```
*{Construct Variables}.


*{Members per sleeping room}.
if (HHUSUAL=0) HHUSUAL=HHSLEPT.
if (QH117>0 and qh117<98) memsleep=trunc(HHUSUAL/QH117).
if (QH117=0) memsleep=HHUSUAL.
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.
variable labels h2oires "Public Piped into dwelling".
compute h2oyrd=0.
if (QH102=12) h2oyrd=1.
variable labels h2oyrd "Public Piped into yard/plot".
compute h2ospipe=0.
if (QH102=13) h2ospipe=1.
variable labels h2ospipe "Public tap/standpipe".
compute h2otwell=0.
if (QH102=21) h2otwell=1.
variable labels h2otwell "Tube well/borehole".
compute h2opwell=0.
if (QH102=31) h2opwell=1.
variable labels h2opwell "Protected well".
compute h2ouwell=0.
if (QH102=32) h2ouwell=1.
variable labels h2ouwell "Unprotected well".
compute h2opspg=0.
if (QH102=41) h2opspg=1.
variable labels h2opspg "Protected spring".
compute h2ouspg=0.
if (QH102=42) h2ouspg=1.
variable labels h2ouspg "Unprotected spring".
compute h2orain=0.
if (QH102=51) h2orain=1.
variable labels h2orain "Water from rain".
compute h2otruck=0.
if (QH102=61) h2otruck=1.
variable labels h2otruck "Water from tanker truck".
compute h2ocart=0.
if (QH102=71) h2ocart=1.
variable labels h2ocart "Cart with small tank".
compute h2osurf=0.
if (QH102=81) h2osurf=1.
variable labels h2osurf "Surface water-river, lake, dam, etc.".
compute h2obot=0.
if (QH102=91) h2obot=1.
variable labels h2obot "Water from bottle".
compute h2ooth=0.
```

```
if (QH102=96) h2ooth=1.
variable labels h2ooth "Other water source".
formats h2oires h2oyrd h2ospipe h2otwell h2opwell h2ouwell
h2opspg h2ouspg h2orain h2otruck h2ocart h2osurf h2obot h2ooth
(f1.0).

*{Toilet facility}.
compute flushs=0.
if (QH107=11) flushs=1.
variable labels flushs "Flush toilet to sewer".
compute flusht=0.
if (QH107=12) flusht=1.
variable labels flusht "Flush toilet to septic tank".
compute flushp=0.
if (QH107=13) flushp=1.
variable labels flushp "Flush to pit latrine".
compute flushe=0.
if (QH107=14) flushe=1.
variable labels flushe "Flush somewhere else".
compute flushd=0.
if (QH107=15) flushd=1.
variable labels flushd "Flush don't know where".
compute latvip=0.
if (QH107=21) latvip=1.
variable labels latvip "Ventilated improved pit latrine".
compute latslab=0.
if (QH107=22) latslab=1.
variable labels latslab "Pit latrine with slab".
compute latpit=0.
if (QH107=23) latpit=1.
variable labels latpit "Pit latrine open pit".
compute latcomp=0.
if (qh107=31) latcomp=1.
variable labels latcomp "Composting latrine".
compute latbuck=0.
if (QH107=41) latbuck=1.
variable labels latbuck "Bucket toilet".
compute lathang=0.
if (QH107=51) lathang=1.
variable labels lathang "Hanging toilet/latrine".
compute latbush=0.
if (QH107=61) latbush=1.
variable labels latbush "No facility/bush/field".
compute latoth=0.
if (QH107=96) latoth=1.
variable labels latoth "Other type of latrine/toilet".
formats flushs flusht flushp flushe flushd latvip latslab latpit
latcomp latbuck lathang latbush latoth (f1.0).

compute latshare=0.
if (QH108=1) latshare=1.
variable labels latshare "Shares latrine/toilet with other
```

```
households".
formats latshare (f1.0).

compute sflushs=0.
variable labels sflushs "Shared Flush toilet to sewer".
compute sflusht=0.
variable labels sflusht "Shared Flush toilet to septic tank".
compute sflushp=0.
variable labels sflushp "Shared Flush to pit latrine".
compute sflushe=0.
variable labels sflushe "Shared Flush somewhere else".
compute sflushd=0.
variable labels sflushd "Shared Flush don't know where".
compute slatvip=0.
variable labels slatvip "Shared Ventilated improved pit latrine".
compute slatslab=0.
variable labels slatslab "Shared Pit latrine with slab".
compute slatpit=0.
variable labels slatpit "Shared Pit latrine open pit".
compute slatcomp=0.
variable labels slatcomp "Shared composting latrine".
compute slatbuck=0.
variable labels slatbuck "Shared Bucket toilet".
compute slathang=0.
variable labels slathang "Shared Hanging toilet/latrine".
compute slatoth=0.
variable labels slatoth "Shared Other type of latrine/toilet".

