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Operations Handbook No. 1

Farm Survey and Recordkeeping Procedures
for
Consequences of Small Rice Farm Mechanization
Project

by

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Consequences of Small Rice Farm Mechanization
in Asia

Operations Handbook
Village Level Survey and Recordkeeping

1. Introduction

1.1 Purpose

The Farm Mechanization Consequences Project is a cross-country study begun in early 1978. The countries involved are Indonesia, Philippines and Thailand. The primary objective of the study is to determine the impact of mechanization of small rice farms on production, income and rural employment. The data gathering component of the study consists of two parts; a series of cross-sectional surveys and a complementary daily recordkeeping system on selected farms, both to last two crop years. The survey assembles all basic information on farm operations as well as background information needed for the study. The farm recordkeeping system was designed to cross-check critical information gathered from the survey and covers a narrower scope of data compared to the surveys. An optimal wage and price monitoring system was also set up to monitor fluctuations in wages and agricultural prices. Data gathered from this sub-study is also used as a basis for comparison in checking survey data.

1.2 Village Sampling Procedure¹

While the sampling procedure differed slightly from country to country, the following general rules were employed in selecting observations for the sample survey. Two districts which were primary rice producing areas were purposively selected. Selection was based on the study's primary stratification criteria which were: the type and extent of irrigation available and the degree of mechanization in land preparation. Additional considerations include: accessibility by transportation, proximity of the districts to each other and availability of secondary data describing each district. To select the sample *villages*, villages in each district were grouped into categories using current secondary data:

1. rainfed, low level of mechanization
2. rainfed, high level of mechanization
3. irrigated, low level of mechanization
4. irrigated, high level of mechanization

The mechanization index was portrayed by the number of tractors/power tillers found in each village. Since the average number for all villages was 5², this number was used as a cut-off point and villages with 5 or more tractors/tillers were considered to have high level of mechanization while those with less than 5 were considered to have a low level.

¹The details of the sampling procedures and field research design were developed at a workshop held at IRRI in September 1978. For details see "The Consequences of Small Farm Mechanization on Rural Employment, Income and Production in Selected Countries of Asia: A Workshop Report," Agricultural Engineering Department, IRRI.

²Philippines sample areas.

1.3 Household Sampling Procedure

Stratified random sampling was also employed in choosing sample households. From a Household Census³, households were grouped into rice farm households, field labor households (landless) and non-field labor households⁴. The latter group was not used in the sample since these households were further stratified into the following groups based on the type of irrigation and power used for primary tillage:

1. rainfed - animal power
2. rainfed - 2-wheel tractor
3. rainfed - 4-wheel tractor
4. irrigated one cropping season - animal
5. irrigated one cropping season - 2-wheel tractor
6. irrigated one cropping season - 4-wheel tractor
7. irrigated 2 or more cropping seasons - animal
8. irrigated 2 or more cropping seasons - 2-wheel tractor
9. irrigated 2 or more cropping seasons - 4-wheel tractor

Field labor households were placed into a separate stratification grouping (the landless labor cell), making a total of 10 different categories or stratification cells.

³A total enumeration was employed in the Philippines since the size of the sample villages in terms of number of households was rather small. The highest was only about 400 households while the lowest was less than 100. In Indonesia, however, where villages consist of more than 400 households, a block census was adopted with a block comprising 200 households.

⁴These types of households are defined clearly in the next chapter under section 2.1 Household Census Schedule.

In Indonesia and Thailand, the cell stratification is slightly different due to insufficient number of observations per cell and different agricultural conditions and cultural practices in the study sites.⁵ For example, in West Java, Indonesia, the number of single crop farm households (e.g., rainfed and irrigated single crop farms) was so small that the team eventually dropped all single crop stratification cells. In South Sulawesi, Indonesia the rainfed farms were combined with the irrigated single crop farms because there was not enough observations to fill each cell for the two irrigation types. In addition, single cropping farmers had great difficulty in answering whether their parcel was irrigated or not either because a village irrigation system existed but did not function or it provided water only after the rain began due to the absence of a water reserve.

For the rice farm households, the stratification unit used was the parcel⁶ not the total farmholding. Excluded from the stratification exercise were parcels located outside the sample villages. Parcels or total farmholdings of more than 10 hectares were also excluded since this size category is outside the definition of small farm.⁷ In the case of farmers with more than one parcel, stratification was based on the parcel with the largest area planted

⁵See Appendix 1.

⁶Refer to section 2.1 Household Census Schedule for clear definition of a parcel.

⁷This also produces a "size adjusted sample" which corrects for the effect of farm size on adoption or use of mechanization.

to rice. If the largest parcel was located outside the sample village, the largest among parcels within the village was chosen to characterize the total farmholding. The problem of 2 or more parcels having the same area was resolved by choosing that parcel which came first in the list (Table A of Household Census Schedule, Appendix 3).

After all rice farm households and field labor households had been placed in representative stratification cells, 40 households were randomly drawn from each of the first 9 cells, with the last 5 households serving as substitutes or replacements in case of drop-outs. For the landless labor classification, 60 samples were drawn, with the last 10 serving as replacements. In the case of cells with census populations with less than the required number of observations, a total enumeration of that classification was taken.

For farm recordkeeping, only two out of the 4 villages were selected in each district or a total of 4 villages for the sample area. Sample households, which were selected randomly by stratification cell, were taken from the sample survey's list, producing a sub-sample for this component of the study.

1.4 List of Data Forms

During preparation of data instruments, a decision was made to use the FAO/FMDCA (Food and Agriculture Organization/Farm Management and Data Collection Analysis) system as most of the data we plan to collect is contained in such system. Basically, the FAO/FMDCA is an electronic data processing storage and retrieval

system. The first part of the system consists of data collection forms for efficient gathering of farm management and related information. The forms are pre-coded thereby allowing systematic recording of data generated through surveys and other data collection methods.

The FAO/FMDCA system has been found to have its shortcomings in relation to the objectives of this study. The forms do not meet all data required by the study. Thus, additional forms (forms with asterisk in list below) were devised for the study but patterned after the FAO/FMDCA format. Furthermore, some original forms were revised (i.e., addition/deletion of some questions) to accommodate other relevant information (compare appended forms to forms in FAO/FMDCA manual).

