revised 1/17/97

Changes from 11/19/96 draft:

For “old” households, the locations of people who have been out of the household for more than 2 months are found in the MIGRANT.SYS file.

Diagonal entries in the household by household matrix code whether a household grows rice.

If two or more kinds of type of employment are received by household i from a household, village, district, or province j, we will have a code for the specific combination of help.

Ties to people in other countries are coded in an additional column in the household by province matrix (column q+1 of $\mathbf{W}^v$).

If a person/household helped with the rice harvest but their location is unknown they are coded in an additional column of either the household by household matrix $\mathbf{X}^v$ (if it is within the village) or $\mathbf{W}^v$ if it is outside the village. If the person is within the village but their Ban Lek Ti is unknown then they are coded in column n+1 in $\mathbf{X}^v$. If the person is outside the village, but their location is unknown (these will be migrants) then we code this in a second additional column (column q+2) in the household by province matrix $\mathbf{W}^v$. Thus the household by province matrix has q + 2 columns (where q is the number of provinces) and the household by household matrix has n+1 columns.

Help with rice harvest

There are several questions about the kind of help received with the rice harvest. I have written instructions for whether or not help was received, the number of people, the number of days, and the type of employment (wage, without pay, or share). I have not included instructions for coding the wage paid to the household, but we could add it. My thinking is that the key distinctions are whether a household helped or not, and then whether it was paid or volunteer help, with the actual amount of the wage being less important. Thus, there are four relations (kinds of ties) having to do with help harvesting rice.

1. whether a household helped
2. the number of people who helped (below I subscript this relation with (p))
3. the number of days of help (I subscript this relation with (d))
4. the type of employment (I subscript this relation with (e))

There are three general sets of questions that give information about these ties:

1. help received from people in the village (for both old and new households)

2. help received from people outside the village (in another village, district, or province)

   (1. and 2. are be coded in the same variable)

3. for "old" households, help received by old households from people who lived in the household in 1984 but have since moved (these people may currently live in the village or may live outside the village)

For each of these four kinds of ties we construct four matrices for each village:

$\mathbf{X}^v$: household by household, for ties within village v
$\mathbf{Y}^v$: household by village, for ties from households in village v to other villages within the district
$\mathbf{Z}^v$: household by district, for ties from households in village v to other districts
$\mathbf{W}^v$: household by province, for ties from households in village v to other provinces

Thus there will be $4 \times 4 = 16$ matrices for each village.

The household by province matrix will have two extra columns to code help from people who are abroad and people whose location is unknown. Thus this matrix will have n rows and q+2 columns.

From which households was help received?:

The instructions are in two parts, those pertaining to both "old" and "new" households and those only pertaining to "old" households (I describe the coding in parts 1 and 2 below). Both sets of instructions will be used to construct the matrices for this relation. Also, since this relation gives the location of people who helped with the rice harvest, it might be efficient to code the number of people who helped, the number of days they helped, and the type of employment at the same time rather than having a separate program (see separate instructions below).

Part 1. For both "old" and "new" households

Relevant variables:

Q6.16	In the last year, did this household plant rice or not?
Q6.24A	Ban Lek Ti of people in the village who helped to harvest rice in the last year
Q6.25A	village/district/province of people outside the village who helped to harvest rice in the last year

(comment: Q6.24 and Q6.25 are not coded in the main household level file. They are in a separate file. Both Q6.24 and Q6.25 are treated as if they came from one question and have Q6_24 in the name.)

Coding instructions:

If Q6.16 = 1 then $x_{ii} = 1$

(comment: the household planted rice, so we code a tie from the household to itself)

Q6.24A is the Ban Lek Ti of people who helped harvest rice
If Q6.24A is a 7 digit number skip to the instructions for coding ties to a household within the village or split village

If Q6.24A is a 4 digit number a household in another village, district, or province is named.

(The following instructions sort out whether a village, district, or province is named, and skip to the appropriate instructions.)

if the first digit of Q6.24A is 2 then another village is named; skip to instructions for coding ties to other villages

if the first digit of Q6.24A 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 Q6.24A 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 a household in the village or split village is named

If Q6.24A = 9999998 then go to the next household/record

(comment: the household did not name any household as helping harvest)

If the first 3 digits of Q6.24A are 999 and the next 4 digits are either 0000 or a village number then the household did not remember the Ban Lek Ti number. We will code this as an additional column (column n+1) in the household by household matrix.

