Has car/truck"
/HV213      "Main floor material"
/HV214      "Main wall material"
/HV215      "Main roof material"
/HV216      "Number of rooms used for sleeping"
/HV217      "Relationship structure"
/HV218      "Line number of head of household"
/HV219      "Sex of head of household"
/HV220      "Age of head of household"
/HV221      "Has telephone (land-line)"
/HV225      "Share toilet with other households"
/HV226      "Type of cooking fuel"
/HV227      "Has mosquito bed net for sleeping"
/HV228      "Children under 5 slept under mosquito bed net last night"
/HV230A     "Place where household members wash their hands"
/HV230B     "Presence of water at hand washing place"
/HV232      "Items present: Soap or detergent"
/HV232B     "Items present: Ash, mud, sand"
/HV232C     "Items present: CS"
/HV232D     "Items present: CS"
/HV232E     "Items present: CS"
/HV232Y     "Items present: None"
/HV234      "Result of salt test for iodine (PPM)"
/HV234A     "Result of salt test for iodine"
/HV235      "Location of source for water"
/HV236      "Person fetching water"
/HV237      "Anything done to water to make safe to drink"
/HV237A     "Water usually treated by: boil"
/HV237B     "Water usually treated by: add bleach/chlorine"
/HV237C     "Water usually treated by: strain through a cloth"
/HV237D     "Water usually treated by: use water filter"
/HV237E     "Water usually treated by: solar disinfection"
/HV237F     "Water usually treated by: let it stand and settle"
/HV237G     "Water usually treated by: CS"
/HV237H     "Water usually treated by: CS"
/HV237I     "Water usually treated by: CS"
/HV237J     "Water usually treated by: CS"
/HV237K     "Water usually treated by: CS"
/HV237X     "Water usually treated by: other"
/HV237Z     "Water usually treated by: don't know"
/HV238      "Number of households sharing toilet"
/HV239      "Food cooked on stove or open fire"
/HV240      "Household has a chimney, hood or neither"
/HV241      "Food cooked in the house/ separate building/ outdoors"
/HV242      "Household has separate room used as kitchen"
/HV243A     "Has mobile telephone"
/HV243B     "Has watch"
/HV243C     "Has animal-drawn cart"
/HV243D     "Has boat with a motor"
/HV244      "Owns land usable for agriculture"
/HV245      "Hectares of agricultural land (1 decimal)"
```

```
/HV246     "Owns livestock, herds or farm animals"
/HV246A    "Owns cattle"
/HV246B    "Owns cows/ bulls"
/HV246C    "Owns horses/ donkeys/ mules"
/HV246D    "Owns goats"
/HV246E    "Owns sheep"
/HV246F    "Owns chickens"
/HV246G    "Owns CS"
/HV246H    "Owns CS"
/HV246I    "Owns CS"
/HV246J    "Owns CS"
/HV246K    "Owns CS"
/HV247     "Has bank account"
/HV252     "Frequency household members smoke inside the house"
/HV253     "Has dwelling been sprayed against mosquitoes in last 12
months"
/HV253A    "Dwelling sprayed by: government worker/program"
/HV253B    "Dwelling sprayed by: private company"
/HV253C    "Dwelling sprayed by: NGO"
/HV253D    "Dwelling sprayed by: CS"
/HV253E    "Dwelling sprayed by: CS"
/HV253F    "Dwelling sprayed by: CS"
/HV253G    "Dwelling sprayed by: CS"
/HV253H    "Dwelling sprayed by: CS"
/HV253X    "Dwelling sprayed by: other"
/HV253Z    "Dwelling sprayed by: don't know"
/HV270     "Wealth index"
/HV271     "Wealth index factor score (5 decimals)"
/HML1      "Number of mosquito bed nets"
/HML1A     "Number of mosquito bed nets with specific information"
/HML2      "Number of children under mosquito bed net previous night"
/SHSTRUCT  "Structure number"
/SHQLANG   "Language of the questionnaire"
/SHILANG   "Language of the interview"
/SHINTERP  "Use of interpreter"
/SHTYPE1   "Type of place of residence"
/SH104A    "How far is the water source"
/SH105A    "HH member fetching water"
/SH105B    "HH member fetching water"
/SH105C    "HH member fetching water"
/SH105D    "HH member fetching water"
/SH105AA   "Main HH member fetching water"
/SH111G    "Has coocker"
/SH111H    "Has gas stove"
/SH111I    "Has air conditionner"
/SH111J    "Has fan"
/SH111K    "Has CD/DVD reader"
/SH111L    "Has computer"
/SH111M    "Has grain mill"
/SH111N    "Has mixer"
/SH111O    "Has internet connection"
/SH111P    "Has connection to TV/SAT"
```

```
/SH111Q    "Has generator"
/SH111R    "Has water pomp"
/SH125F    "Owns Pigs"
/SH127     "Owner or tenant of the lodging"
/SH128     "Has a certificate/tittle for the lodging"
/SH129A    "Type of lodging document: Land tax"
/SH129B    "Type of lodging Electricity/water/tel bill"
/SH129C    "Type of lodging document: Sale certificate"
/SH129X    "Type of lodging document: Other"
/SH129Y    "Type of lodging document: Nothing/no dcument"
/SH130     "Has writing document for renting"
/SH131A    "Document or agreement for renting: informal agreement"
/SH131B    "Document or agreement for renting: oral agreement"
/SH131C    "Document or agreement for renting: free occupation with
owner's agrrement"
/SH131D    "Document or agreement for renting: free occupation without
owner's agrrement"
/SH131X    "Document or agreement for renting: other"
/SH131Y    "Document or agreement for renting: nothing/no document"
/SH132     "In security not to be sent away from the lodging"
/SH133     "Has been sent away from the house in past 5 years"
/SH134A    "Location of lodging: landslide area"
/SH134B    "Location of lodging: flood exposed area"
/SH134C    "Location of lodging: riverside"
/SH134D    "Location of lodging: steep hill"
/SH134E    "Location of lodgingn: refuse deposit"
/SH134F    "Location of lodging: area of industrial pollution"
/SH134G    "Location of lodging: railway"
/SH134H    "Location of lodging: electric generating center"
/SH134I    "Location of lodging: airway bridge"
/SH134Y    "Location of lodging: none of the above"
/SH135A    "Condition of lodging: fissures/openings on walls"
/SH135B    "Condition of lodging: no window"
/SH135C    "Condition of lodging: window with broken panes/no panes"
/SH135D    "Condition of lodging: visible holes on the roof"
/SH135E    "Condition of lodging: incomplet roof"
/SH135F    "Condition of lodging: weak doors"
/SH135Y    "Condition of lodging: none of the above"
/SH136A    "Environment of lodging: very narrow passage between
houses"
/SH136B    "Environment of lodging: many electrical cables"
/SH136C    "Environment of lodging: high/medium tension cables near
the lodging"
/SH136Y    "Environment of lodging: none of the above"
/SH201     "Windows with wire netting to hinder mosquitoes from
entering"
/SH202     "Doors with wire netting to hinder mosquitoes from
entering"
/SH203     "During the last 12 months, did anyone  come here, to spray
the inner walls of lodging"
/SH204     "Months since spray"
/SH205     "Who sprayed the walls of your lodging"
```

