revised 11/5/96

Selling crops:

changes to previous draft:

Selling crops now has three relations, where villagers sell 1) rice, 2) cassava, and 3) other crops. Matrices **X** (village by village), **Y** (village by district), and **Z** (village by province) will be superscripted to indicate the kind of crop: R for rice, C for cassava, and O for other. For example:

$\mathbf{X}^{R}$ will be village by village ties of marketing rice,
$\mathbf{X}^{C}$ will be village by district ties of marketing cassava
$\mathbf{X}^{O}$ will be village by district ties of marketing all other crops
Y and **Z** matrices will be similarly superscripted.

Thus there will be nine matrices. Rice and cassava will be coded in separate sets of matrices. Other crops will be aggregated into a third set of matrices. Since two or more "other" crops could be marketed in the same location, summing responses will give a valued tie where the value is the number of other crops that village i markets in location j.

Questions are asked about the four most important crops. We will not distinguish whether the crops were mentioned 1st, 2nd, 3rd or 4th, but will aggregate all ties into the same matrix. Crops are sold inside the village, outside the village, or are inapplicable (Q7.97.1 ... Q7.100.1). For crops sold outside the village the location (village/district/province) is recorded (Q7.97.2 ... Q7.100.2). Crops marketed outside the village may be sold in another village, another district, or another province, thus we will have three matrices to code these ties: **X** (village by village) **Y** (village by district) and **Z** (village by province). There will be **X**, **Y** and **Z** matrices for each type of crop (rice, cassava, or other).

Relevant variables:

Q7.96.11 1st crop
Q7.96.12 2nd crop
Q7.96.13 3rd crop
Q7.96.14 4th crop

Q7.97.1 Do villagers sell 1st crop in or outside village
Q7.98.1 Do villagers sell 2nd crop in or outside village
Q7.99.1 Do villagers sell 3rd crop in or outside village
Q7.100.1 Do villagers sell 4th crop in or outside village

(comment: these variables could be used to skip past questions about where the crop is marketed if it is not sold outside the village)

Q7.97.2 Location if selling outside the village? 1st crop location
Q7.98.2 Location if selling outside the village? 2nd crop location
Q7.99.2 Location if selling outside the village? 3rd crop location
Q7.100.2 Location if selling outside the village? 4th crop location

Coding instructions:

For each crop (Q7.96.11 to Q7.96.14) we will figure out what kind of crop it is, where it is sold if it is sold outside the village, and then code the tie in the appropriate matrix for the kind of crop (R-rice, C-cassava, or O-other) and where it is sold (in other village - X, another district - Y, or another province - Z).

Q7.96.11 is the 1st crop

Q7.97.2 gives the location where the 1st crop is sold

If Q7.97.2 = 9998 then go to the next named crop (Q7.96.12, Q7.96.13, Q7.96.14)

(comment: the response is inapplicable.)

(comment: The following lines will sort out whether Q7.97.2 is a village, district, or province number and then go to the appropriate coding description.)

if the first digit of Q7.97.2 is 2 then another village is named; skip to instructions for coding ties to other villages

if the first digit of Q7.97.2 is 3 then a village in another district is named; skip to instructions for coding ties to villages in other districts

if the first digit of Q7.97.2 is 4 then a village in another province is named; skip to instructions for coding ties to villages in other provinces

- skip to here if Q7.97.2 is a village number

let j = the position of the village named in Q7.97.2 in the ordered list of villages

(comment, next we find out what kind of crop is being sold so it can be coded in the appropriate matrix)

Q7.96.11 is the kind of crop for the 1st crop

if Q7.96.11 = 98 go to the next village/record

(comment: the response is inapplicable. I am assuming that higher ranked crops Q7.96.12, Q7.96.13, Q7.96.14 are also inapplicable, but this can be checked)

if Q7.96.11 = 1 then the crop is rice, code the tie in X^R

$x^R_{ij} = 1$

(comment: village i sells rice in village j)

then go to the location for selling the next named crop (Q7.98.2, Q7.99.2, Q7.100.2)

if Q7.96.11 = 2 then the crop is cassava, code the tie in X^C

$x^C_{ij} = 1$

(comment: village i sells cassava in village j)

then go to the location for selling the next named crop (Q7.98.2, Q7.99.2, Q7.100.2)

if Q7.96.11 is equal to 3 through 11 then the crop is another kind of crop, code the tie in X^O

$x^O_{ij} = x^O_{ij} + 1$

(comment: village i has named village j as the location where its villagers sell another kind of crop so the count of the number of crops sold in location j is incremented by 1)

then go to the location for selling the next named crop (Q7.98.2, Q7.99.2, Q7.100.2)

- skip to here if Q7.97.2 is a district number:

let j = the number of the district named in Q7.97.2 in the ordered list of districts

(comment, next we find out what kind of crop is being sold so it can be coded in the appropriate matrix)

Q7.96.11 is the kind of crop for the 1st crop

if Q7.96.11 = 1 then the crop is rice, code the tie in Y^R

$y^R_{ij} = 1$

(comment: village i sells rice in district j)

then go to the location for selling the next named crop (Q7.98.2, Q7.99.2, Q7.100.2)

if Q7.96.11 = 2 then the crop is cassava, code the tie in Y^C

$y^C_{ij} = 1$

(comment: village i sells cassava in district j)

then go to the location for selling the next named crop (Q7.98.2, Q7.99.2, Q7.100.2)

if Q7.96.11 is equal to 3 through 11 then the crop is another kind of crop, code the tie in Y^O

$y^O_{ij} = y^O_{ij} + 1$

(comment: village i has named district j as the location where its villagers sell another kind of crop so the count of the number of crops sold in location j is incremented by 1)

then go to the location for selling the next named crop (Q7.98.2, Q7.99.2, Q7.100.2)

- skip to here if Q7.97.2 is a province number:

let j = the number of the province named in Q7.97.2 in the ordered list of provinces

(comment, next we find out what kind of crop is being sold so it can be coded in the appropriate matrix)

Q7.96.11 is the kind of crop for the 1st crop

if Q7.96.11 = 1 then the crop is rice, code the tie in Z^R

$z^R_{ij} = 1$

(comment: village i sells rice in province j)

then go to the location for selling the next named crop (Q7.98.2, Q7.99.2, Q7.100.2)

if Q7.96.11 = 2 then the crop is cassava, code the tie in Z^C

$z^C_{ij} = 1$

(comment: village i sells cassava in province j)

then go to the location for selling the next named crop (Q7.98.2, Q7.99.2, Q7.100.2)

if Q7.96.11 is equal to 3 through 11 then the crop is another crop, code the tie in Z^O

$z^O_{ij} = z^O_{ij} + 1$

(comment: village i has named province j as the location where its villagers sell another kind of crop so the count of the number of crops sold in location j is incremented by 1)

go to the location for selling the next named crop (Q7.98.2, Q7.99.2, Q7.100.2)

These instructions will be adapted for coding the second, third and fourth mentioned crops. These will be added to the above matrices using the following substitutions of variables:

For the 2nd mentioned crop

Q7.96.12 (kind of crop) replaces Q7.96.11 and
Q7.98.2 (location) replaces Q7.97.2

For the 3rd mentioned crop

Q7.96.13 (kind of crop) replaces Q7.96.11 and
Q7.99.2 (location) replaces Q7.97.2

For the 4th mentioned crop

Q7.96.14 (kind of crop) replaces Q7.96.11 and
Q7.100.2 (location) replaces Q7.97.2