$x^v_{i(n+1)} = x^v_{i(n+1)} + 1$

(comment: this will count the number of people with unknown location who helped with the rice harvest)

If Q6.24A is a Ban Lek Ti +0000 or Ban Lek Ti + village number then

let j = the position of the household named in Q6.24A in an ordered list of households

$x^v_{ij} = 1$

(comment: household i says that people from household j helped harvest rice, so the tie is coded as present)

(Note: from here we can also code other relations based on the number of people who helped, the number of days they helped, and the type of employment. See instructions below.)

- Skip to here if the household named in Q6.24A is in another village

(comment: I think the village number should be digits 2-4 of Q6.24A, if Q6.24A is a 4 digit variable)

j = the position of the village named in Q6.24A in an ordered list of villages

$y^v_{ij} = 1$

(comment: household i has named a household in village j as the source of help harvesting rice so the tie from i to j is coded as present)

(Note: from here we can also code other relations based on the number of people who helped, the number of days they helped, and the type of employment. See below.)

- Skip to here if the household named in Q6.24A is in another district

  (comment: I think the district number should be digits 2-4 of Q6.24A, if Q6.24A is a 4 digit variable)

j = the position of the district named in Q6.24A in an ordered list of districts

$z^{v}_{ij} = 1$

(comment: household i has named a household in district j as the source of help harvesting rice so the tie from i to j is coded as present)

(Note: from here we can also code other relations based on the number of people who helped, the number of days they helped, and the type of employment. See below.)

- Skip to here if the household named in Q6.24A is in another province

  (comment: I think the province number should be digits 2-4 of Q6.24A, if Q6.24A is a 4 digit variable)

j = the position of the province named in Q6.24A in an ordered list of provinces

$w^{v}_{ij} = 1$

(comment: household i has named a household in province j as the source of help harvesting rice so the tie from i to j is coded as present)

(Note: from here we can also code other relations based on the number of people who helped, the number of days they helped, and the type of employment. See below.)

Part 2. For "old" households

For "old" households help from people who resided in the household in 1984 but are no longer in the household is coded separately.

Relevant variables:

Q6.23 Number of people who answered 2 or 3 in Q1.1 in Form 1, who helped harvest rice

Q6.23A1 CEP number of 1st person
.
.
.
Q6.23A5 CEP number of 5th person

Q1.11 If person has not lived in household less than 2 months, Ban Lek Ti (district or province)
Q1.12 If person has not lived in household 2 months or more does person live in village, Ban Lek Ti

from MIGRANT.SYS

MIVIL94 Village number in 1994 of the migrant

MIPRO Code of province that the migrant moved to from Q.1.37

MIDIS Code of district that the migrant moved to from Q.1.37

Coding instructions:

These ties will be incorporated into the matrices defined above for whether a household helped or not. After this is coded we can also code how many days the person helped and the type of employment (see instructions below).

For the person (CEP number) in Q6.23A1 their location is either Q1.11 or Q1.12.

Instructions for Q1.11 (instructions for Q.12 are below)

If Q1.11 = 999999998 then go to Q1.12

(comment: the response is inapplicable)

(comment: Here we sort out whether the person lives in another household in the same village, in another village, district, or province and then skip to the appropriate instructions.)

If the first digit of Q1.11 =2 then the person lives in the village or in the split village, go to instructions for coding ties to households in the village

If the first digit of Q1.11 = 3 then the person lives in another village in the district, go to the instructions for coding ties to other villages

If the first digit of Q1.11 = 4 then the person lives in another district, go to the instructions for coding ties to other districts

If the first digit of Q1.11 = 5 then the person lives in another province, go to the instructions for coding ties to other provinces

If the first digit of Q1.11 = 6 then the person lives abroad, go to the instructions for coding ties to other countries

(comment: this will be coded in column q+1 of the household by province matrix)

- Skip to here if the person named in Q11.1 lives in the village or a split village

digits 3-5 of Q1.11 code the Ban Lek Ti number

(comment: I am assuming that we are treating a split village as a single unit)

let j = the position of the household named in Q1.11 in an ordered list of households in the village or split village