```
 /SH206     "Since the walls were sprayed, have you done anything on
it"
 /SH209     "Do you use mosquitoe nets out of the rooms"
 /SH210     "Do the members of your household continuously  sleep under
mosquitoe net through out the year"
 /SH211     "Why do the members of your household  not sleep
continously under a mosquitoe net through out the year"
 /SH212A    "Why there are no mosquitoe nets: lack of means"
 /SH212B    "Why there are no mosquitoe nets: not necessary"
 /SH212C    "Why there are no mosquitoe nets: use something else"
 /SH212D    "Why there are no mosquitoe nets: not enough mosquitoes"
 /SH212E    "Why there are no mosquitoe nets: doesn't like"
 /SH212X    "Why there are no mosquitoe nets: other"
 /SH212Y    "Why there are no mosquitoe nets: don't know"
 /SH601     "Anyone lacking part of his/her body"
 /SH604     "Anyone suffering from deformation of the upper/the lower
limbs and who cannot or has difficulties in walking and/or  usi"
 /SH608     "Anyone suffering from sight problems"
 /SH612     "Any person who barely hears or who is deaf"
 /SH616     "Anyone with serious difficulties in speaking or who is
dumb"
 /SH620     "Anyone who lacks some parts of the body"
 /SH624     "Anyone with some disorderly behaviors"
 /SH701     "A household member presently sick"
 /SH702     "Number of patients"
 /DOMESTIC "Domestic servant in household"
 /HOUSE     "Owns a dwelling"
 /LAND      "Owns agricultural land"
 .
MISSING VALUE
  HV201     (99)
 /HV202     (99)
 /HV204     (999)
 /HV205     (99)
 /HV206     (9)
 /HV207     (9)
 /HV208     (9)
 /HV209     (9)
 /HV210     (9)
 /HV211     (9)
 /HV212     (9)
 /HV213     (99)
 /HV214     (99)
 /HV215     (99)
 /HV216     (99)
 /HV219     (9)
 /HV220     (99)
 /HV221     (9)
 /HV225     (9)
 /HV226     (99)
 /HV227     (9)
 /HV228     (9)
```

```
/HV230A    (9)
/HV230B    (9)
/HV232     (9)
/HV232B    (9)
/HV232C    (9)
/HV232D    (9)
/HV232E    (9)
/HV232Y    (9)
/HV234     (999)
/HV234A    (9)
/HV235     (9)
/HV236     (9)
/HV237     (9)
/HV237A    (9)
/HV237B    (9)
/HV237C    (9)
/HV237D    (9)
/HV237E    (9)
/HV237F    (9)
/HV237G    (9)
/HV237H    (9)
/HV237I    (9)
/HV237J    (9)
/HV237K    (9)
/HV237X    (9)
/HV237Z    (9)
/HV238     (99)
/HV239     (9)
/HV240     (9)
/HV241     (9)
/HV242     (9)
/HV243A    (9)
/HV243B    (9)
/HV243C    (9)
/HV243D    (9)
/HV244     (9)
/HV245     (999)
/HV246     (9)
/HV246A    (99)
/HV246B    (99)
/HV246C    (99)
/HV246D    (99)
/HV246E    (99)
/HV246F    (99)
/HV246G    (99)
/HV246H    (99)
/HV246I    (99)
/HV246J    (99)
/HV246K    (99)
/HV247     (9)
/HV252     (9)
/HV253     (9)
```

```
/HV253A      (9)
/HV253B      (9)
/HV253C      (9)
/HV253D      (9)
/HV253E      (9)
/HV253F      (9)
/HV253G      (9)
/HV253H      (9)
/HV253X      (9)
/HV253Z      (9)
/HML1        (99)
/HML2        (99)
/SHILANG     (9)
/SHINTERP    (9)
/SH104A      (99)
/SH105A      (99)
/SH105B      (99)
/SH105C      (99)
/SH105D      (99)
/SH105AA     (99)
/SH111G      (9)
/SH111H      (9)
/SH111I      (9)
/SH111J      (9)
/SH111K      (9)
/SH111L      (9)
/SH111M      (9)
/SH111N      (9)
/SH111O      (9)
/SH111P      (9)
/SH111Q      (9)
/SH111R      (9)
/SH125F      (99)
/SH127       (9)
/SH128       (9)
/SH129A      (9)
/SH129B      (9)
/SH129C      (9)
/SH129X      (9)
/SH129Y      (9)
/SH130       (9)
/SH131A      (9)
/SH131B      (9)
/SH131C      (9)
/SH131D      (9)
/SH131X      (9)
/SH131Y      (9)
/SH132       (9)
/SH133       (9)
/SH134A      (9)
/SH134B      (9)
/SH134C      (9)
```

```
    /SH134D    (9)
    /SH134E    (9)
    /SH134F    (9)
    /SH134G    (9)
    /SH134H    (9)
    /SH134I    (9)
    /SH134Y    (9)
    /SH135A    (9)
    /SH135B    (9)
    /SH135C    (9)
    /SH135D    (9)
    /SH135E    (9)
    /SH135F    (9)
    /SH135Y    (9)
    /SH136A    (9)
    /SH136B    (9)
    /SH136C    (9)
    /SH136Y    (9)
    /SH201     (9)
    /SH202     (9)
    /SH203     (9)
    /SH204     (99)
    /SH205     (9)
    /SH206     (9)
    /SH209     (9)
    /SH210     (9)
    /SH211     (9)
    /SH212A    (9)
    /SH212B    (9)
    /SH212C    (9)
    /SH212D    (9)
    /SH212E    (9)
    /SH212X    (9)
    /SH212Y    (9)
    /SH601     (9)
    /SH604     (9)
    /SH608     (9)
    /SH612     (9)
    /SH616     (9)
    /SH620     (9)
    /SH624     (9)
    /SH701     (9)
    .
VALUE LABELS
  HV025
      1 "Urban"
      2 "Rural"
  /HV201
     10 "PIPED WATER"
     11 "Piped into dwelling"
     12 "Piped to yard/plot"
     13 "Public tap/standpipe"
```

```
      20 "TUBE WELL WATER"
      21 "Tube well or borehole"
      30 "DUG WELL (OPEN/PROTECTED)"
      31 "Protected well"
      32 "Unprotected well"
      40 "SURFACE WATER"
      41 "Protected spring"
      42 "Unprotected spring"
      43 "River/dam/lake/ponds/stream/canal/irrigation channel"
      51 "Rainwater"
      61 "Tanker truck"
      62 "Cart with small tank"
      71 "Bottled water"
      96 "Other"
/HV202
      10 "PIPED WATER"
      11 "Piped into dwelling"
      12 "Piped to yard/plot"
      13 "Public tap/standpipe"
      20 "TUBE WELL WATER"
      21 "Tube well or borehole"
      30 "DUG WELL (OPEN/PROTECTED)"
      31 "Protected well"
      32 "Unprotected well"
      40 "SURFACE WATER"
      41 "Protected spring"
      42 "Unprotected spring"
      43 "River/dam/lake/ponds/stream/canal/irrigation channel"
      51 "Rainwater"
      61 "Tanker truck"
      62 "Cart with small tank"
      71 "Bottled water"
      96 "Other"
/HV204
     996 "On premises"
     998 "Don't know"
/HV205
      10 "FLUSH TOILET"
      11 "Flush to piped sewer system"
      12 "Flush to septic tank"
      13 "Flush to pit latrine"
      14 "Flush to somewhere else"
      15 "Flush, don't know where"
      20 "PIT TOILET LATRINE"
      21 "Ventilated Improved Pit latrine (VIP)"
      22 "Pit latrine with slab"
      23 "Pit latrine without slab/open pit"
      30 "NO FACILITY"
      31 "No facility/bush/field"
      41 "Composting toilet"
      42 "Bucket toilet"
      43 "Hanging toilet/latrine"
```