The following forms are administered to survey respondents:

- 1) Form 911 Farm Labor Form A (Farmer/household head and household members with other work)
- 2) Form 911-99 Farm Labor Form B (Other household members not recorded in Form A)
- 3) Form 911-020 Farm Labor Form C (Permanent Laborers)
- 4) Form 930* Demographic information
- 5) For 912 Farm Land
- 6) Map of currently operated parcels*
- 7) Form 931* Landlord's contribution to cultivation expenses
- 8) Form 932* Cropping pattern history
- 9) Form 933* Machine Use/Changes from year before mechanization to survey year
- 10) Form 913 Crops

- 11) Form 916 Draft animals
- 12) Form 917 Productive animals
- 13) Form 918 Farm buildings
- 14) Form 919 Hand farm implements/tools
- 15) Form 934 Other assets: non-agricultural land
and vehicles
- 16) Form 935 Home consumer durables
- 17) Form 920 Financial liabilities
- 18) Form 915 Farm machinery
- 19) Form 936* Decision-making re: machine purchase
- 20) Form 937* Machine use, income, maintenance/accidents
with machines
- 21) Form 938* Machine breakdown and repair
- 22) Form 921 Inventory changes
- 23) Resource Utilization Form
- 24) Form 939* Disposal of product
- 25) Form 940* Sale/Marketing of product
- 26) Form 941* Land reclamation
- 27) Form 942* Extension services/machine operation
training/farmers' organization
- 28) Form 943 Work opportunities/preferences of
landless field laborers
- 29) Form 944* Actual and ideal dates of crucial
farm activities
- 30) Form 945* Animal diseases/accidents with animals

In addition to these is the List of Forms which shows the type of forms and the corresponding number of cards used for each respondent and the

following forms which are filled in only once by each country team to develop background data on each project site:

- 1) Form 901 Project name and code
- 2) Form 902 Data origin, i.e., country, province, no. of villages, year, no. of observations
- 3) Form 903 Selective criteria (optional: stratification variables may be mentioned here)
- 4) Form 904 Conversion rates and climatic zones
- 5) Form 905 Monthly rainfall
- 6) Form 906 Mean monthly temperature
- 7) Form 907 Author of survey
- 8) Form 908 Description of soil type
- 9) Form 910 Write-up cards (include description of the project, revisions made in the original FAO forms. This form may also serve as identification card for the sample respondents, with the card containing basic data on the respondent)

For farm recordkeeping, schedules include:

- 1) Farm Map
- 2) Cultivation
- 3) Production
- 4) Marketing
- 5) Supplementary Income A: Off-farm Income
- 6) Supplementary Income B: Non-farm Income
- 7) Supplementary Income C: Rents received, pension contribution and miscellaneous
- 8) Animal Care and maintenance
- 9) Animal Diseases/Accidents with animals

10) Machine Use and Maintenance/Accidents with Machine .

11) Machine Breakdown and Repair

1.5 Frequency of Data Collection

Except for Resource Utilization form which is used twice per season, all survey forms are administered only once each cropping season. Because of the relatively large number of forms, however, they were divided into 2 groups of forms, each to be administered during different rounds, the first round being the land preparation stage and the second being the immediate post harvest season. Forms for the first round included:

- 1) Form 911 HH Labor Form A (Farmer/household head and HH members with other work)
- 2) Form 911-99 HH Labor Form B (Other HH members not recorded in Form A or C)
- 3) Form 912 HH Labor Form C (Permanent Laborers)
- 4) Form 912 Farm Land
- 5) Map of currently operated parcels
- 6) Form 913 Crops
- 7) Form 916 Draft animals
- 8) Form 917 Productive animals
- 9) Form 918 Buildings
- 10) Form 919 Farm Implements and Tools
- 11) Form 934 Other assets: Non-agricultural land and vehicles
- 12) Form 935 Other assets: Home Consumer Durables
- 13) Form 920 Financial Liabilities
- 14) Form 915 Farm Machinery

- | | |
|--------------------------|--|
| 15) Form 936 | Decision-making re: machine purchase |
| 16) Resource Utilization | |
| 17) Form 944 | Actual and Ideal Dates for Crucial Farm Activities |
| 18) Form 945 | Animal Diseases/Accidents with Animals |

For farm recordkeeping, the forms noted previously are to be filled in **daily** or whenever an activity or transaction was performed. Completed forms are however collected weekly by the village assistant.

1.6 Training of Data Enumerators

Before the initiation of survey activities, enumerators and village assistants who are stationed permanently in villages for FRK work were trained for two week on project objectives and use of the data instruments. Topics discussed during the training include: purposes of each form/schedule, hypotheses to be tested and recording instructions. An in-house mock pre-test of the data instruments was also carried out at the close of the training program to determine how well the trainees understood the instructions. After the two-week training period, the enumerators were sent to the field for a series of trial interviews. An additional two weeks were spent for this exercise, including checking and editing of completed forms by project supervisors.

1.7 Recording Methods

Recording is done directly on the survey forms during the interview. To provide a basis for subsequent editing, enumerators are encouraged to write out the answers on spaces provided after each question rather than code them directly during the interview.

In recordkeeping, the forms are filled in by the farmer or by the respondent. Village assistants do the recording only if the respondent cannot write; otherwise they visit respondents only to check whether respondents have been recording and whether the entries have been recorded correctly.

To help recordkeeping respondents complete forms, a guide list was devised for recording for some schedules (e.g., Cultivation, Supplementary Income, Animal Care and Maintenance). The guide list contains an enumeration of all the different types of activities, labor and other inputs in order that the respondent will not leave out any activity when recording. A similar guide list was prepared for survey enumerators to ensure that they do not miss vital information during the interview.