$x^{v}_{ij} = 1$

(comment household i has named a person from household j as providing help with the rice harvest so the tie from i to j is coded as present. Note that household i may have previously named people from household j as helping with the rice harvest -- Q6.24, and this relation is recording whether or not a tie is present (0/1) we do not increment the value of x^{v}_{ij} if it is already 1)

- Skip to here if the person named in Q11.1 lives in another village

digits 2-5 of Q1.11 code the village number

let j = the position of the village named in Q1.11 in an ordered list of villages

$y^{v}_{ij} = 1$

(comment: household i has named a person from village j as helping with the rice harvest. Since household i may have previously named a person from village j as helping with the harvest, and this relation is recording whether or not a tie is present (0/1) we do not increment the value of y^{v}_{ij} if it is already 1)

- Skip to here if the person named in Q11.1 lives in another district

digits 2-5 of Q1.11 code the district number

let j = the position of the district named in Q1.11 in an ordered list of districts

$z^{v}_{ij} = 1$

(comment: household i has named a person from district j as helping with the rice harvest. Since household i may have previously named a person from district j as helping with the harvest, and this relation is recording whether or not a tie is present (0/1) we do not increment the value of z^{v}_{ij} if it is already 1)

- Skip to here if the person named in Q11.1 lives in another province

digits 2-5 of Q1.11 code the province number

let j = the position of the province named in Q1.11 in an ordered list of provinces

$w^{v}_{ij} = 1$

(comment: household i has named a person from province j as helping with the rice harvest. Since household i may have previously named a person from province j as helping with the harvest, and this relation is recording whether or not a tie is present (0/1) we do not increment the value of w^{v}_{ij} if it is already 1)

- Skip to here if the person named in Q1.11 lives abroad

$w^{v}_{i(q+1)} = 1$

(comment: household i has named a person who lives abroad. We record the tie from household j to some one abroad in the first additional column in the household by province matrix -- column q+1)

(Once we have the location of the person named in Q6.23A1 we can code the number of days of labor, type of employment, and wage. Instructions are below.)

Instructions for Q1.12

If Q1.12 = 99999998 then, go to the next named person (Q6.23A2... Q6.23A5)

(comment: the response is inapplicable)

If the first digit of Q1.12 is 2 then the person does not live in the village. Their location is given in the MGRANT.SYS file (variables MIPRO and MIDIS). Skip to instructions for coding locations from MIGRANT.SYS

If the first digit of Q1.12 is 1 and the next 3 digits are not 996 then the person lives in the village. Skip to instructions for coding ties within the village

- Skip to here for coding ties within the village

digits 2-4 of Q1.12 give the Ban Lek Ti of the household

let j = the position of the household named in Q1.12 in an ordered list of households

$x^{v}_{ij} = 1$

(comment household i has named a person from household j as providing help with the rice harvest so the tie from i to j is coded as present. Note that household i may have previously named people from household j as helping with the rice harvest -- Q6.24, but since this relation is recording whether or not a tie is present (0/1) we do not increment the value of x^{v}_{ij} if it is already 1)

(Once we have the location of the person named in Q6.23A1 we can code the number of days of labor, type of employment, and wage. Instructions are below.)

- Skip to here for coding locations from MIGRANT.SYS

MIVIL94 gives the village where the person lives

if the first digit of MIVIL94 is 2 then the person lives in another village. Use the instructions for coding ties to other villages (see instructions above)

MIDIS gives the district where the person lives

if the first digit of MIDIS is 3 then the person lives in another district. Use the instructions for coding ties to other districts (see instructions above)

MIPRO gives the province where the person lives

if the first digit of MIPRO is 4 then the person lives in another province. Use the instructions for coding ties to other provinces (see instructions above)

if neither MIDIS nor MIPRO is a legitimate district or province number, then check to see whether the person's location is unknown or if the person lives abroad

if MIDIS is 9995 or 9999 or if MIPRO is 9995 or 9999 then the person's location is unknown. Code a tie in the second additional column in the household by province matrix from household i to province q + 2 -- that is $w^{v}_{i(q+2)} = 1$

if MIDIS is 9998 or if MIPRO is a country number then the person lives in another country. Code a tie in the first additional column in the household by province matrix -- from household i to province q + 1 -- that is $w^{v}_{i(q+1)} = 1$

(Once we have the location of the person we can code the number of days of labor, type of employment, and wage. Instructions are below.)