```
      96 "Other"
/HV206
       0 "No"
       1 "Yes"
/HV207
       0 "No"
       1 "Yes"
/HV208
       0 "No"
       1 "Yes"
/HV209
       0 "No"
       1 "Yes"
/HV210
       0 "No"
       1 "Yes"
/HV211
       0 "No"
       1 "Yes"
/HV212
       0 "No"
       1 "Yes"
/HV213
      10 "NATURAL"
      11 "Earth, sand"
      12 "Dung"
      20 "RUDIMENTARY"
      21 "Wood planks"
      22 "Palm, bamboo"
      30 "FINISHED"
      31 "Parquet, polished wood"
      32 "Vinyl, asphalt strips"
      33 "Ceramic tiles"
      34 "Cement"
      35 "Carpet"
      96 "Other"
/HV214
      10 "NATURAL"
      11 "No walls"
      12 "Cane / palm / trunks"
      13 "Dirt"
      20 "RUDIMENTARY"
      21 "Bamboo with mud"
      22 "Stone with mud"
      23 "Uncovered adobe"
      24 "Plywood"
      25 "Cardboard"
      26 "Reused wood"
      30 "FINISHED"
      31 "Cement"
      32 "Stone with lime / cement"
      33 "Bricks"
```

```
   34 "Cement blocks"
   35 "Covered adobe"
   36 "Wood planks / shingles"
   96 "Other"
/HV215
   10 "NATURAL"
   11 "No roof"
   12 "Thatch / palm leaf"
   13 "Sod"
   14 "Straw"
   20 "RUDIMENTARY"
   21 "Rustic mat"
   22 "Palm / bamboo"
   23 "Wood planks"
   24 "Cardboard"
   30 "FINISHED"
   31 "Metal"
   32 "Wood"
   33 "Calamine / cement fiber"
   34 "Ceramic tiles"
   35 "Cement"
   36 "Roofing shingles"
   96 "Other"
/HV217
    0 "No adults"
    1 "One adult"
    2 "Two adults, opposite sex"
    3 "Two adults, same sex"
    4 "Three+ related adults"
    5 "Unrelated adults"
/HV219
    1 "Male"
    2 "Female"
/HV220
   97 "97+"
   98 "Don't know"
/HV221
    0 "No"
    1 "Yes"
/HV225
    0 "No"
    1 "Yes"
/HV226
    1 "Electricity"
    2 "LPG"
    3 "Natural gas"
    4 "Biogas"
    5 "Kerosene"
    6 "Coal, lignite"
    7 "Charcoal"
    8 "Wood"
    9 "Straw/shrubs/grass"
```

```
      10 "Agricultural crop"
      11 "Animal dung"
      95 "No food cooked in house"
      96 "Other"
/HV227
       0 "No"
       1 "Yes"
/HV228
       0 "No"
       1 "All children"
       2 "Some children"
       3 "No net in household"
/HV230A
       1 "Observed"
       2 "Not observed: not in dwelling"
       3 "Not observed: no permission to see"
       4 "Not observed: other reason"
/HV230B
       0 "Water not available"
       1 "Water is available"
/HV232
       0 "No"
       1 "Yes"
/HV232B
       0 "No"
       1 "Yes"
/HV232C
       0 "No"
       1 "Yes"
/HV232D
       0 "No"
       1 "Yes"
/HV232E
       0 "No"
       1 "Yes"
/HV232Y
       0 "No"
       1 "Yes: no cleansing agent observed"
/HV234
       0 "0 PPM (no iodine)"
       7 "Below 15 PPM"
      15 "15 PPM and above"
      30 "30 PPM"
     994 "Salt not tested"
     995 "No salt in household"
/HV234A
       0 "No iodine"
       1 "Iodine present"
       3 "No salt in household"
       6 "Salt not tested"
/HV235
       1 "In own dwelling"
```

```
    2 "In own yard/plot"
    3 "Elsewhere"
/HV236
    1 "Adult woman"
    2 "Adult man"
    3 "Female child under 15 years old"
    4 "Male child under 15 years old"
    6 "Other"
/HV237
    0 "No"
    1 "Yes"
    8 "Don't know"
/HV237A
    0 "No"
    1 "Yes"
    8 "Don't know"
/HV237B
    0 "No"
    1 "Yes"
    8 "Don't know"
/HV237C
    0 "No"
    1 "Yes"
    8 "Don't know"
/HV237D
    0 "No"
    1 "Yes"
    8 "Don't know"
/HV237E
    0 "No"
    1 "Yes"
    8 "Don't know"
/HV237F
    0 "No"
    1 "Yes"
    8 "Don't know"
/HV237G
    0 "No"
    1 "Yes"
    8 "Don't know"
/HV237H
    0 "No"
    1 "Yes"
    8 "Don't know"
/HV237I
    0 "No"
    1 "Yes"
    8 "Don't know"
/HV237J
    0 "No"
    1 "Yes"
    8 "Don't know"
```

```
/HV237K
     0 "No"
     1 "Yes"
     8 "Don't know"
/HV237X
     0 "No"
     1 "Yes"
     8 "Don't know"
/HV237Z
     0 "No"
     1 "Yes: don't know what is done to water"
     8 "Don't know"
/HV238
    95 "10 or more households"
    98 "Don't know"
/HV239
     1 "Open fire"
     2 "Open stove"
     3 "Closed stove with chimney"
     6 "Other"
/HV240
     0 "Neither chimney or hood"
     1 "Chimney"
     2 "Hood"
/HV241
     1 "In the house"
     2 "In a separate building"
     3 "Outdoors"
     6 "Other"
/HV242
     0 "No"
     1 "Yes"
/HV243A
     0 "No"
     1 "Yes"
/HV243B
     0 "No"
     1 "Yes"
/HV243C
     0 "No"
     1 "Yes"
/HV243D
     0 "No"
     1 "Yes"
/HV244
     0 "No"
     1 "Yes"
/HV245
   950 "95 or more"
   998 "Unknown"
/HV246
     0 "No"
```

```
     1 "Yes"
/HV246A
     0 "None"
    95 "95 or more"
    98 "Unknown"
/HV246B
     0 "None"
    95 "95 or more"
    98 "Unknown"
/HV246C
     0 "None"
    95 "95 or more"
    98 "Unknown"
/HV246D
     0 "None"
    95 "95 or more"
    98 "Unknown"
/HV246E
     0 "None"
    95 "95 or more"
    98 "Unknown"
/HV246F
     0 "None"
    95 "95 or more"
    98 "Unknown"
/HV246G
     0 "None"
    95 "95 or more"
    98 "Unknown"
/HV246H
     0 "None"
    95 "95 or more"
    98 "Unknown"
/HV246I
     0 "None"
    95 "95 or more"
    98 "Unknown"
/HV246J
     0 "None"
    95 "95 or more"
    98 "Unknown"
/HV246K
     0 "None"
    95 "95 or more"
    98 "Unknown"
/HV247
     0 "No"
     1 "Yes"
     8 "Don't know"
/HV252
     0 "Never"
     1 "Daily"
```

```
    2 "Weekly"
    3 "Monthly"
    4 "Less than monthly"
/HV253
    0 "No"
    1 "Yes"
    8 "Don't know"
/HV253A
    0 "No"
    1 "Yes"
    8 "Don't know"
/HV253B
    0 "No"
    1 "Yes"
    8 "Don't know"
/HV253C
    0 "No"
    1 "Yes"
    8 "Don't know"
/HV253D
    0 "No"
    1 "Yes"
    8 "Don't know"
/HV253E
    0 "No"
    1 "Yes"
    8 "Don't know"
/HV253F
    0 "No"
    1 "Yes"
    8 "Don't know"
/HV253G
    0 "No"
    1 "Yes"
    8 "Don't know"
/HV253H
    0 "No"
    1 "Yes"
    8 "Don't know"
/HV253X
    0 "No"
    1 "Yes"
    8 "Don't know"
/HV253Z
    0 "No"
    1 "Yes: don't know who sprayed the dwelling"
    8 "Don't know if it was sprayed"
/HV270
    1 "Poorest"
    2 "Poorer"
    3 "Middle"
    4 "Richer"
```