do if (latshare=1).
  if (QH107=11) sflushs=1.
  if (QH107=12) sflusht=1.
  if (QH107=13) sflushp=1.
  if (QH107=14) sflushe=1.
  if (QH107=15) sflushd=1.
  if (QH107=21) slatvip=1.
  if (QH107=22) slatslab=1.
  if (QH107=23) slatpit=1.
  if (qh107=31) slatcomp=1.
  if (QH107=41) slatbuck=1.
  if (QH107=51) slathang=1.
  if (QH107=96) slatoth=1.
end if.
formats sflushs sflusht sflushp sflushe sflushd slatvip slatslab
slatpit slatcomp slatbuck slathang slatoth (f1.0).


*{Flooring}.
compute dirtfloo=0.
if (QH114=11) dirtfloo=1.
variable labels dirtfloo "Earth, sand, floor".
compute dungfloo=0.
if (QH114=12) dungfloo=1.
```

```
variable labels dungfloo "dung floor".
compute woodfloo=0.
if (QH114=21) woodfloo=1.
variable labels woodfloo "wood plank floor".
compute palmfloo=0.
if (QH114=22) palmfloo=1.
variable labels palmfloo "Palm/bamboo floor".
compute prqfloo=0.
if (QH114=31) prqfloo=1.
variable labels prqfloo "Polished wood floor".
compute vinyfloo=0.
if (QH114=32) vinyfloo=1.
variable labels vinyfloo "Vinyl/asphalt floor".
compute tilefloo=0.
if (QH114=33) tilefloo=1.
variable labels tilefloo "Ceramic tile floor".
compute cemtfloo=0.
if (QH114=34) cemtfloo=1.
variable labels cemtfloo "Cement floor".
compute carpfloo=0.
if (QH114=35) carpfloo=1.
variable labels carpfloo "Carpet floor".
compute othfloo=0.
if (QH114=96) othfloo=1.
variable labels othfloo "Other type of flooring".
formats dirtfloo dungfloo woodfloo palmfloo prqfloo vinyfloo
tilefloo cemtfloo carpfloo othfloo (f1.0).

*{Roofing}.
compute noroof=0.
if (QH115=11) noroof=1.
variable labels noroof "No roof".
compute natroof=0.
if (QH115=12) natroof=1.
variable labels natroof "Thatch, palm, sod roof".
compute sodroof=0.
if (QH115=13) sodroof=1.
variable labels sodroof "Sod/grass roof".
compute rustroof=0.
if (QH115=21) rustroof=1.
variable labels rustroof "Rustic mat roof".
compute palmroof=0.
if (QH115=22) palmroof=1.
variable labels palmroof "Palm/bamboo roof".
compute wproof=0.
if (QH115=23) wproof=1.
variable labels wproof "Wood planks roof".
compute cardroof=0.
if (QH115=24) cardroof=1.
variable labels cardroof "Cardboard roof".
compute ironroof=0.
if (QH115=31) ironroof=1.
```

```
variable labels ironroof "Iron sheet/asbestos roof".
compute woodroof=0.
if (QH115=32) woodroof=1.
variable labels woodroof "Wood/T iron/mud roof".
compute calaroof=0.
if (QH115=33) calaroof=1.
variable labels calaroof "Calamine/cement fiber roof".
compute ceraroof=0.
if (QH115=34) ceraroof=1.
variable labels ceraroof "Ceramic tiles roof".
compute cemtroof=0.
if (QH115=35) cemtroof=1.
variable labels cemtroof "Cement/RCC roof".
compute shinroof=0.
if (QH115=36) shinroof=1.
variable labels shinroof "Shingles roof".
compute othroof=0.
if (QH115=96) othroof=1.
variable labels othroof "Other type of roof".
formats noroof natroof sodroof rustroof palmroof wproof cardroof
ironroof woodroof calaroof ceraroof cemtroof shinroof othroof
(f1.0).

*{Walls}.
compute nowall=0.
if (QH116=11) nowall=1.
variable labels nowall "No walls".
compute natwall=0.
if (QH116=12) natwall=1.
variable labels natwall "Cane/palm/trunks walls".
compute dirtwall=0.
if (QH116=13) dirtwall=1.
variable labels dirtwall "Dirt walls".
compute mudwall=0.
if (QH116=22) mudwall=1.
variable labels mudwall "Mud/stones walls".
compute bambwall=0.
if (QH116=21) bambwall=1.
variable labels bambwall "Bamboo walls".
compute cartwall=0.
if (QH116=25) cartwall=1.
variable labels cartwall "Carton/plastic walls".
compute bmudwall=0.
if (QH116=21) bmudwall=1.
variable labels bmudwall "Bamboo with mud walls".
compute stonwall=0.
if (QH116=24) stonwall=1.
variable labels stonwall "Stone walls with lime/cement".
compute adobwall=0.
if (QH116=23) adobwall=1.
variable labels adobwall "Uncovered adobe walls".
compute plywwall=0.