Amount and kind of help given with rice harvest:

These instructions are in two parts, those that pertain to both "old" and "new" households, and those that only pertain to "old" households. The locations of the people/households who helped are found in the instructions above (Q6.24A, Q1.11 or Q1.12 or MIGRANT.SYS).

Part 1. Both "old" and "new" households

Relevant variables, for both old and new households:

Q6.24B Number of people from household who helped
Q6.24C Number of days people from household helped
Q6.24D Type of employment (1 = hire, 2 = help without pay, 3 = share)

We have 3 relations. For ties between households within a village these are:

$x^{v}_{ij\,(p)}$ the *number of people* from household j who helped in household i
$x^{v}_{ij\,(d)}$ is the *number of days* that people from household j helped household i
$x^{v}_{ij\,(e)}$ the *kind of employment* (1 = hire, 2 = helped without pay)

These are also coded for ties outside the village in matrices $\mathbf{Y}^{v}$ (household by village), $\mathbf{Z}^{v}$ (household by district) and $\mathbf{W}^{v}$ (household by province).

Coding instructions:

- If the household that helped with the rice harvest is within the village:

<u>Number of people who helped Q6.24B</u>:

if Q6.24B = 98 or 99 then go to instructions for coding number of days of help (Q6.24C)

(comment: the response is inapplicable or missing)

for household j (id and location found in instructions above)

let j = the position of the household in an ordered list of households

$x^{v}_{ij\,(p)}$ = Q6.24B

(comment: Q6.24B gives the number of people from household j (in Q6.24A) who helped harvest rice. This is coded as the value of the tie from i to j on relation (p), $x^{v}_{ij(p)}$)

Number of days of help Q6.24C:

if Q6.24C = 98 or 99 the go to the kind of employment (Q6.24D)

(comment: the response is inapplicable or missing)

for household j (id and location found in instructions above)

let j = the position of the household in an ordered list of households

$x^{v}_{ij\,(d)}$ = Q6.24C

(comment: Q6.24C gives the number of days people from household j (in Q6.24A) helped harvest rice. This is coded as the value of the tie from i to j on relation (d), $x^{v}_{ij(d)}$)

Kind of employment Q6.24D:

if Q6.24D = 8 then go to the next location (household/village/district/province) that the responding household named as helping with the rice harvest (Q6.24A or Q6.23A1 ... Q6.23A5)

(comment: the response is inapplicable)

for household j (id and location found in instructions above)

let j = the position of the household in an ordered list of households

$x^{v}_{ij\,(e)}$ = Q6.24D

(comment: Q6.24D gives kind of employment people from household j (in Q6.24A) did for household i. This is coded as the value of the tie from i to j on relation (e), $x^{v}_{ij(e)}$)

from here go to the next location (household/village/district/province) that the responding household named as helping with the rice harvest (Q6.24A or Q6.23A1 ... Q6.23A5)

- If the household that helped with the rice harvest is outside the village (in another village, district or province):

  (comment: the following instructions describe ties to household in other villages within the district, the $\mathbf{Y}^{v}$ matrices. These instructions can be adapted, as described below, to code ties to households in other districts and provinces.)

For ties to households in other villages in the district:

$y^{v}_{ij\,(p)}$ the *number of people* from village j who helped in household i
$y^{v}_{ij\,(d)}$ the *number of days* that people from village j helped household i
$y^{v}_{ij\,(e)}$ the *kind of employment* (original coding: 1 = hire, 2 = helped without pay, 3 = share)

Since there may be several households named from the same village we will keep track of different combinations of kinds of employment using the following codes:

1 all households hired
2 all households helped without pay
3 all households shared
4 some households hired and some helped without pay
5 some households hired and some shared
6 some households helped without pay and some shared
7 some households hired, some helped without pay, and some shared

Number of people who helped Q6.24B:

if Q6.24B = 98 or 99 then go to the next location (household/village/district/province) that the responding household named as helping with the rice harvest (Q6.24A or Q6.23A1 ... Q6.23A5)