1.8 Transferring of FRK data to the FAO format

Due to recording problems, the recordkeeping forms given to farmers were not patterned after the FAO/FMDCA format although the FAO software system will be employed in assembling and filing recordkeeping data. Forms were kept simple to facilitate recording by farmers, although contentwise, they contain the same information as the FAO forms. To enter data collected from farmers into the data processing system, information is transferred to the relevant FAO forms (which had been simplified to suit recordkeeping purposes). Because all data cannot be transferred to a single FAO form, the following outline the procedures used for the transfer:

<u>From ERK Form</u>	<u>To FAO Form</u>
1. Cultivation and Animal Care	Resource Utilization Form
2. Production	Form 939 Disposal of Product
3. Marketing	Form 940 Marketing of Product
4. Supplementary Income A, F & C (Persons paid on <u>daily</u> basis only)	Resource Utilization Form
5. Supplementary Income A, B & C (Persons with regular jobs, persons paid on a piecework/job basis and persons paid at the end of the cropping season)	Form 911 HH Farm Labor Form A (Farmer and other house- hold members with other work)
6. Animal Diseases/Accidents with Animals	Form 945 Animal Diseases/Accidents with Animals
7. Machine Use and Maintenance/ Accidents with Machine	Form 937 Machine Use, Income, Maintenance/Accidents with Machines
8. Machine Breakdown and Repair	Form 938 Machine Breakdown and Repair

More specifically, the major modification made on the FAO/FMDCA form was the addition of date columns to accommodate dated entries.

1.9 Method of Substitution

In general, a respondent was dropped and replaced if: (1) his current classification differed from his classification at the time of the household census; and (2) he refused to cooperate or participate in the project. If a respondent was found to have changed his classification, efforts were made to verify whether the change was permanent or temporary (i.e., for one or 2 seasons only). Only respondents whose

change was permanent were dropped and replaced. Respondents whose change was temporary were retained in their original classification (i.e., classification based on household census data).

Replacements were taken from the stratified substitute list according to the order that they were drawn. Thus, the first substitute in the list for a certain category replaces the first drop-out, the second substitute replaces the second drop-out and so on. When substitutes for a certain category were exhausted, another set was drawn from the remaining population contained in the household census.

1.10 Editing, coding and punching

All forms are manually edited and coded in the field office. For the survey, forms are first edited and cleaned by the enumerators immediately following completion of interview assignments for the day. Edited forms are then checked by the survey supervisor for consistency, completeness and reliability. If the form requires correction, the supervisor returns it to the enumerator with comments, suggestions or questions on a sheet of paper attached to the set of forms. Forms are returned to the enumerator for re-editing, followed by a recheck by the supervisor. Once forms are free of corrections, they are sent to the main office for encoding (punching). After data has been punched and validated, forms that need to be completed (as some questions were not applicable during the first round) are sent back to the field office so they can be administered again during the second round.

For farm recordkeeping, forms are completed by respondents and collected weekly. These are edited first by the village assistants and afterwards coded and transferred to the FAO format and submitted to the FRK supervisor for editing in the field office. Once FAO forms have been edited and approved, they are sent for punching. Every week, data collected from recordkeeping is encoded, validated and edited as soon as they have been edited and approved by the FRK supervisor.

1.11 Data File

Except for the survey forms, the original copy of all data forms collected is kept in the field office for a comprehensive data file. Included are the original copy of the recordkeeping forms collected each week (i.e., forms accomplished by the respondents and which are not in the FAO format), list of sample households by village and by stratification cell and in the order that they were drawn, list of substitutes by cell and in the order that they were drawn, list of substitutes by cell and in the order that they were drawn, interviewing log book, substitution log book, and editing log book. Copies of this information are also sent to the main office for use by the project staff.

To keep track of which and whose survey forms have been approved for punching, a duplicate copy of the List of Forms for each respondent is retained in the field office.

1.12 Coding System

Since all forms are in the FAO/FMDCA format, the coding system also follows that of the FAO. Codes are numeric and range from

one to three digits (see appended Code List). In general, codes have no special significance except in the following cases where codes signify certain characteristics:

- a. Project code - This consists of 3 digits, the first signifying the country, i.e., 1=Indonesia; 2=Philippines; 3=Thailand. The second digit identifies the study year (i.e., first or second year) and whether the data collected is from the survey or recordkeeping (i.e., 1=First year survey; 2=Second year survey; 3=First year FRK; 4=Second year FRK) and the third digit signifies the cropping season (see Code List). For each cropping season, the third digit may take up to 3 different values depending upon the number of cards used for the Resource Utilization Form (RUF) during a particular season. The reason is the Resource Utilization Form card numbering begins with letter A to Z (26 cards) and continues with numbers 0 to 9 (10 cards). If more than 36 cards in one cropping season are required, card numbering is handled by starting a second round of A to Z then 0 to 9 but changing the third digit of the project code from an initial value of 0 to 1. If a third round is needed (i.e., more than 72 cards are needed), the value of the third digit changes to 2. In one cropping season, the maximum number of RUF cards expected is 108.

- b. Pesticides codes - Since pesticides come in two forms (solid and liquid) and each uses a different unit of measurement (kilogram for solid and liter for liquid), the following

special coding procedure was devised. For solid pesticides, powder or granule, codes begin with either number 2 or 3 and for liquid pesticides, the first digit code is 4. The last 2 digits remain the same for both solid and liquid. Thus, for example, Machete is coded as 3 1 1 if granule and 4 1 1 if liquid (see Code List).

- c. Type of Labor code - To identify the type of power used by a labor input in the Resource Utilization Form, a special coding system was created. Since 3 columns are allotted for input codes and labor input consists of only 2 digits or columns, we used the first column to signify whether the labor input was used in conjunction with an animal, 2-wheel tractor, 4-wheel tractor or none of these. The codes assigned are: 6 = animal, 7 = 2-wheel tractor and 8 = 4-wheel tractor. If no animal or tractor was used, the first column is simply coded '0'. Thus, a male hired labor with a 2-wheel tractor is coded as 7 3 3. If the same labor is used with an animal, the code will be 6 3 3; if no animal or tractor was used, the code will be 0 3 3.
- d. Animal codes - In Forms 916 and 917, codes for both draft and productive animals consist of 2 digits only. However, when draft animals are recorded as *input* in the Resource Utilization Form, their codes become: draft animal code + 500. The result are 3-digit codes, with each code beginning with 5. For example, a buffalo is coded as 0 2 in Form 916 and 4 0 in Form 917, but in the Resource Utilization Form, it becomes 5 0 2 since it is considered a power input.