```
        5 "Richest"
/HML1
       98 "Don't know"
/SHQLANG
        1 "French"
        2 "English"
/SHILANG
        1 "French"
        2 "English"
        3 "Fulfuldé"
        4 "Ewondo"
        5 "Pidgin"
        6 "Other"
/SHINTERP
        0 "No"
        1 "Yes"
/SHTYPE1
        1 "Yaoundé/Douala"
        2 "Autres villes"
        3 "Ensemble urbain"
        4 "Rural"
/SH104A
       98 "NSP"
/SH105A
        0 "Pas membre du ménage"
       90 "Personne d'autre"
/SH105B
        0 "Pas membre du ménage"
       90 "Personne d'autre"
/SH105C
        0 "Pas membre du ménage"
       90 "Personne d'autre"
/SH105D
        0 "Pas membre du ménage"
       90 "Personne d'autre"
/SH105AA
        0 "Pas membre du ménage"
       90 "Personne"
/SH111G
        0 "No"
        1 "Yes"
/SH111H
        0 "No"
        1 "Yes"
/SH111I
        0 "No"
        1 "Yes"
/SH111J
        0 "No"
        1 "Yes"
/SH111K
        0 "No"
```

```
     1 "Yes"
/SH111L
     0 "No"
     1 "Yes"
/SH111M
     0 "No"
     1 "Yes"
/SH111N
     0 "No"
     1 "Yes"
/SH111O
     0 "No"
     1 "Yes"
/SH111P
     0 "No"
     1 "Yes"
/SH111Q
     0 "No"
     1 "Yes"
/SH111R
     0 "No"
     1 "Yes"
/SH125F
    95 "95 +"
    98 "DK"
/SH127
     1 "Owner"
     2 "Tenant"
     3 "Free lodging/illegal occupant/other"
/SH128
     0 "No"
     1 "Yes"
/SH129A
     0 "No"
     1 "Yes"
/SH129B
     0 "No"
     1 "Yes"
/SH129C
     0 "No"
     1 "Yes"
/SH129X
     0 "No"
     1 "Yes"
/SH129Y
     0 "No"
     1 "Yes"
/SH130
     0 "No"
     1 "Yes"
     8 "Don't know"
/SH131A
```

```
     0  "No"
     1  "Yes"
/SH131B
     0  "No"
     1  "Yes"
/SH131C
     0  "No"
     1  "Yes"
/SH131D
     0  "No"
     1  "Yes"
/SH131X
     0  "No"
     1  "Yes"
/SH131Y
     0  "No"
     1  "Yes"
/SH132
     0  "No"
     1  "Yes"
     8  "DK"
/SH133
     0  "No"
     1  "Yes"
     8  "DK"
/SH134A
     0  "No"
     1  "Yes"
/SH134B
     0  "No"
     1  "Yes"
/SH134C
     0  "No"
     1  "Yes"
/SH134D
     0  "No"
     1  "Yes"
/SH134E
     0  "No"
     1  "Yes"
/SH134F
     0  "No"
     1  "Yes"
/SH134G
     0  "No"
     1  "Yes"
/SH134H
     0  "No"
     1  "Yes"
/SH134I
     0  "No"
     1  "Yes"
```

```
/SH134Y
     0 "No"
     1 "Yes"
/SH135A
     0 "No"
     1 "Yes"
/SH135B
     0 "No"
     1 "Yes"
/SH135C
     0 "No"
     1 "Yes"
/SH135D
     0 "No"
     1 "Yes"
/SH135E
     0 "No"
     1 "Yes"
/SH135F
     0 "No"
     1 "Yes"
/SH135Y
     0 "No"
     1 "Yes"
/SH136A
     0 "No"
     1 "Yes"
/SH136B
     0 "No"
     1 "Yes"
/SH136C
     0 "No"
     1 "Yes"
/SH136Y
     0 "No"
     1 "Yes"
/SH201
     0 "No"
     1 "Yes"
     6 "No windows"
/SH202
     0 "No"
     1 "Yes"
/SH203
     0 "No"
     1 "Yes"
     8 "DK"
/SH204
    98 "Don't know"
/SH205
     1 "Gouvernment office"
     2 "Private company"
```

```
    3 "Household member"
    6 "Other"
    8 "Don't know"
/SH206
    0 "No"
    1 "Yes"
    8 "Don't know/remember"
/SH209
    0 "No"
    1 "Yes"
/SH210
    0 "No"
    1 "Yes"
    8 "Don't know/remember"
/SH211
    1 "Not enough mosquitoes"
    2 "Because of heather"
    3 "Doesn't like"
    4 "By negligence"
    6 "Other"
    8 "Don't know/remember"
/SH212A
    0 "No"
    1 "Yes"
/SH212B
    0 "No"
    1 "Yes"
/SH212C
    0 "No"
    1 "Yes"
/SH212D
    0 "No"
    1 "Yes"
/SH212E
    0 "No"
    1 "Yes"
/SH212X
    0 "No"
    1 "Yes"
/SH212Y
    0 "No"
    1 "Yes"
/SH601
    0 "No"
    1 "Yes"
/SH604
    0 "No"
    1 "Yes"
/SH608
    0 "No"
    1 "Yes"
/SH612
```

```
      0 "No"
      1 "Yes"
 /SH616
      0 "No"
      1 "Yes"
 /SH620
      0 "No"
      1 "Yes"
 /SH624
      0 "No"
      1 "Yes"
 /SH701
      0 "No"
      1 "Yes"
.
EXECUTE.
*{Construct Variables}.

*{Members per sleeping room}.
if (hv012=0) hv012=hv013.
if (hv216>0) memsleep=trunc(hv012/hv216).
if (hv216=0) memsleep=hv012.
if (memsleep>=98) memsleep=98.

VARIABLE LABELS
 MEMSLEEP "Number of members per sleeping room".
value labels memsleep 0 'Less than 1 per room'.

*{Drinking water supply}.
compute h2oires=0.
if (hv201=11) h2oires=1.
var labels h2oires "Piped into dwelling".
compute h2oyrd=0.
if (hv201=12) h2oyrd=1.
var labels h2oyrd "Piped into yard/plot".
compute h2opub=0.
if (hv201=13) h2opub=1.
var labels h2opub "Public tap / standpipe".
compute h2obwell=0.
if (hv201=21) h2obwell=1.
var labels h2obwell "Tube well or borehole".
compute h2ipwell=0.
if (hv201=31) h2ipwell=1.
var labels h2ipwell "Protected dug well".
compute h2iowell=0.
if (hv201=32) h2iowell=1.
var labels h2iowell "Unprotected dug well".
compute h2opspg=0.
if (hv201=41) h2opspg=1.
var labels h2opspg "Protected Spring".
compute h2ouspg=0.
if (hv201=42) h2ouspg=1.
```

```
var labels h2ouspg "Unprotected Spring".
compute h2orain=0.
if (hv201=51) h2orain=1.
var labels h2orain "Water from rain".
compute h2otruck=0.
if (hv201=61) h2otruck=1.
var labels h2otruck "Water from tanker truck".
compute h2ocart=0.
if (hv201=62) h2ocart=1.
var labels h2ocart "Water from cart with small tank".
compute h2osurf=0.
if (hv201=43) h2osurf=1.
var labels h2osurf "Surface water-river, lake, dam, etc.".
compute h2obot=0.
if (hv201=71) h2obot=1.
var labels h2obot "Water from bottle".
compute h2ooth=0.
if (hv201=96) h2ooth=1.
var labels h2ooth "Other water source".