(comment: the response is inapplicable)

for village j (id and location found in instructions above)

let j = the position of the village in an ordered list of villages

$y^{v}_{ij\,(p)} = y^{v}_{ij\,(p)} +$ Q6.24B

(comment: Q6.24B gives the number of people from a household in village j (in Q6.24A) who helped harvest rice. Since more than one household from village j might be named, the value in Q6.24B is added to the value of the tie from i to j on relation (p), $y^{v}_{ij(p)}$)

Number of days of help Q6.24C:

if Q6.24C = 98 or 99 the go to the next location (household/village/district/province) that the responding household named as helping with the rice harvest (Q6.24A or Q6.23A1 ... Q6.23A5)

(comment: the response is inapplicable)

for village j (id and location found in instructions above)

let j = the position of the village in an ordered list of villages

$y^{v}_{ij\,(d)} = y^{v}_{ij\,(d)} +$ Q6.24C

(comment: Q6.24C gives the number of days people from a household in village j (in Q6.24A) helped harvest rice. Since there might be more than one household from village j named, the value in Q6.24C is added to the value of the tie from i to j on relation (d), $y^{v}_{ij\,(d)}$)

<u>Kind of employment Q6.24D</u>:

if Q6.24D = 8 or 9 then go to the next named location (household/village/district/province) that the responding household named as helping with the rice harvest (Q6.24A or Q6.23A1 ... Q6.23A5)

(comment: the response is inapplicable)

for village j (id and location found in instructions above)

let j = the position of the village in an ordered list of villages

if $y^{v}_{ij\,(e)}$ has not yet been assigned a value then let $y^{v}_{ij\,(e)}$ = Q6.24D

if $y^{v}_{ij\,(e)}$ has already been assigned a value then then some kind of employment tie between i and j has already been coded and the new value of $y^{v}_{ij\,(e)}$ will depend on the specific combination of kinds of employment. Use the following codes:

1 all households hired
2 all households helped without pay
3 all households shared
4 some households hired and some helped without pay
5 some households hired and some shared
6 some households helped without pay and some shared
7 some households hired, some helped without pay, and some shared

(comment: Q6.24D gives kind of employment people from household in village j (in Q6.24A) did for household i. This is coded as the value of the tie from i to j on relation (e), $y^{v}_{ij\,(e)}$ or the combination of kinds of employment.)

from here go to the next named location (household/village/district/province) that the responding household named as helping with the rice harvest (Q6.24A or Q6.23A1 ... Q6.23A5)

For ties to households in other districts and other provinces:

These ties can be coded using the above instructions for ties to households in other villages (the $\mathbf{Y}^v$ matrices) but substituting the appropriate matrix, either

$\mathbf{Z}^v$ for household by district ties, or
$\mathbf{W}^v$ for household by province ties

for $\mathbf{Y}^v$ in the instructions

Part 2. For "old" households:

In addition to the information above, we also have information about people who were in the household in 1984 but are no longer in the household. There are up to five such people.

The instructions above found the location of the person named in Q6.23A1 ... Q6.23A5. We can then code

the *number of days* of labor (Q6.23B1... Q6.23B5) and
type of employment (Q6.23C1 ... Q6.23C5)

in the relations ($x^v_{ij(d)}$ and $x^v_{ij(e)}$).

We will also add this person to the *number of people* who helped $x^v_{ij(p)}$.

Relevant variables:

Q6.23B1 number of days 1st person
.
.
.
Q6.23B5 number of days 5th person

Q6.23C1 Type of employment of 1st person
.
.
.
Q6.23C5 Type of employment of 5th person

The coding instructions for these variables are the same as instructions in Part 1 for both "old" and "new" households, except that 1) there are up to five variables coding help from up to five people, and 2) the following variables will be substituted:

For days labor: variables Q6.23B1,...Q6.23B5 are substituted for Q6.24C

For type of employment: variables Q6.23C1, ...Q6.23C5 are substituted for Q6.24D

For number of people who helped, add 1 to the value of the $x^{v}_{ij(p)}$.

Help provided by people residing outside the village will be coded in the same way as ties outside the village to other villages, districts, or provinces, described above. These additional ties will be incorporated into the matrices above.