- e. Parcel ID - In Forms 939, 940 and RUF, Parcel ID 6 6 6 is used to signify that the data collected refer to all the parcels cultivated rather than to a single parcel. This happens when the farmer cannot provide data on per parcel basis due to difficulties in recalling.
- f. Other special codes - In addition to the special codes previously mentioned, the following codes are consistently used to indicate certain items: 7 = others (specify); 8 = no answer or not available (NA) and 9 = not applicable (NAP). NAP answers can also be signified by crossing out the columns provided for the answer (e.g., ~~///~~) in order to save time during editing.

2. Instruction by Schedule or Form

2.1 Household Census Schedule

Purpose and Scope. This schedule was administered at the beginning of the study to identify the farm operators and landless field laborers in each village. Data collected from the census is used primarily in selecting the samples needed for the study. Data collected included:

- a. Primary occupation of the household head (i.e., farmer, landless field laborer or non-farm worker).
- b. If farmer, number of parcels operated, size of parcels and their characteristics (i.e., rainfed-non-mechanized, irrigated-mechanized, rainfed-mechanized or irrigated-non-mechanized)
- c. Type and number of farm machines used and owned.

INSTRUCTIONS

Household. A household is defined as a group of persons living in one dwelling and sharing common food preparation facilities. Thus, if two families live under one roof but share a common food preparation, they are considered a single household by this definition.

Household Head. A household head may be any member of the household who acts as the breadwinner and/or makes major decisions for the household. In most cases it is the father who is considered the household head. In some instances, it is the widow or the eldest or male child who acts as head of household in the absence of the father or when the father becomes incapacitated.

Rice Farm Operator. A person is considered a rice farm operator if he cultivated *at least* 1,000 sq. meters (or 0.1 ha) of land which was planted to rice during the wet season preceding the household census. He must *also* contribute labor and make management decisions commonly made by persons in his category. A farmer who does not contribute labor but makes decisions can be considered a farm operator if he has contributed some labor at one time in the past. A rice farm household, is therefore, one whose head is a rice farm operator.

Landless Field Laborer. A person who does not operate a farm *and* derives the major (i.e., more than 50%) part of his income from working on farms owned by others. Specifically, his work must principally involve crop-related activities such as plowing, harrowing

planting, weeding, harvesting, threshing, etc. A household, then, which is headed by a landless field laborer, is considered landless household.

Non-farm household. A household whose head does not operate a farm and derives the major part of his income from non-agricultural activities such as fishing, forestry, handicrafts, industry, service, etc. Thus, though a household may get a large share of its income from non-agricultural jobs held by members, if the household head operates a rice farm, the household is still classified as a rice farm household rather than a non-farm household.

Parcel. A parcel is a contiguous piece of land not subdivided by physical features such as roads, large bunds, terraces, water channels or streams. Small bunds for irrigation purposes can be disregarded as long as the same crop is grown on each subdivision and if they have the same type of irrigation and tenure status. Irrigation canals that divide a parcel can also be ignored as long as the subdivisions are treated as one parcel.

A parcel is divided into different fields or subparcels if:
(a) more than 500 square meters of the area is planted to different crop, (b) irrigation is given to one portion of the area but not to the other, or (c) tenure or management systems differ from one portion of the area to another. Subparcelling is ignored if:
(a) a nursery is raised in one part of the parcel, or (b) different crops are grown on 100 square meters or less of the parcel. In

the latter case, the parcel is treated as an intercropped or a mixed-cropped area. When a subparcel is further divided for reasons similar to those mentioned previously, the subdivisions are called sub-parcels.

To record the Parcel ID, three columns are provided. The first two columns are allotted for the main parcel number. Parcel numbers of less than 2 digits are always recorded with a '0' (e.g., Parcel 3 is recorded as 03, Parcel 1 as 01, etc.). The third column is reserved for the subparcel number. Thus, the first subparcel of Parcel 3 is recorded as /0/3/1/, the second subparcel as /0/3/2/. If a parcel has no subparcels, the number '0' is recorded on the third column (e.g., record Parcel 1 as /0/1/0/, Parcel 7 as /0/7/0/, etc.).

2.2 Survey Forms

2.2.1 Forms 901-910 - Data Identification Forms

Purpose and Scope. These forms are used mainly to collect background data on the project. They are filled in only once by each country team for each project site. Information contained in the forms are:

- 901 Project name and project codes
- 902 Data origin, i.e., country, province, number of villages, year, number of observations
- 903 Selective criteria (optional); stratification variables can be mentioned here
- 904 Conversion rates and climatic zone
- 905 Monthly rainfall

906 Mean monthly temperature

907 Author of survey

908 Description of soil type

910 Write-up cards. Included is a description of the project and all changes made in the original FAO forms such as deletion or additions to codes or forms. This form can also serve as a farm identification card, with one form good for one farmer and containing basic data on his farm.

The information describing revisions made in the original forms is very important since it will entail changes in the programs used for analysis.

2.2.2 List of Forms

The List of Forms schedule is a summary of the types of questionnaire forms used for each respondent. It also contains the number of punch cards consumed for each form, the date of interview and the status of each form. The status may either be C=complete, CNR=Complete next round, CNS=Complete next season or FC=For call-back/completion. Forms which are not applicable to the respondent during interview time are signified by recording a NAP (not applicable) under No. of Cards and Status columns.

2.2.3 Form 911 - Farm Labor Form A (Farmer/household head and Household members with other work)

Purpose and scope. The purpose of this form is to collect data on the farmer/household head and members of the household who have off-far or non-farm work. The farmer is always recorded first whether or not he has off- or non-farm work. Other

household members are recorded on the form only if they have jobs aside from the work on their own farm and contribute to household expenses.

INSTRUCTIONS

Number of years in school. Refers to the number of years the respondent (R) actually attended school. By year, we mean the normal schoolyear composed of 8 to 10 months.

Number of farming years. Refers to the number of years the farmer has been operating a parcel. This may not be equal to the age of the parcel he is currently cultivating since he might have been cultivating a different parcel previously. To be specific, farming years should be equal to the current year minus the year the farmer *first* operated a parcel.