```

```
if (QH116=24) plywwall=1.
variable labels plywwall "Plywood wall".
compute cardwall=0.
if (QH116=25) cardwall=1.
variable labels cardwall "Cardboard walls".
compute reuwwall=0.
if (QH116=26) reuwwall=1.
variable labels reuwwall "Reused wood walls".
compute brikwall=0.
if (QH116=33) brikwall=1.
variable labels brikwall "Baked brick walls".
compute cemtwall=0.
if (QH116=31) cemtwall=1.
variable labels cemtwall "Cement walls".
compute stlimwall=0.
if (QH116=32) stlimwall=1.
variable labels stlimwall "Stone with lime/cement walls".
compute cemt2wall=0.
if (QH116=34) cemt2wall=1.
variable labels cemt2wall "Cement blocks walls".
compute adob2wall=0.
if (QH116=35) adob2wall=1.
variable labels adob2wall "Covered adobe walls".
compute shinwall=0.
if (QH116=36) shinwall=1.
variable labels shinwall "Wood planks/shingle walls".
compute metlwall=0.
if (QH116=37) metlwall=1.
variable labels metlwall "Sheet metal walls".
compute othwall=0.
if (QH116=96) othwall=1.
variable labels othwall "Other type of walls".
formats nowall natwall dirtwall mudwall bambwall cartwall
bmudwall stonwall adobwall plywwall cardwall reuwwall brikwall
cemtwall stlimwall cemt2wall adob2wall shinwall metlwall othwall
(f1.0).


*{Cooking Fuel}.
compute cookelec=0.
if (QH111=1) cookelec=1.
variable labels cookelec "Electricity for cooking".
compute cooklpg=0.
if (QH111=2) cooklpg=1.
variable labels cooklpg "LPG for cooking".
compute cookngas=0.
if (QH111=3) cookngas=1.
variable labels cookngas "Natural gas for cooking".
compute cookbgas=0.
if (QH111=4) cookbgas=1.
variable labels cookbgas "Biogas for cooking".
compute cookkero=0.
```

```
if (QH111=5) cookkero=1.
variable labels cookkero "Kerosene for cooking".
compute cookcoal=0.
if (QH111=6) cookcoal=1.
variable labels cookcoal "Coal lgnite for cooking".
compute cookchar=0.
if (QH111=7) cookchar=1.
variable labels cookchar "Charcoal for cooking".
compute cookwood=0.
if (QH111=8) cookwood=1.
variable labels cookwood "Wood for cooking".
compute cookstraw=0.
if (QH111=9) cookstraw=1.
variable labels cookstraw "Straw/shrubs/grass for cooking".
compute cookagric=0.
if (qh111=10) cookagric=1.
variable labels cookagric "Agricultural residue for cooking
fuel".
compute cookdung=0.
if (QH111=11) cookdung=1.
variable labels cookdung "Dung for cooking".
compute cooknone=0.
if (QH111=95) cooknone=1.
variable labels cooknone 'Does not cook'.
compute cookoth=0.
if (QH111=96) cookoth=1.
variable labels cookoth "Other fuel for cooking".
formats cookelec cooklpg cookngas cookbgas cookkero cookcoal
cookchar cookwood cookstraw cookagric cookdung cooknone cookoth
(f1.0).

*{Reset missing values to "does not have", change 2 code to 0}.
if (missing(QH110A) | QH110A<>1) QH110A=0.
if (missing(QH110B) | QH110B<>1) QH110B=0.
if (missing(QH110C) | QH110C<>1) QH110C=0.
if (missing(QH110D) | QH110D<>1) QH110D=0.
if (missing(QH110E) | QH110E<>1) QH110E=0.
if (missing(QH110F) | QH110F<>1) QH110F=0.

if (missing(QH118A) | QH118A<>1) QH118A=0.
if (missing(QH118B) | QH118B<>1) QH118B=0.
if (missing(QH118C) | QH118C<>1) QH118C=0.
if (missing(QH118D) | QH118D<>1) QH118D=0.
if (missing(QH118E) | QH118E<>1) QH118E=0.
if (missing(QH118F) | QH118F<>1) QH118F=0.

execute.

* Land.