*{Toilet facility}.
compute flushs=0.
if (hv205=11) flushs=1.
var labels flushs "Flush toilet to sewer".
compute flusht=0.
if (hv205=12) flusht=1.
var labels flusht "Flush toilet to septic tank".
compute flushp=0.
if (hv205=13) flushp=1.
var labels flushp "Flush toilet to pit latrine".
compute flushe=0.
if (hv205=14) flushe=1.
var labels flushe "Flush toilet to elsewhere".
compute latvip=0.
if (hv205=21) latvip=1.
var labels latvip "VIP latrine".
compute latpits=0.
if (hv205=22) latpits=1.
var labels latpits "Pit latrine with slab".
compute latpit=0.
if (hv205=23) latpit=1.
var labels latpit "Traditional pit latrine".
compute latpail=0.
if (hv205=42) latpail=1.
var labels latpail 'Bucket toilet'.
compute lathang=0.
if (hv205=43) lathang=1.
var labels lathang 'Hanging toilet/latrine'.
compute latbush=0.
if (hv205=31) latbush=1.
var labels latbush "No facility/bush/field".
compute latoth=0.
```

```
if (hv205=96) latoth=1.
var labels latoth 'Other type of latrine/toilet'.

compute latshare=0.
var labels latshare 'Shares latrine/toilet with other households'.
compute sflushs=0.
var labels flushs "Flush toilet to sewer".
compute sflusht=0.
var labels sflusht "Flush toilet to septic tank".
compute sflushp=0.
var labels sflushp "Shared Flush toilet to pit latrine".
compute sflushe=0.
var labels sflushe "Shared Flush toilet to elsewhere".
compute slatvip=0.
var labels slatvip "Shared VIP latrine".
compute slatpits=0.
var labels slatpits "Shared Pit latrine with slab".
compute slatpit=0.
var labels slatpit "Shared Traditional pit latrine".
compute slathang=0.
var labels slathang 'Shared Hanging toilet/latrine'.
compute slatoth=0.
var labels slatoth 'Other type of latrine/toilet'.

do if (hv225=1).
  compute latshare=1.
  if (hv205=11) sflushs=1.
  if (hv205=12) sflusht=1.
  if (hv205=13) sflushp=1.
  if (hv205=14) sflushe=1.
  if (hv205=21) slatvip=1.
  if (hv205=22) slatpits=1.
  if (hv205=23) slatpit=1.
  if (hv205=43) slathang=1.
  if (hv205=96) slatoth=1.
end if.


*{Flooring}.
compute dirtfloo=0.
if (hv213=11 or hv213=12) dirtfloo=1.
var labels dirtfloo "Earth, sand, dung floor".
compute woodfloo=0.
if (hv213=21 or hv213=22) woodfloo=1.
var labels woodfloo "Rudimentary wood plank, palm, bamboo floor".
compute prqfloo=0.
if (hv213=31) prqfloo=1.
var labels prqfloo "Polished wood floor".
compute vinlfloo=0.
if (hv213=32) vinlfloo=1.
var labels vinlfloo "Vinyl, asphalt strip floor".
compute tilefloo=0.
```

```
if (hv213=33) tilefloo=1.
var labels tilefloo "Ceramic tile floor".
compute cemtfloo=0.
if (hv213=34) cemtfloo=1.
var labels cemtfloo "Cement floor".
compute rugfloo=0.
if (hv213=35) rugfloo=1.
var labels rugfloo "Carpeted floor".
compute othfloo=0.
if (hv213=96) othfloo=1.
var labels othfloo "Other type of flooring".


*{Walls}.
compute nowall=0.
if (hv214=11) nowall=1.
var labels nowall "No walls".
compute natwall=0.
if (hv214=12 or hv214=13) natwall=1.
var labels natwall "Cane/palm/trunks/dirt walls".
compute mudwall=0.
if (hv214=21) mudwall=1.
var labels mudwall "Bamboo with mud walls".
compute stonwall=0.
if (hv214=22) stonwall=1.
var labels stonwall "Stone with mud walls".
compute adobwall=0.
if (hv214=23) adobwall=1.
var labels adobwall "Uncovered adobe walls".
compute plywall=0.
if (hv214=24) plywall=1.
var labels plywall "Plywood walls".
compute cardwall=0.
if (hv214=25) cardwall=1.
var labels cardwall "Cardboard walls".
compute rwoodwall=0.
if (hv214=26) rwoodwall=1.
var labels rwoodwall "Reused wood walls".
compute cmtwall=0.
if (hv214=31) cmtwall=1.
var labels cmtwall "Cement walls".
compute stonwall=0.
if (hv214=32) stonwall=1.
var labels stonwall "Stone walls with lime/cement".
compute brkwall=0.
if (hv214=33) brkwall=1.
var labels brkwall "Baked brick walls".
compute cmtbwall=0.
if (hv214=34) cmtbwall=1.
var labels cmtbwall "Cement block walls".
compute cadobwall=0.
if (hv214=35) cadobwall=1.
var labels cadobwall "Covered adobe walls".
```

```
compute woodwall=0.
if (hv214=36) woodwall=1.
var labels woodwall "Wood planks, shingles walls".
compute othwall=0.
if (hv214=96) othwall=1.
var labels othwall "Other type of walls".

*{Roofing}.
compute noroof=0.
if (hv215=11) noroof=1.
var labels noroof "No roof".
compute natroof=0.
if (hv215>=12 and hv215<=14) natroof=1.
var labels natroof "Thatch/palm/sod roof".
compute matroof=0.
if (hv215=21) matroof=1.
var labels matroof "Rustic mat / plastic roof".
compute bambroof=0.
if (hv215=22) bambroof=1.
var labels bambroof "Reed / bamboo roof".
compute wproof=0.
if (hv215=23) wproof=1.
var labels wproof "Wood planks roof".
compute cardroof=0.
if (hv215=24) cardroof=1.
var labels cardroof "Cardboard roof".
compute metroof=0.
if (hv215=31) metroof=1.
var labels metroof "Iron sheet roof".
compute woodroof=0.
if (hv215=32) woodroof=1.
var labels woodroof "Wood roof".
compute asbroof=0.
if (hv215=33) asbroof=1.
var labels asbroof "Asbestos / cement fiber roof".
compute tileroof=0.
if (hv215=34) tileroof=1.
var labels tileroof "Ceramic tile roof".
compute cmtroof=0.
if (hv215=35) cmtroof=1.
var labels cmtroof "Concrete roof".
compute shngroof=0.
if (hv215=36) shngroof=1.
var labels shngroof "Roofing shingles roof".
compute othroof=0.
if (hv215=96) othroof=1.
var labels othroof "Other type of roof".

*{Cooking Fuel}.
compute cookelec=0.
if (hv226=1) cookelec=1.
var labels cookelec "Electricity for cooking".
```

```
compute cooklpg=0.
if (hv226=2) cooklpg=1.
var labels cooklpg "LPG for cooking".
compute cookgas=0.
if (hv226=3) cookgas=1.
var labels cookgas "Natural gas for cooking".
compute cookbio=0.
if (hv226=4) cookbio=1.
var labels cookbio "Biogas for cooking".
compute cookkero=0.
if (hv226=5) cookkero=1.
var labels cookkero "Kerosene for cooking".
compute cookcoal=0.
if (hv226=6) cookcoal=1.
var labels cookcoal "Coal/lignite for cooking".
compute cookchar=0.
if (hv226=7) cookchar=1.
var labels cookchar "Charcoal for cooking".
compute cookwood=0.
if (hv226=8 ) cookwood=1.
var labels cookwood "Wood for cooking".
compute cookstraw=0.
if (hv226=9) cookstraw=1.
var labels cookstraw "Straw for cooking".
compute cookcrop=0.
if (hv226=10) cookcrop=1.
var labels cookcrop "Agricultural crop for cooking".
compute cookdung=0.
if (hv226=11) cookdung=1.
var labels cookdung "Dung for cooking".
compute cooknone=0.
if (hv226=95) cooknone=1.
var labels cooknone 'Does not cook'.
compute cookoth=0.
if (hv226=96) cookoth=1.
var labels cookoth "Other fuel for cooking".