Off-farm work. Refers to all types of *agricultural* activities performed on other people's farms or *outside* one's own farm. By agricultural activities, we include field or crop-related activities (e.g., plowing, harvesting, threshing, etc) and general farm activities (e.g., fencing, repairing, farm building, etc).

Non-farm work. Refers to all types of activities related to non-agricultural sectors such as fishery, forestry, commerce, industry, handicrafts, and service.

Days worked outside own farm. For household members with work outside their own farm (i.e., off-farm or non-farm work), this refers to the number of man-days (i.e., 8-hour day) worked per

month. This requires that recording be carried out on a monthly basis.

Months are arranged chronologically, i.e., from January to December. However, since the crop year for the project does not always follow that order, it is necessary to record the year after each month. For example, if the project crop year is February 1979 to January 1980, the year 1979 should be appended to the months of March to December and 1980 to the month of January. This information should also be included in the write-up cards (Form 910) as an explanation.

Remuneration. Remuneration is recorded at its cash value. If the payment received is in kind, its equivalent market value is recorded in the columns. Its physical amount is recorded on the space after the question to serve as basis for editing. Payment received in cash and in kind (cash equivalent) are recorded separately.

For household members who have regular jobs and fixed incomes each month, getting the annual remuneration is no problem. For household members whose income varies from month to month, we record their *monthly* income on the space provided after each month. At the end of the crop year, the monthly figures are summed to derive the annual remuneration.

Card number. In every form, column 74 is always reserved for the card number. This is intended primarily to determine the number of computer cards consumed for every form for every respondent.

Example, for Form A, if 4 members of a certain household have

other work, 4 cards are needed to record these members. As the form can accommodate only 3 cards or persons, another sheet of the same form should be used. Start card numbering from left to the right on the sheet with all the card entries filled, then continue to the next sheet. The first card from the left is therefore always numbered 1, the next is numbered 2, etc. Using our example then, the cards in the first sheet would receive the numbers 1 to 3 while the card in the second sheet would be numbered 4. The case of having more than 9 cards is not a problem, as we do not expect to find a household with more than 9 members with off-farm jobs.

Household code. Household code refers to the ID number of the respondent. Three columns are reserved for this as the total number of respondents consists of 3 digits only. The household code may have no special significance for other countries, but for the Philippines the household code is signalling value. The first digit of the code represents the village. Observations are numbered by village such that numbering starts from '1' for every village (rather than being continued to the next village), with just the first digit changing for different villages. Thus, the first sample in village 1 is coded as /1/0/1/, the first sample in village 2 as /2/0/1/, the ninth sample in village 2 as /2/0/9/, etc.

2.2.4 Form 911-99 - Farm Labor Form B (Other household members not recorded in Form A)

Purpose and Scope. This form is designed to collect data on all household members not recorded on Form A (aside from permanent laborers who should be recorded in Form C). There should be no overlap in Forms A, B and C. Anyone who is recorded in Form A will no longer be recorded in Form B or C. Each household member should be recorded in one form only.

INSTRUCTIONS

Recording instructions. When filling in the form, start by recording the details regarding the family members in the lower half of the sheet. These consist of first names, relationship to the household head, age and sex. This data can then be transferred to the upper half of the sheet when the enumerator edits his questionnaire. Only the latter is punched for computer processing.

2.2.5 Form 911-020 - Farm Labor Form C (Permanent Laborers)

Purpose and Scope. This form is designed to collect data on permanent laborers working on a household's farm. Data collected include the number of days worked per month and the annual remuneration.

INSTRUCTIONS

Permanent laborer. A permanent laborer is defined as any person who is hired to work on a particular farm for more than one

cropping season. He may be paid in cash or in kind but in most cases, a permanent laborer is paid in kind (produce) at the end of the cropping season.

Number of days worked. This refers to the number of days worked by the permanent laborer per month. The method of filling in this question is similar to that for Form 911 (see section Days worked outside own farm).

Enterprise. If the permanent laborer is employed to work exclusively on one enterprise, specify the enterprise in columns 55 to 57. Enterprises may be either crop or livestock. If the enterprise is a crop, record the crop code (e.g., /0/1/6/ for rice, /0/1/1/ for corn, etc) if livestock, record the animal code (e.g., /5/0/2/ for buffalo, /5/8/0/ for poultry, /5/9/0/ for pigs, etc). If he works for more than one enterprise, cross out cols. 55-57.

Provisions. Refers to food, clothing, shelter and land provided by the farm operator to the permanent laborer *in addition* to his cash or kind remuneration. To record the answer, place a '1' in the columns which are applicable, as each column represents one type of provision. Columns which are not applicable (NAP) should be crossed out.

2.2.6 Form 930 - Demographic Information

Purpose and scope. This form collects data on the wives (past and current) of the respondent and number of child births (live

and still-born) and number of children who have died. Also collected on this form are the number (if any) of non-permanent household member(s) who return to help in farm work. Usual examples are children who study or work away from home and return to help in some farm activities. The number who return, the activities to which they contribute, and the number of days contributed are collected on a per season basis. Additional data is collected on household migration.

INSTRUCTIONS

Year of mechanization. For mechanized farm households, this would be the year when they first used a machine for land preparation. If the household is non-mechanized, column 25 is NAP. In the same manner, if the farm is rainfed, column 50 would be NAP.

Seasonal migration workers. These refer to household members who work outside the village for short periods of time and return to the village once the job is finished. They are distinguished from the permanent migrant workers who have left the household to work permanently outside the village.

2.2.7 Form 912 - Farm Land

Purpose and scope. This form is designed to collect background data on each parcel the farmer operates. Included in the data are soil type and color, topography, restricting factors, source of irrigation, estimated value of taxes paid, tenure status, rent and sharing arrangement for the products grown.

INSTRUCTIONS

Land value. This refers to the estimated market value of the parcel. During the interview, enumerators are encouraged to write on the space after the question the per unit value of the land. This provides a useful basis for editing. Meanwhile, the per unit value can be converted to the required data (total land value) when the enumerator edits his own questionnaire after the interview.