* Hectares.
compute landarea=qh120.
if (QH120>95) landarea=$sysmis.
```

```
if (missing(QH119) | QH119<>1) landarea=0.
frequencies landarea.

*Animals.
if (missing(QH121)  | QH121 <>1) QH121=0.
if (missing(QH122A) | QH121 <>1) QH122A=0.
if (missing(QH122B) | QH121 <>1) QH122B=0.
if (missing(QH122C) | QH121 <>1) QH122C=0.
if (missing(QH122D) | QH121 <>1) QH122D=0.
if (missing(QH122E) | QH121 <>1) QH122E=0.
if (missing(QH122F) | QH121 <>1) QH122F=0.

missing values QH122A to QH122F (98,99).

* Bank account.
if (missing(QH123) | QH123<>1) QH123=0.

* Compute urban and rural variables coded (1/0) for filters
later.
COMPUTE urban=(QHTYPE = 1).
COMPUTE rural=(QHTYPE = 2).
VARIABLE LABELS urban 'Urban' / rural 'Rural'.
VALUE LABELS urban 1 'Urban' / rural 1 'Rural'.
FORMATS urban rural (f1.0).

execute.


* Check on indicator variable creation.

FREQUENCIES VARIABLES=QHTYPE HHMEMB HHUSUAL HHSLEPT QH102 QH107
QH108 QH110A QH110B QH110C QH110D QH110E
    QH110F QH111 QH114
    QH115 QH116 QH118A QH118B QH118C QH118D QH118E QH118F QH119
QH120
    QH121 QH122A QH122B QH122C QH122D QH122E QH122F QH123 HOUSE
LAND
  /ORDER=ANALYSIS.

FREQUENCIES VARIABLES=memsleep h2oires h2oyrd h2ospipe h2otwell
h2opwell h2ouwell h2opspg h2ouspg
    h2orain h2otruck h2ocart h2osurf h2obot h2ooth flushs flusht
flushp flushe flushd latvip latslab
    latpit latcomp latbuck lathang latbush latshare sflushs
sflusht sflushp sflushe sflushd
    slatslab slatpit slatcomp slathang dirtfloo dungfloo woodfloo
palmfloo
    prqfloo tilefloo cemtfloo carpfloo othfloo noroof natroof
sodroof rustroof palmroof wproof
    cardroof ironroof woodroof calaroof ceraroof cemtroof
shinroof othroof nowall natwall dirtwall
    mudwall bambwall cartwall bmudwall stonwall adobwall plywwall
```

```
cardwall reuwwall brikwall cemtwall
    stlimwall cemt2wall adob2wall shinwall metlwall othwall
cookelec cooklpg cookngas cookbgas cookkero
    cookcoal cookchar cookwood cookstraw cookdung cooknone
cookoth landarea urban
    rural
  /ORDER=ANALYSIS.


* Turn off weights before all factor analysis.
WEIGHT OFF.

save outfile="c:\hnp2a\Comoros 2012\km12assets.sav".

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

FACTOR
  /VARIABLES QH110A QH110B QH110C QH110D QH110E
    QH110F QH118A QH118B QH118C QH118D QH118E QH118F QH122A
QH122B QH122C QH122D QH122E QH122F QH123 HOUSE LAND
    h2oires h2oyrd h2ospipe h2otwell h2opwell h2ouwell h2opspg
h2ouspg
    h2orain h2otruck h2ocart h2osurf h2obot h2ooth flushs flusht
flushp flushe flushd latvip latslab
    latpit latcomp latbuck lathang latbush latshare sflushs
sflusht sflushp sflushe sflushd
    slatslab slatpit slatcomp slathang dirtfloo dungfloo woodfloo
palmfloo
    prqfloo tilefloo cemtfloo carpfloo othfloo noroof natroof
sodroof rustroof palmroof wproof
    cardroof ironroof woodroof calaroof ceraroof cemtroof
shinroof othroof nowall natwall dirtwall
    mudwall bambwall cartwall bmudwall stonwall adobwall plywwall
cardwall reuwwall brikwall cemtwall
    stlimwall cemt2wall adob2wall shinwall metlwall othwall
cookelec cooklpg cookngas cookbgas cookkero
    cookcoal cookchar cookwood cookstraw cookdung cooknone
cookoth landarea
  /MISSING MEANSUB
  /ANALYSIS QH110A QH110B QH110C QH110D QH110E
    QH110F QH118A QH118B QH118C QH118D QH118E QH118F QH122A
QH122B QH122C QH122D QH122E QH122F QH123 HOUSE LAND
    h2oires h2oyrd h2ospipe h2otwell h2opwell h2ouwell h2opspg
h2ouspg
    h2orain h2otruck h2ocart h2osurf h2obot h2ooth flushs flusht
flushp flushe flushd latvip latslab
    latpit latcomp latbuck lathang latbush latshare sflushs
sflusht sflushp sflushe sflushd
    slatslab slatpit slatcomp slathang dirtfloo dungfloo woodfloo
palmfloo
    prqfloo tilefloo cemtfloo carpfloo othfloo noroof natroof
```

```
sodroof rustroof palmroof wproof
    cardroof ironroof woodroof calaroof ceraroof cemtroof
shinroof othroof nowall natwall dirtwall
    mudwall bambwall cartwall bmudwall stonwall adobwall plywwall
cardwall reuwwall brikwall cemtwall
    stlimwall cemt2wall adob2wall shinwall metlwall othwall
cookelec cooklpg cookngas cookbgas cookkero
    cookcoal cookchar cookwood cookstraw 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 ****.