*{Reset missing values to "does not have", code to 0}.
if (hv206<>1) hv206=0.
if (hv207<>1) hv207=0.
if (hv208<>1) hv208=0.
if (hv209<>1) hv209=0.
if (hv210<>1) hv210=0.
if (hv211<>1) hv211=0.
if (hv212<>1) hv212=0.
if (hv221<>1) hv221=0.
if (hv243a<>1) hv243a=0.
if (hv243b<>1) hv243b=0.
if (hv243c<>1) hv243c=0.
if (hv243d<>1) hv243d=0.
if (hv247<>1)  hv247=0.
```

```
*   Country-specific assets.
if (sh111g<>1) sh111g=0.
if (sh111h<>1) sh111h=0.
if (sh111i<>1) sh111i=0.
if (sh111j<>1) sh111j=0.
if (sh111k<>1) sh111k=0.
if (sh111l<>1) sh111l=0.
if (sh111m<>1) sh111m=0.
if (sh111n<>1) sh111n=0.
if (sh111o<>1) sh111o=0.
if (sh111p<>1) sh111p=0.
if (sh111q<>1) sh111q=0.
if (sh111r<>1) sh111r=0.

if (sh135a<>1) sh135a=0.
if (sh135b<>1) sh135b=0.
if (sh135c<>1) sh135c=0.
if (sh135d<>1) sh135d=0.
if (sh135e<>1) sh135e=0.
if (sh135f<>1) sh135f=0.

if (sh201<>1) sh201=0.
if (sh202<>1) sh202=0.

** Land owned.
if (hv244<>1) hv244=0.
compute landarea=0.
if (not(missing(hv245))) landarea=hv245/10.
if (hv244=1 and hv245=0) landarea=0.5.
if (missing(hv245) or hv245=998) landarea=$sysmis.
if (hv244<>1) landarea=0.
FREQUENCIES landarea.

* Livestock--farm animals.

if (hv246<>1) hv246=0.
if (hv246<>1) hv246a=0.
if (hv246<>1) hv246b=0.
if (hv246<>1) hv246c=0.
if (hv246<>1) hv246d=0.
if (hv246<>1) hv246e=0.
if (hv246<>1) hv246f=0.
if (hv246<>1) sh125f=0.

missing values hv246a to hv246f, sh125f (98,99).

*Type of tenency of residence.
compute ownres=0.
if (sh127=1) ownres=1.
var labels ownres 'Owns residence'.
compute rentres=0.
if (sh127=2) rentres=1.
```

```
var labels rentres 'Rents residence'.
compute freeres=0.
if (sh127=3) freeres=1.
var labels freeres 'Free lodging/Illegal occupancy'.



*{Lighting fuel}.
*compute eleclgt=0.
*if (qh106=1) eleclgt=1.
*var labels eleclgt "Electricity for lighting".
*compute sunlgt=0.
*if (qh106=2) sunlgt=1.
*var labels sunlgt "Solar electricity for lighting".
*compute gaslgt=0.
*if (qh106=3) gaslgt=1.
*var labels gaslgt "Gas for lighting".
*compute hurrlgt=0.
*if (qh106=4) hurrlgt=1.
*var labels hurrlgt "Pariffin-hurricane lamp".
*compute preslgt=0.
*if (qh106=5) preslgt=1.
*var labels preslgt "Pariffin-pressure lamp".
*compute wicklgt=0.
*if (qh106=6) wicklgt=1.
*var labels wicklgt "Wick lamp for lighting".
*compute candlgt=0.
*if (qh106=8) candlgt=1.
*var labels candlgt "Candles for lighting".
*compute woodlgt=0.
*if (qh106=7) woodlgt=1.
*var labels woodlgt "Firewood for lighting".
*compute othlgt=0.
*if (qh106=96) othlgt=1.
*var labels othlgt "Other type of lighting".



*{Solid waste/garbage collection}.

execute.

FREQUENCIES VARIABLES=HV025 HV009 HV012 HV013 HV201 HV205 HV206 HV207
HV208 HV209 HV210 HV211 HV212
    HV213 HV214 HV215 HV216 HV221 HV225 HV226 HV243A HV243B HV243C
HV243D HV244 HV245 HV246 HV246A
    HV246B HV246C HV246D HV246E HV246F HV247 SH111G SH111H SH111I
SH111J SH111K SH111L SH111M SH111N
    SH111O SH111P SH111Q SH111R SH125F SH127 SH135A SH135B SH135C
SH135D SH135E SH135F SH135Y SH201
    SH202 DOMESTIC HOUSE LAND
  /ORDER=ANALYSIS.
```

```
FREQUENCIES VARIABLES=memsleep h2oires h2oyrd h2opub h2obwell h2ipwell
h2iowell h2opspg h2ouspg
    h2orain h2otruck h2ocart h2osurf h2obot h2ooth flushs flusht
flushp flushe latvip latpits latpit
    latpail lathang latbush latoth latshare sflushs sflusht sflushp
sflushe slatvip slatpits slatpit
    slathang slatoth dirtfloo woodfloo prqfloo vinlfloo tilefloo
cemtfloo rugfloo othfloo nowall
    natwall mudwall stonwall adobwall plywall cardwall rwoodwall
cmtwall brkwall cmtbwall cadobwall
    woodwall othwall noroof natroof matroof bambroof wproof cardroof
metroof woodroof asbroof tileroof
    cmtroof shngroof othroof cookelec cooklpg cookgas cookbio cookkero
cookcoal cookchar cookwood
    cookstraw cookcrop cookdung cooknone cookoth landarea ownres
rentres freeres
  /ORDER=ANALYSIS.

save outfile="c:\hnp2a\Cameroon 2011\cmassets.sav".

**********************************.
*** Factor Analysis to Test Distribution of created variables.

FACTOR
  /VARIABLES HV206 HV207 HV208 HV209 HV210 HV211 HV212 HV221 HV243A
HV243B HV243C HV243D HV246
    HV246A HV246B HV246C HV246D HV246E HV246F HV247 SH111G SH111H
SH111I SH111J SH111K SH111L SH111M
    SH111N SH111O SH111P SH111Q SH111R SH125F DOMESTIC HOUSE LAND
memsleep h2oires h2oyrd h2opub
    h2obwell h2ipwell h2iowell h2opspg h2ouspg h2orain h2otruck
h2ocart h2osurf h2obot h2ooth flushs
    flusht flushp flushe latvip latpits latpit latpail lathang latbush
latoth latshare sflushs sflusht
    sflushp slatvip slatpits slatpit slathang slatoth dirtfloo
woodfloo prqfloo vinlfloo
    tilefloo cemtfloo rugfloo othfloo nowall natwall mudwall stonwall
adobwall plywall cardwall
    rwoodwall cmtwall brkwall cmtbwall cadobwall woodwall othwall
noroof natroof matroof bambroof
    wproof cardroof metroof woodroof asbroof tileroof cmtroof shngroof
othroof cookelec cooklpg cookgas
    cookbio cookkero cookcoal cookchar cookwood cookstraw cookcrop
cookdung cooknone cookoth landarea
    ownres rentres freeres
  /MISSING MEANSUB
 /ANALYSIS HV206 HV207 HV208 HV209 HV210 HV211 HV212 HV221 HV243A
HV243B HV243C HV243D HV246
    HV246A HV246B HV246C HV246D HV246E HV246F HV247 SH111G SH111H
SH111I SH111J SH111K SH111L SH111M
    SH111N SH111O SH111P SH111Q SH111R SH125F DOMESTIC HOUSE LAND
memsleep h2oires h2oyrd h2opub
```

```
     h2obwell h2ipwell h2iowell h2opspg h2ouspg h2orain h2otruck
h2ocart h2osurf h2obot h2ooth flushs
     flusht flushp flushe latvip latpits latpit latpail lathang latbush
latoth latshare sflushs sflusht
     sflushp slatvip slatpits slatpit slathang slatoth dirtfloo
woodfloo prqfloo vinlfloo
     tilefloo cemtfloo rugfloo othfloo nowall natwall mudwall stonwall
adobwall plywall cardwall
     rwoodwall cmtwall brkwall cmtbwall cadobwall woodwall othwall
noroof natroof matroof bambroof
     wproof cardroof metroof woodroof asbroof tileroof cmtroof shngroof
othroof cookelec cooklpg cookgas
     cookbio cookkero cookcoal cookchar cookwood cookstraw cookcrop
cookdung cooknone cookoth landarea
     ownres rentres freeres
   /PRINT UNIVARIATE INITIAL EXTRACTION
   /CRITERIA FACTORS(1) ITERATE(25)
   /EXTRACTION PC
   /ROTATION NOROTATE
   /METHOD=CORRELATION.