To check the accuracy of the land value data collected from respondents, we made a check of government rates for land and the valuation system. Included in such data which came mainly from the assessor's office are: per hectare market value of all types of land (e.g., agricultural, residential, commercial), and per hectare market value of all classes of agricultural land (e.g., first class, second class, third class). This data was gathered for every sample village, thus providing some bases when editing or crosschecking values obtained from the survey.

Land tax. Refers to the tax paid on the land (or real property tax). This is paid by the farmer only if he owns the land. There are instances, however, when the farmer rather than the landlord, pays the tax for the land he is renting (e.g., share-cropped and leased lands). Meanwhile, if the respondent pays no land tax, the columns provided for the answer are crossed out to signify that the question is NAP.

Land rent. This question is applicable only if the farmer is non-owner (e.g., lessee, share-tenant) or if he is an amortizing

owner (i.e., he still pays amortization). Rent paid in cash is recorded separately from rent paid in kind. Cash payment is recorded on columns 43-48 while the cash equivalent of payment in kind is recorded on columns 49-54. If the farmer does not pay rent because of special arrangement with the landowner, columns 43-54 should be cross out and the type of arrangement should be noted.

Original land value. This refers to the market value of the land when acquired *plus* the cost incurred by the farmer for its improvement. This question, therefore, is asked for every farmer regardless of whether he owns or rent the land.

2.2.8 Map of Currently Operated Parcel(s)

Purpose and Scope. This form is intended to obtain a sketch of the farmer's total farm holding which will serve as a pictorial summary. In drawing the map, the following information is included:

- a) Location of the parcel(s) with the farmer's house as the point of reference;
- b) Distance of the parcel(s) from the farmer's house (in km.);
- c) Parcel ID's;
- d) Shape of parcel(s);
- e) Size of parcel(s) in hectares;
- f) Crops planted during the current season;
- g) Relevant landmarks such as irrigation canals, irrigation pumps, creeks, rivers and other natural landmarks;

h) Tenure status of the parcel.

2.2.9 Form 931 - Landlord's Contribution to Cultivation Expenses

Purpose and Scope. This form is designed to collect data on the percent contributed by the landlord for all cultivation expenses during one cropping season. The form is to be filled in for both land rented-in and rented-out by the respondent. Thus for rented-in land, the data collected would be on the percent shared by the respondent's landlord while for rented-out land it would be the payment for his contribution as a landlord.

INSTRUCTIONS

Land preparation costs. This refers to all costs associated with the following activities: land clearing, ploughing, harrowing, levelling and repairing of dikes/canals and levees/bunds. The costs may be for labor and/or material inputs.

Pesticide costs. This refers to the cost of insecticides, weedicides, herbicides, rodenticides and fungicides.

Harvesting costs. This includes harvesting labor costs and the costs of other materials used in harvesting (e.g., cost of meals, harvesting tools/implements like sycthe, sacks, etc.).

Recording of percent contributed. Two spaces or columns are provided for recording the percent contributed by the landlord. All contributions are recorded as whole numbers, i.e., without any decimal point. Number with decimal point are rounded to

the nearest whole number. Since there are only 2 columns provided, a 100 percent contribution is specially coded as 9 8.

2.2.10 Form 932 - Cropping Pattern History

Purpose and Scope. This form is designed to collect data on the cropping pattern of every parcel operated by the farmer respondent. Data collected includes the crops planted, area cultivated and water adequacy. Data is collected for two separate years - the survey and the year before mechanization - to determine whether there has been any change in the cropping pattern between these periods.

INSTRUCTIONS

Year code. This indicates whether the data collected refer to: 1 = Survey year or to 2 = Year before mechanization.

Survey year. This refers to the year of the survey or the year when the study was conducted. When recording the year (whether survey or year before mechanization), only the last 2 digits are recorded. For example, 1979 is recorded as 7 9, 1973 as 7 3, etc.

Year before mechanization. For mechanized households, the year before mechanization is that year immediately preceding the year when the household first used a machine for land preparation. If a household first used a machine in 1973, the year before mechanization would be 1972. For non-mechanized households the method of establishing the year before mechanization

is as follows. First, determine the year when the village of the household initiated use of machines for land preparation. After the year is established, subtract 2 years to allow for any slight alterations in the system. The resulting year up to the year preceding the current year constitute the range of year values. The range will vary for each village depending on the year when the village first adopted mechanical power for land preparation. From this range, randomly select values that can be assigned to each non-mechanized household which will serve as the year before mechanization. If the range of values is less than the number of non-mechanized households (i.e., not all households will get a value or year) a random sampling with replacement is employed.

To illustrate, suppose the year of mechanization for village A is 1965. The range of values could be from 1963 to 1978 or a total of 16 values. If there are 15 non-mechanized sample households in the village, 15 values should be drawn from the range of values. If there are more than 16 non-mechanized households in the villages, values selected should be replaced so as to get a value for each household even if some households would get the same value.

The rationale behind filling in the year before mechanization card for non-mechanized farms is to determine if there have been changes in the cropping pattern of the parcel since the village first adopted a machine for land preparation.

If a parcel was not yet cultivated during the year before mechanization, record '1' on column 10 of the 'survey year' card and cross out the mandatory code of the 'year before mechanization card'. In contrast, if a parcel is no longer cultivated or uncultivated during the survey, record '1' on column 10 of the 'year before mechanization' card and cross out the mandatory code of the 'survey year' card.

For farms which have been mechanized for more than 10 years, data for year before mechanization may prove difficult to collect. If this happens, collect only the data for columns 1-9 (parcel ID and year code) and 73-80 (card number, household code and project code).

Data per season. Although information on three seasons can be accommodated on one card, it is suggested that a new form (or card) be completed each season. The reasons for this are: (a) a respondent may change the tenure status of a parcel between seasons; (b) a respondent may decide not to rent a parcel which he has rented in the previous season; and (c) a respondent may decide to sub-parcel a parcel which had previously been recorded as one unit. This way, any change in parcel structure and tenure status can easily be recorded. Data for each season are to be recorded on the appropriate columns. Columns which are NAP are to be crossed out.