** Agricultural land size and animal variables excluded.
** Any others ?.

FACTOR
  /VARIABLES QH110A QH110B QH110C QH110D QH110E
    QH110F QH118A QH118B QH118C QH118D QH118E QH118F QH123 HOUSE
LAND
    h2oires h2oyrd h2ospipe h2otwell h2opwell h2ouwell h2opspg
h2ouspg
    h2orain h2otruck h2ocart h2osurf h2obot h2ooth flushs flusht
flushp flushe flushd latvip latslab
    latpit latcomp latbuck lathang latbush latshare sflushs
sflusht sflushp sflushe sflushd
    slatslab slatpit slatcomp slathang dirtfloo dungfloo woodfloo
palmfloo
    prqfloo tilefloo cemtfloo carpfloo othfloo noroof natroof
sodroof rustroof palmroof wproof
    cardroof ironroof woodroof calaroof ceraroof cemtroof
shinroof othroof nowall natwall dirtwall
    mudwall bambwall cartwall bmudwall stonwall adobwall plywwall
cardwall reuwwall brikwall cemtwall
    stlimwall cemt2wall adob2wall shinwall metlwall othwall
cookelec cooklpg cookngas cookbgas cookkero
    cookcoal cookchar cookwood cookstraw cookdung cooknone
cookoth
  /MISSING MEANSUB
  /ANALYSIS QH110A QH110B QH110C QH110D QH110E
    QH110F QH118A QH118B QH118C QH118D QH118E QH118F QH123 HOUSE
LAND
```

```
    h2oires h2oyrd h2ospipe h2otwell h2opwell h2ouwell h2opspg
h2ouspg
    h2orain h2otruck h2ocart h2osurf h2obot h2ooth flushs flusht
flushp flushe flushd latvip latslab
    latpit latcomp latbuck lathang latbush latshare sflushs
sflusht sflushp sflushe sflushd
    slatslab slatpit slatcomp slathang dirtfloo dungfloo woodfloo
palmfloo
    prqfloo tilefloo cemtfloo carpfloo othfloo noroof natroof
sodroof rustroof palmroof wproof
    cardroof ironroof woodroof calaroof ceraroof cemtroof
shinroof othroof nowall natwall dirtwall
    mudwall bambwall cartwall bmudwall stonwall adobwall plywwall
cardwall reuwwall brikwall cemtwall
    stlimwall cemt2wall adob2wall shinwall metlwall othwall
cookelec cooklpg cookngas cookbgas cookkero
    cookcoal cookchar cookwood cookstraw cookdung cooknone
cookoth
  /PRINT UNIVARIATE INITIAL EXTRACTION fscore
  /CRITERIA FACTORS(1) ITERATE(25)
  /EXTRACTION PC
  /ROTATION NOROTATE
  /SAVE REG(ALL COM)
  /METHOD=CORRELATION.

** Now do the optimal binning.

compute cattle=qh122a.
compute dairy=qh122b.
compute equine=qh122c.
compute goats=qh122d.
compute sheep=qh122e.
compute chicks=qh122f.
execute.

FREQUENCIES VARIABLES=cattle to chicks.
** Classify large animals (cattle, dairy, traction, hogs, goats,
sheep, etc.) into the following categories
0, 1-4, 5-9, 10+.

** Classifiy small animals into the following categories:
0, 1-9, 10-29, 30+.
use all.
filter off.
execute.
numeric cattle1 to cattle 4 dairy1 to dairy4 equine1 to equine4,
goats1 to goats4, sheep1 to sheep4 chicks1 to chicks4.
do repeat  lgan=cattle to sheep
                /lg1=cattle1 dairy1 equine1 goats1 sheep1
                /lg2=cattle2 dairy2 equine2 goats2 sheep2
                /lg3=cattle3 dairy3 equine3 goats3 sheep3
                /lg4=cattle4 dairy4 equine4 goats4 sheep4.