**********************************.
*** Common Factor Analysis.

FILTER OFF.
USE ALL.
EXECUTE.

**** Redo removing area-specific variables ****.
FACTOR
  /VARIABLES HV206 HV207 HV208 HV209 HV210 HV211 HV212 HV221 HV243A
HV243B HV243C HV243D
   HV247 SH111G SH111H SH111J SH111K SH111L
   DOMESTIC HOUSE memsleep h2oires h2oyrd h2opub
    h2obwell h2ipwell h2iowell h2opspg h2ouspg h2orain h2otruck
h2ocart h2osurf h2obot h2ooth flushs
     flusht flushp flushe latvip latpits latpit latpail lathang latbush
latoth latshare sflushs sflusht
     sflushp slatvip slatpits slatpit slathang slatoth dirtfloo
woodfloo prqfloo vinlfloo
     tilefloo cemtfloo rugfloo othfloo nowall natwall mudwall stonwall
adobwall plywall cardwall
     rwoodwall cmtwall brkwall cmtbwall cadobwall woodwall othwall
noroof natroof matroof bambroof
     wproof cardroof metroof woodroof asbroof tileroof cmtroof shngroof
othroof cookelec cooklpg cookgas
     cookbio cookkero cookcoal cookchar cookwood cookstraw cookcrop
cookdung cooknone cookoth
     ownres rentres freeres
   /MISSING MEANSUB
```

```
  /ANALYSIS  HV206 HV207 HV208 HV209 HV210 HV211 HV212 HV221 HV243A
HV243B HV243C HV243D
    HV247 SH111G SH111H SH111J SH111K SH111L
    DOMESTIC HOUSE memsleep h2oires h2oyrd h2opub
     h2obwell h2ipwell h2iowell h2opspg h2ouspg h2orain h2otruck
h2ocart h2osurf h2obot h2ooth flushs
      flusht flushp flushe latvip latpits latpit latpail lathang latbush
latoth latshare sflushs sflusht
      sflushp slatvip slatpits slatpit slathang slatoth dirtfloo
woodfloo prqfloo vinlfloo
      tilefloo cemtfloo rugfloo othfloo nowall natwall mudwall stonwall
adobwall plywall cardwall
      rwoodwall cmtwall brkwall cmtbwall cadobwall woodwall othwall
noroof natroof matroof bambroof
      wproof cardroof metroof woodroof asbroof tileroof cmtroof shngroof
othroof cookelec cooklpg cookgas
      cookbio cookkero cookcoal cookchar cookwood cookstraw cookcrop
cookdung cooknone cookoth
      ownres rentres freeres
   /PRINT UNIVARIATE INITIAL EXTRACTION FSCORE
   /CRITERIA FACTORS(1) ITERATE(25)
   /EXTRACTION PC
   /ROTATION NOROTATE
   /SAVE REG(ALL COM)
   /METHOD=CORRELATION.


**  Urban Areas.

USE ALL.
COMPUTE filter_$=(HV025 = 1).
VARIABLE LABEL filter_$ 'HV025 = 1 (FILTER)'.
VALUE LABELS filter_$  0 'Not Selected' 1 'Selected'.
FORMAT filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE .


WEIGHT
  OFF.


FACTOR
   /VARIABLES HV206 HV207 HV208 HV209 HV210 HV211 HV212 HV221 HV243A
HV243B HV243C HV243D HV246
    HV246A HV246B HV246C HV246D HV246E HV246F HV247 SH111G SH111H
SH111I SH111J SH111K SH111L SH111M
    SH111N SH111O SH111P SH111Q SH111R SH125F DOMESTIC HOUSE memsleep
h2oires h2oyrd h2opub
     h2obwell h2ipwell h2iowell h2opspg h2ouspg h2orain h2otruck
h2ocart h2osurf h2obot h2ooth flushs
      flusht flushp flushe latvip latpits latpit latpail lathang latbush
latoth latshare sflushs sflusht
```

```
        sflushp slatvip slatpits slatpit slathang slatoth dirtfloo
woodfloo prqfloo vinlfloo
     tilefloo cemtfloo rugfloo othfloo nowall natwall mudwall stonwall
adobwall plywall cardwall
     rwoodwall cmtwall brkwall cmtbwall cadobwall woodwall othwall
noroof natroof matroof bambroof
     wproof cardroof metroof woodroof asbroof tileroof cmtroof shngroof
othroof cookelec cooklpg cookgas
     cookbio cookkero cookcoal cookchar cookwood cookstraw cookcrop
cookdung cooknone cookoth landarea
     ownres rentres freeres
  /MISSING MEANSUB
  /ANALYSISHV206 HV207 HV208 HV209 HV210 HV211 HV212 HV221 HV243A
HV243B HV243C HV243D HV246
     HV246A HV246B HV246C HV246D HV246E HV246F HV247 SH111G SH111H
SH111I SH111J SH111K SH111L SH111M
     SH111N SH111O SH111P SH111Q SH111R SH125F DOMESTIC HOUSE memsleep
h2oires h2oyrd h2opub
     h2obwell h2ipwell h2iowell h2opspg h2ouspg h2orain h2otruck
h2ocart h2osurf h2obot h2ooth flushs
     flusht flushp flushe latvip latpits latpit latpail lathang latbush
latoth latshare sflushs sflusht
     sflushp slatvip slatpits slatpit slathang slatoth dirtfloo
woodfloo prqfloo vinlfloo
     tilefloo cemtfloo rugfloo othfloo nowall natwall mudwall stonwall
adobwall plywall cardwall
     rwoodwall cmtwall brkwall cmtbwall cadobwall woodwall othwall
noroof natroof matroof bambroof
     wproof cardroof metroof woodroof asbroof tileroof cmtroof shngroof
othroof cookelec cooklpg cookgas
     cookbio cookkero cookcoal cookchar cookwood cookstraw cookcrop
cookdung cooknone cookoth landarea
     ownres rentres freeres
  /PRINT UNIVARIATE INITIAL EXTRACTION FSCORE
  /CRITERIA FACTORS(1) ITERATE(25)
  /EXTRACTION PC
  /ROTATION NOROTATE
  /SAVE REG(ALL URB)
  /METHOD=CORRELATION.