2.2.11 Form 933 - Machine Use/Changes from Year Before Mechanization
to Survey Year

Purpose and Scope. This form is designed to collect data on machine use among the sample farm operators. Data collected includes the reasons for using mechanical power for land preparation, and changes in cropping patterns, irrigation/water supply or tenure status that have occurred on *each* parcel since the year before mechanization of the parcel to current year.

INSTRUCTIONS

Machine use during the current season. This refers to whether the farmer used a machine in land preparation during the current cropping season. Though this question is answerable by yes or no, we distinguish between permanent and temporary machine users to enable us to record accurately and to make the answer consistent with the farmer's classification. For mechanized farms therefore, the answer choice is either 1 = Yes (Permanently) or 2 = No (Temporarily). For non-mechanized farms, it is either 0 = No (Permanently) or 3 = Yes (Temporarily).

Year of mechanization. For mechanized farms, this would be the year when the household first used a machine in the land preparation of the parcel. For non-mechanized farms, this would be equal to the drawn year before mechanization (col. 8 in Form 932) *plus* 1.

Thus, if the year before mechanization selected was 1972, the year of mechanization would be 1973 (1972 + 1). If a parcel was not cultivated during the year before mechanization, the answer on column 11 (e.g., year of mechanization) should be the year when the parcel was first cultivated.

Type of machine used and reasons for using. These refer to the type of machine used in plowing and/or harrowing the parcel during the current season and the reason(s) why the machine was used. These questions are applicable only to mechanized farms (whether permanently mechanized or temporarily non-mechanized). They should not be asked for non-mechanized farms, not even for temporarily mechanized farms.

Changes in cropping pattern/water supply/tenure status. This refers to the type of change(s) that occurred since the year before mechanization of land preparation to the current year. These questions are applicable to both mechanized and non-mechanized farms. The reason these data are collected even for non-mechanized farms is to obtain sufficient explanatory variables for the cropping pattern history of the parcel.

2.2.12 Form 913 - Crops

Purpose and Scope. This form is designed to collect data on the crops planted on every parcel each cropping season. A distinction is made between this form and Form 932 (Cropping Pattern History) in that this form collects, in addition, the

following information for *each* crop, including intercrops: crop variety, planting method and planting dates (in month and week).

INSTRUCTIONS

Main crop, second crop and third crop. The main crop is defined as that crop which occupies the largest area of a mixed-cropped parcel; the second crop, the second largest area; and the third crop, the smallest area. If the crops occupy the same or similar areas, then the labels can be assigned arbitrarily.

Mixture pointer. The mixture pointer indicates the crop being discussed. This consists of 3 columns to accommodate the crop code and is used in the case of intercropped or mixed-cropped parcels. When the parcel is neither inter-cropped nor mixed-cropped, the columns are crossed-out to signify non-applicability of the question (see section 2.2.19 Resource Utilization Form for a more detailed explanation on the use of mixture pointer).

Variety. Refers to whether crop planted is of a traditional or modern variety. For the rice crop, efforts are made to further break down these two categories into specific varieties (i.e., IR-36, IR-40, etc.). For the other crops, the variety is simply coded as either 1 = modern or 2 = traditional.

2.2.13 Assets (excluding farm machines)

Form 916 - Draft animals

Form 917 - Productive animals

Form 918 - Buildings

Form 919 - Hand farm implements/tools

Form 934 - Other assets: Non-agricultural land and vehicles

Form 935 - Other assets: Home consumer durables

Purpose and scope. These forms are designed to determine the financial position of the respondent as reflected by his assets. Thus, the forms collect data describing the different types of assets such as: draft animals, productive animals, buildings, farm implements and tools and other assets such as non-agricultural land and vehicles and home appliances. The data collected cover: type of assets, quantity, age, original cost and/or present market value.

INSTRUCTIONS

Draft animals. Refers to animals used for farm activities such as plowing, harrowing, transporting, etc. Animals which are commonly used for this purpose are water buffalo, cattle and horse.

Productive animals. Refers to animals which produce milk, eggs or meat and are *not used* for farm work. Included in this type are cattle, buffaloes, poultry, pigs and goats. Animals which are *both* productive and draft are classified as draft and therefore recorded in Form 916 *only*.

Sub-type of animals. Animal sub-type refers to the sex and age of an animal. This information is important as it can be used to determine the value of the animal.

Value of an asset. This refers to the market value or the present sales value of an animal, farm implement/tool or non-agricultural land. This information is not relevant if the original cost and age of an asset are asked. In the Philippines, land values gathered from the interviews are checked against figures collected using government valuation system (refer to Form 912, section *Land value*). If the difference between the two is not significant, the form is approved; otherwise, it is returned to the enumerator for callback and verification.

Type of building material. This refers to the type of construction materials used for a building such as, light materials, strong materials or mixed light and strong materials. A building of light construction materials is made entirely of either nipa, wood or bamboo. A building of strong material uses galvanized iron for the roof and cement or bricks for the foundation and sides while a building of mixed strong and light materials consist of galvanized iron or nipa for the roof and wood for the sides.

Use of building. If a building is non-residential and used exclusively for one enterprise, the enterprise code (e.g., rice, corn, buffalo, pigs, etc.) is recorded on columns 13-15 of Form 918. For example, if a building is used only for storing rice, the rice code which is 0 1 6 is recorded on columns 13-15. If a building is residential, this question is NAP and the columns are crossed-out.

Age and original cost of asset. This information is collected only if the present value of an asset is not asked. Age refers to the number of years since an asset was acquired (or survey year minus year of acquisition of asset). For home durables and vehicles, age is the number of years the asset has been in his possession plus the number of years it has been with the past owner(s). For buildings, age refers to the number of years since a building was constructed not the time since it was acquired by the respondent as he may have bought it second-hand. Assets less than 1 year old are always recorded as '1'.

Original cost refers to the acquisition cost of vehicles or home consumer durables. For buildings, it refers to the construction cost rather than the acquisition cost which may not be equal to original cost in case a building was bought and not built. If an asset was given or inherited and no amount was involved in its acquisition, the amount the respondent would have paid if he bought it is recorded.

Non-agricultural land. This includes all non-cultivable land such as residential, commercial, industrial, fishing and forest lands.