```

```
compute lg1=(lgan = 0).
compute lg2=(lgan ge 1 and lgan le 4).
compute lg3=(lgan ge 5 and lgan le 9).
compute lg4=(lgan ge 10 and lgan le 97).
end repeat.
execute.
value labels cattle1 dairy1 equine1 goats1 sheep1 1 'Zero'.
value labels cattle2 dairy2 equine2 goats2 sheep2 1 '1 to 4'.
value labels cattle3 dairy3 equine3 goats3 sheep3 1 '5 to 9'.
value labels cattle4 dairy4 equine4 goats4 sheep4 1 '10 or more'.


do repeat sman=chicks
                 /sm1=chicks1
                 /sm2=chicks2
                 /sm3=chicks3
                 /sm4=chicks4 .
compute sm1=(sman = 0).
compute sm2=(sman ge 1 and sman le 9).
compute sm3=(sman ge 10 and sman le 29).
compute sm4=(sman ge 30 and sman le 97).
end repeat.
execute.
value labels chicks1  1 'Zero'.
value labels chicks2  1 '1 to 9'.
value labels chicks3  1 '10 to 29'.
value labels chicks4 4 1 '30 or more'.
frequencies cattle1 to chicks4.

RANK VARIABLES=com1 (A) /RANK /NTILES (5) /PRINT=YES /TIES=MEAN.

OPTIMAL BINNING
  /variables guide=ncom1 bin=landarea save=yes (into=landgrpr)
 /CRITERIA preprocess=EQUALFREQ
                  method=MDLP
                  LOWEREND =OBSERVED

                           UPPEREND =OBSERVED
 /MISSING SCOPE = PAIRWISE.

** No association so will drop optimal binning for land area.

**  Urban Area.

USE ALL.
FILTER BY urban.
EXECUTE.

FACTOR
  /VARIABLES QH110A QH110B QH110C QH110D QH110E
    QH110F QH118A QH118B QH118C QH118D QH118E QH118F QH123 HOUSE
LAND
```

```
    h2oires h2oyrd h2ospipe h2otwell h2opwell h2ouwell h2opspg
h2ouspg
    h2orain h2otruck h2ocart h2osurf h2obot h2ooth flushs flusht
flushp flushe flushd latvip latslab
    latpit latcomp latbuck lathang latbush latshare sflushs
sflusht sflushp sflushe sflushd
    slatslab slatpit slatcomp slathang dirtfloo dungfloo woodfloo
palmfloo
    prqfloo tilefloo cemtfloo carpfloo othfloo noroof natroof
sodroof palmroof wproof
    cardroof ironroof woodroof calaroof ceraroof cemtroof
shinroof othroof nowall natwall dirtwall
    mudwall bambwall cartwall bmudwall stonwall plywwall cardwall
reuwwall brikwall cemtwall
    stlimwall cemt2wall shinwall metlwall othwall cookelec
cooklpg cookngas cookbgas cookkero
    cookcoal cookchar cookwood cookstraw cooknone cookoth cattle1
to cattle4 dairy1 to dairy4 equine1 to equine3
    goats1 to goats4 sheep1 to sheep4 chicks1 to chicks4
    landarea
  /MISSING MEANSUB
  /ANALYSIS  QH110A QH110B QH110C QH110D QH110E
    QH110F QH118A QH118B QH118C QH118D QH118E QH118F QH123 HOUSE
LAND
    h2oires h2oyrd h2ospipe h2otwell h2opwell h2ouwell h2opspg
h2ouspg
    h2orain h2otruck h2ocart h2osurf h2obot h2ooth flushs flusht
flushp flushe flushd latvip latslab
    latpit latcomp latbuck lathang latbush latshare sflushs
sflusht sflushp sflushe sflushd
    slatslab slatpit slatcomp slathang dirtfloo dungfloo woodfloo
palmfloo
    prqfloo tilefloo cemtfloo carpfloo othfloo noroof natroof
sodroof palmroof wproof
    cardroof ironroof woodroof calaroof ceraroof cemtroof
shinroof othroof nowall natwall dirtwall
    mudwall bambwall cartwall bmudwall stonwall plywwall cardwall
reuwwall brikwall cemtwall
    stlimwall cemt2wall shinwall metlwall othwall cookelec
cooklpg cookngas cookbgas cookkero
    cookcoal cookchar cookwood cookstraw cooknone cookoth cattle1
to cattle4 dairy1 to dairy4 equine1 to equine3
    goats1 to goats4 sheep1 to sheep4 chicks1 to chicks4
    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.