** Rural Area.

USE ALL.
COMPUTE filter_$=(HV025 = 2).
VARIABLE LABEL filter_$ HVv025 = 2 (FILTER)'.
VALUE LABELS filter_$  0 'Not Selected' 1 'Selected'.
FORMAT filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE .
```

```
FACTOR
  /VARIABLES HV206 HV207 HV208 HV209 HV210 HV211 HV212 HV221 HV243A
HV243B HV243C HV243D HV246
     HV246A HV246B HV246C HV246D HV246E HV246F HV247 SH111G SH111H
SH111I SH111J SH111K SH111L SH111M
     SH111N SH111O SH111P SH111Q SH111R SH125F DOMESTIC HOUSE LAND
memsleep h2oires h2oyrd h2opub
     h2obwell h2ipwell h2iowell h2opspg h2ouspg h2orain h2ocart h2osurf
h2obot h2ooth flushs
     flusht flushp latvip latpits latpit latpail lathang latbush latoth
latshare sflusht
     sflushp slatvip slatpits slatpit slathang slatoth dirtfloo
woodfloo prqfloo vinlfloo
     tilefloo cemtfloo rugfloo othfloo nowall natwall mudwall stonwall
adobwall plywall cardwall
     rwoodwall cmtwall brkwall cmtbwall cadobwall woodwall othwall
noroof natroof matroof bambroof
     wproof cardroof metroof woodroof asbroof tileroof cmtroof shngroof
othroof cooklpg cookgas
     cookkero cookcoal cookchar cookwood cookstraw cookcrop cookdung
cooknone cookoth landarea
     ownres rentres freeres
  /MISSING MEANSUB
  /ANALYSIS HV206 HV207 HV208 HV209 HV210 HV211 HV212 HV221 HV243A
HV243B HV243C HV243D HV246
     HV246A HV246B HV246C HV246D HV246E HV246F HV247 SH111G SH111H
SH111I SH111J SH111K SH111L SH111M
     SH111N SH111O SH111P SH111Q SH111R SH125F DOMESTIC HOUSE LAND
memsleep h2oires h2oyrd h2opub
     h2obwell h2ipwell h2iowell h2opspg h2ouspg h2orain h2ocart h2osurf
h2obot h2ooth flushs
     flusht flushp latvip latpits latpit latpail lathang latbush latoth
latshare sflusht
     sflushp slatvip slatpits slatpit slathang slatoth dirtfloo
woodfloo prqfloo vinlfloo
     tilefloo cemtfloo rugfloo othfloo nowall natwall mudwall stonwall
adobwall plywall cardwall
     rwoodwall cmtwall brkwall cmtbwall cadobwall woodwall othwall
noroof natroof matroof bambroof
     wproof cardroof metroof woodroof asbroof tileroof cmtroof shngroof
othroof cooklpg cookgas
     cookkero cookcoal cookchar cookwood cookstraw cookcrop cookdung
cooknone cookoth landarea
     ownres rentres freeres
 /PRINT UNIVARIATE INITIAL EXTRACTION FSCORE
  /CRITERIA FACTORS(1) ITERATE(25)
  /EXTRACTION PC
  /ROTATION NOROTATE
  /SAVE REG(ALL RUR)
  /METHOD=CORRELATION.
```

```
* Calculate regressions with total score.
** Urban Area.

USE ALL.
COMPUTE filter_$=(HV025 = 1).
VARIABLE LABEL filter_$ 'HV025 = 1 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMAT filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE .


REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT COM1
  /METHOD=ENTER URB1  .

** Rural Area.

USE ALL.
COMPUTE filter_$=(HV025 = 2).
VARIABLE LABEL filter_$ 'HV025 = 2 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMAT filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE .


REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT COM1
  /METHOD=ENTER RUR1  .

FILTER OFF.
USE ALL.
EXECUTE .


*** Calculate combined wealth score from Urban and Rural Scores.
compute combscor=0.
print formats combscor (F11.5).
** Urban.
if (HV025 = 1) combscor=0.733+0.776* URB1.
** Rural.
if (HV025 = 2) combscor=(-0.655)+0.597* RUR1.
```

```
execute.


*Tabulation for histograms.
weight by hhwt.
filter off.
use all.
FREQUENCIES
  VARIABLES=combscor  /FORMAT=NOTABLE
  /NTILES= 5
  /STATISTICS=STDDEV MEAN
  /HISTOGRAM  NORMAL
  /ORDER=  ANALYSIS
.

* Calculate histogram intervals.

compute histnac=trunc(fac1_1/((2.5-(-2.0))/50)).
if (fac1_1 ge 0 ) histnac=histnac+1.
freq var=histnac.


*Calculate quintiles and scores for data file.
compute hhmemwt=HV005*hv012/1000000.
weight by hhmemwt.
VARIABLE LABELS hhmemwt 'HH members weighting for Index' .

** Urban Area.
USE ALL.
COMPUTE filter_$=(HV025 = 1).
VARIABLE LABEL filter_$ 'HV025 = 1 (FILTER)'.
VALUE LABELS filter_$  0 'Not Selected' 1 'Selected'.
FORMAT filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE .

RANK
  VARIABLES=urb1  (A) /RANK /NTILES (5) /PRINT=YES
  /TIES=MEAN .

** Rural Area.

USE ALL.
COMPUTE filter_$=(HV025 = 2).
VARIABLE LABEL filter_$ 'HV025 = 2 (FILTER)'.
VALUE LABELS filter_$  0 'Not Selected' 1 'Selected'.
FORMAT filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE .

RANK
  VARIABLES=rur1  (A) /RANK /NTILES (5) /PRINT=YES
```

```
   /TIES=MEAN .

** National combined score.

FILTER OFF.
USE ALL.
EXECUTE .

RANK
  VARIABLES=combscor  (A) /RANK /NTILES (5) /PRINT=YES
  /TIES=MEAN .

FREQUENCIES
  VARIABLES=combscor  /FORMAT=NOTABLE
  /NTILES= 5
  /STATISTICS=STDDEV MINIMUM MAXIMUM MEAN MEDIAN MODE SKEWNESS SESKEW
  KURTOSIS SEKURT
  /ORDER=  ANALYSIS .

frequencies variables=ncombsco.

compute hhwt=HV005/1000000.
weight by hhwt.
VARIABLE LABELS hhwt 'HH weights' .

MEANS TABLES= HV206 HV207 HV208 HV209 HV210 HV211 HV212 HV221 HV243A
HV243B HV243C HV243D HV246
    HV246A HV246B HV246C HV246D HV246E HV246F HV247 SH111G SH111H
SH111I SH111J SH111K SH111L SH111M
    SH111N SH111O SH111P SH111Q SH111R SH125F DOMESTIC HOUSE memsleep
h2oires h2oyrd h2opub
    h2obwell h2ipwell h2iowell h2opspg h2ouspg h2orain h2otruck
h2ocart h2osurf h2obot h2ooth flushs
    flusht flushp flushe latvip latpits latpit latpail lathang latbush
latoth latshare sflushs sflusht
    sflushp slatvip slatpits slatpit slathang slatoth dirtfloo
woodfloo prqfloo vinlfloo
    tilefloo cemtfloo rugfloo othfloo nowall natwall mudwall stonwall
adobwall plywall cardwall
    rwoodwall cmtwall brkwall cmtbwall cadobwall woodwall othwall
noroof natroof matroof bambroof
    wproof cardroof metroof woodroof asbroof tileroof cmtroof shngroof
othroof cookelec cooklpg cookgas
    cookbio cookkero cookcoal cookchar cookwood cookstraw cookcrop
cookdung cooknone cookoth landarea
    ownres rentres freeres
    by Ncombsco
  /CELLS MEAN COUNT STDDEV.


compute hv271=combscor.
compute hv270=ncombsco.
```

```
save outfile="c:\hnp2a\Cameroon 2011\cmassets.sav".

WEIGHT
  OFF.

write formats combscor (f11.5).

WRITE OUTFILE='c:\hnp2a\Cameroon 2011\cm11scores.dat'
  TABLE
  /hhid combscor ncombsco urb1 nurb1 rur1 nrur1.
EXECUTE.

compute hhwt=HV005/1000000.
weight by hhwt.

GRAPH
  /HISTOGRAM(NORMAL)=combscor
  /TITLE= 'Distribution of Households by Wealth Scores Cameroon'.

weight off.
```