FILTER BY rural.
EXECUTE.

FACTOR
  /VARIABLES QH110A QH110B QH110C QH110D QH110E
    QH110F QH118A QH118B QH118C QH118D QH118E QH118F QH123 HOUSE
LAND
    h2oires h2oyrd h2ospipe h2otwell h2opwell h2ouwell h2opspg
h2ouspg
    h2orain h2otruck h2ocart h2osurf h2obot h2ooth flushs flusht
flushp flushe flushd latvip latslab
    latpit latcomp latbuck lathang latbush latshare sflushs
sflusht sflushp
    slatslab slatpit slatcomp slathang dirtfloo dungfloo woodfloo
palmfloo
    prqfloo tilefloo cemtfloo carpfloo othfloo noroof natroof
sodroof rustroof palmroof wproof
    cardroof ironroof woodroof calaroof ceraroof cemtroof
shinroof othroof nowall natwall dirtwall
    mudwall bambwall cartwall bmudwall stonwall adobwall plywwall
cardwall reuwwall brikwall cemtwall
    stlimwall cemt2wall adob2wall shinwall metlwall othwall
cookelec cooklpg cookngas cookbgas cookkero
    cookcoal cookchar cookwood cookstraw cookdung cooknone
cookoth cattle1 to cattle4 dairy1 to dairy4 equine1 to equine3
    goats1 to goats4 sheep1 to sheep4 chicks1 to chicks4
    landarea
  /MISSING MEANSUB
  /ANALYSIS QH110A QH110B QH110C QH110D QH110E
    QH110F QH118A QH118B QH118C QH118D QH118E QH118F QH123 HOUSE
LAND
    h2oires h2oyrd h2ospipe h2otwell h2opwell h2ouwell h2opspg
h2ouspg
    h2orain h2otruck h2ocart h2osurf h2obot h2ooth flushs flusht
flushp flushe flushd latvip latslab
    latpit latcomp latbuck lathang latbush latshare sflushs
sflusht sflushp
    slatslab slatpit slatcomp slathang dirtfloo dungfloo woodfloo
palmfloo
    prqfloo tilefloo cemtfloo carpfloo othfloo noroof natroof
sodroof rustroof palmroof wproof
    cardroof ironroof woodroof calaroof ceraroof cemtroof
shinroof othroof nowall natwall dirtwall
    mudwall bambwall cartwall bmudwall stonwall adobwall plywwall
cardwall reuwwall brikwall cemtwall
    stlimwall cemt2wall adob2wall shinwall metlwall othwall
cookelec cooklpg cookngas cookbgas cookkero
    cookcoal cookchar cookwood cookstraw cookdung cooknone
cookoth cattle1 to cattle4 dairy1 to dairy4 equine1 to equine3
```

```
    goats1 to goats4 sheep1 to sheep4 chicks1 to chicks4
  /PRINT UNIVARIATE INITIAL EXTRACTION fscore
  /CRITERIA FACTORS(1) ITERATE(25)
  /EXTRACTION PC
  /ROTATION NOROTATE
  /SAVE REG(ALL RUR)
  /METHOD=CORRELATION.

* Name the dataset window for the hh data for use later.
dataset name assets.

* label the created score variables.
variable labels
  com1 "Common wealth score"
 /urb1 "Urban wealth score"
 /rur1 "Rural wealth score".

* Add a variable used for linking later.
use all.
string ROWTYPE_ (A8).
compute ROWTYPE_ = 'EST'.

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

use all.
filter by urban.
execute.

* Declare a dataset to be written to in the regression.
dataset declare urbcorv.
regression
  /missing listwise
  /statistics coeff outs r anova
  /criteria=pin(.05) pout(.10)
  /noorigin
  /dependent com1
  /method=enter urb1
  /outfile=corv(urbcorv).
* Activate file of output from regression.
dataset activate urbcorv.
* Drop all rows of output except the coefficients.
select if (ROWTYPE_ = 'EST').
execute.
* Delete unnecessary variables before merging.
delete variables DEPVAR_ VARNAME_.
* Rename variables containing the constant and the coefficient.
rename variables CONST_=urbconst urb1=urbcoeff.

* Re-activitate the main household data.
dataset activate assets.
* Rename the urban score.
```

```
rename variables urb1=urbscore.
* merge the coefficients.
match files
  /file = *
  /table = urbcorv
  /by ROWTYPE_.
execute.

** Rural area.

use all.
filter by rural.

* Declare a dataset to be written to in the regression.
dataset declare rurcorv.
regression
  /missing listwise
  /statistics coeff outs r anova
  /criteria=pin(.05) pout(.10)
  /noorigin
  /dependent com1
  /method=enter rur1
  /outfile=corv(rurcorv).
* Activate file of output from regression.
dataset activate rurcorv.
* Drop all rows of output except the coefficients.
select if (ROWTYPE_ = 'EST').
execute.
* Delete unnecessary variables before merging.
delete variables DEPVAR_ VARNAME_.
* Rename variables containing the constant and the coefficient.
rename variables CONST_=rurconst rur1=rurcoeff.

* Re-activitate the main household data.
dataset activate assets.
* Rename the rural score.
rename variables rur1=rurscore.
* merge the coefficients.
match files
  /file = *
  /table = rurcorv
  /by ROWTYPE_.
execute.

use all.

dataset close urbcorv.
dataset close rurcorv.
dataset activate assets.

*** Calculate combined wealth score from Urban and Rural Scores.
* Use coefficients from urban and rural regressions above!.
```

```
compute combscor=0.
variable labels combscor "Combined wealth score".
formats combscor (f11.5).
** Urban - replace values with those from the regressions above!.
if (urban = 1) combscor=urbconst+urbcoeff*urbscore.
** Rural - replace values with those from the regressions above!.
if (rural = 1) combscor=rurconst+rurcoeff*rurscore.
execute.

*Tabulation for histograms.
compute hhwt = QHWEIGHT/1000000.
VARIABLE LABELS hhwt 'HH weights' .
weight by hhwt.
filter off.
use all.

FREQUENCIES
  VARIABLES=combscor COM1 /FORMAT=NOTABLE
  /NTILES= 5
  /STATISTICS=STDDEV MEAN
  /HISTOGRAM  NORMAL
  /ORDER=ANALYSIS.

USE ALL.
FILTER BY urban.
EXECUTE.

FREQUENCIES
  VARIABLES=combscor URBscore /FORMAT=NOTABLE
  /NTILES= 5
  /STATISTICS=STDDEV MEAN
  /HISTOGRAM  NORMAL
  /ORDER=ANALYSIS.

USE ALL.
FILTER BY rural.
EXECUTE.

FREQUENCIES
  VARIABLES=combscor RURscore /FORMAT=NOTABLE
  /NTILES= 5
  /STATISTICS=STDDEV MEAN
  /HISTOGRAM  NORMAL
  /ORDER=ANALYSIS.

FILTER OFF.
USE ALL.
EXECUTE.


*Calculate quintiles and scores for data file.
compute hhmemwt=QHWEIGHT*HHUSUAL/1000000.
```

```
weight by hhmemwt.
VARIABLE LABELS hhmemwt 'HH members weighting for index'.

** Urban Area.
USE ALL.
FILTER BY urban.
EXECUTE.

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

** Rural Area.
USE ALL.
FILTER BY rural.
EXECUTE.

RANK VARIABLES=rurscore (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.

weight by hhwt.

MEANS TABLES=
    QH110A QH110B QH110C QH110D QH110E
    QH110F QH118A QH118B QH118C QH118D QH118E QH118F QH122A
QH122B QH122C QH122D QH122E QH122F QH123 HOUSE LAND
    h2oires h2oyrd h2ospipe h2otwell h2opwell h2ouwell h2opspg
h2ouspg
    h2orain h2otruck h2ocart h2osurf h2obot h2ooth flushs flusht
flushp flushe flushd latvip latslab
    latpit latcomp latbuck lathang latbush latshare sflushs
sflusht sflushp sflushe sflushd
    slatslab slatpit slatcomp slathang dirtfloo dungfloo woodfloo
```

```
palmfloo
    prqfloo tilefloo cemtfloo carpfloo othfloo noroof natroof
sodroof rustroof palmroof wproof
    cardroof ironroof woodroof calaroof ceraroof cemtroof
shinroof othroof nowall natwall dirtwall
    mudwall bambwall cartwall bmudwall stonwall adobwall plywwall
cardwall reuwwall brikwall cemtwall
    stlimwall cemt2wall adob2wall shinwall metlwall othwall
cookelec cooklpg cookngas cookbgas cookkero
    cookcoal cookchar cookwood cookstraw cookdung cooknone
cookoth landarea
    by Ncombsco
  /CELLS MEAN COUNT STDDEV.

WEIGHT OFF.

save outfile="c:\hnp2a\Comoros 2012\km12assets.sav".

*** Write out scores file.
WRITE OUTFILE="c:\hnp2a\Comoros 2012\km12scores.dat"
  TABLE
  /QHCLUST QHNUMBER combscor ncombsco urbscore nurbscor rurscore
nrurscor.
EXECUTE.
```