Maintenance cost of vehicles. This refers to the cost incurred for the maintenance of the vehicle for the year preceding the survey year. If it was acquired only a few months (or less than a year) before interview time, this question is considered NAP hence, the columns provided for the answer are crossed-out.

2.2.14 Form 920 - Financial Liabilities

Purpose and scope. As in the previous forms discussed, this form is intended primarily to assess the financial position of the respondent. Thus, the data collected include: the number and amount of financial liabilities incurred by the respondent as of interview time, terms of the liabilities, source and purpose for which they were incurred.

INSTRUCTIONS

Type of financial liability. This refers to whether the liability is a loan, credit, mortgage or others. A loan is differentiated from credit in that loan is in cash while credit is in kind. In cases when both cash and kind were received (e.g., government credit programs), the liability is recorded as 1 = credit.

Duration of liability. This refers to the expiration date (in months) of a liability. In cases where a liability has no date of expiration (e.g., if the credit or loan was from a friend), columns 11-12 and 35-36 are NAP and they are crossed-out. The same procedure is followed if no interest is paid.

Source of financing. Whether the financial liability was obtained from a private bank, landlord, cooperative, friend/relative, middleman, input dealer, government,

through bank or others. While the other sources are common in all 3 countries, the input dealer was found only in the Philippines. In this system, a private entity who is an input dealer gives credit, without any support from the government, in the form of material inputs such as fertilizers and pesticides. His distinction from a middleman is that the latter may also be an input dealer but his primary role is that of a middleman.

2.2.15 Form 915 - Farm Machinery

Purpose and scope. This form is designed to collect information on each type of farm machine owned by the respondent. This form, then, is applicable only to respondents who own a farm machine. Data collected includes the capacity (in horsepower), age of the machine, original cost, annual fixed cost and annual repair and maintenance costs.

INSTRUCTIONS

Machine ID. Column 4 is provided in case the respondent has 2 or more machines of the *same* type and similar specifications (e.g., 2 power tillers having similar horsepower, age, etc.). Thus, if the respondent has only one unit of 2-wheel tractor its, machine ID will be 1. If he has 2 units of 4-wheel, one machine will have an ID of 1 while the other will have an ID of 2.

Enterprise. This question is answered *only* if a particular machine is used exclusively for one enterprise (i.e., crop or livestock). Otherwise, columns 10-12 are crossed-out. Thus, if a machine is used for more than one enterprise, this question is not relevant or NAP hence the columns should be crossed out.

Joint ownership. A machine is considered to be jointly owned if its ownership is shared by the respondent with other persons or organizations. If a machine is found to be owned jointly, the percent share of ownership of the respondent is recorded on columns 17-18. If a machine is owned singly by the respondent these columns are crossed-out.

Cost of machine. This refers to the original cost of the machine. Thus, if the machine was acquired second-hand by the respondent, the cost when it was acquired by the original owner should be recorded. The original cost as well as the age are necessary for computing the present value of the machine.

Annual fixed cost. This refers to the amount paid for taxes and insurance on the machine per year. This is distinguished from annual repair and maintenance costs in that the latter are variable costs, i.e., they are

affected by the price of fuel and oil. The annual variable costs are not asked during the interview as they are difficult to recall (e.g., amount of fuel/hour, amount of oil/500 hours). We derive them from the Resource Utilization and Machine Use forms and record them later. Thus, what is actually recorded is the variable costs during the survey year rather than the variable costs for the year preceding the survey.

Own use. This refers to the number of hours per season the machine was used on the farm (either owned or rented) operated by the respondent.

Rental use. This indicates the unit of measurement used when machine is rented out to other farms. Thus, if the machine is rented out on a hectare basis, code 2 = hectares is recorded on column 61.

Amount of rental use. This refers to the quantity or number of unit mentioned in column 61. For example, if the rental use unit is 1 = hours, the amount of rental use would be the total number of hours in a season the machine was rented out to other farms.

Income from rental use. This refers to the income received in a season from renting out the machine.

2.2.16 Form 936 - Decision-making re: Machine Purchase

Purpose and scope. This form is designed to collect information on the persons involved in making the decision to buy the machine and their reasons for buying the machine mentioned in Form 935.

Implement regularly attached to machine. This refers to the farm implement (e.g., plough, harrow, etc.) which is usually used with the machine. This information however is not to be included in punching, as this question is only additional. The original FAO form does not contain a similar question. In addition, there are no columns left in the form in which the answer can be recorded. Thus, the instruction "Do not punch" was provided.

Persons involved in decision-making. This refers to the person(s) or organization(s) who influenced the respondent in his decision to purchase the machine. If more than one person was involved, ranking is used and only the 2 most influential persons are recorded, with the more important being recorded on the first column.

Advantages of owning the machine. This refers to the advantages which were considered when deciding to purchase the machine. Space is provided for recording up to 3 advantages using 2-digit codes. Advantages should be ranked in their order

of importance, with the most important being recorded on the first 2 columns, the second on the next 2 columns and the third on the last 2 columns.

2.2.17 Form 937 - Machine Use, Income, Maintenance/Accidents with Machines

Purpose and scope. This form is designed to collect data on utilization and maintenance of every machine owned by the respondent. Data collected includes: the activities in a cropping season for which the machine was used, the amount of work (in hectares, day, hours or parcel) done by the machine in a cropping season, the amount and cost of fuel, oil and tires used in one season, income received if the machine was used for custom service and the type of accidents the respondent had with the machine.

INSTRUCTIONS

Data collection and recording instructions. Data is collected and recorded per farm activity and separately for own farm use and custom-work. One card can therefore contain data for only one type of farm activity for *either* the respondent's farm or custom-work. For example, if a respondent has several parcels of land ploughed by one machine, data for all parcels should be recorded on one card (i.e., ploughing on own farm). If the same machine was used for ploughing other farms, all information on

the farms serviced with this activity should be recorded on another card (i.e., custom ploughing). If the same machine was also used for harrowing his own farm, data for this activity should also be recorded on a separate card (i.e., harrowing on own farm).

Farm activity. This refers to all types of field or crop-related activities such as ploughing, harrowing, threshing, etc. The codes of these activities are listed at the bottom of the form. It should be noted that code 010 = land preparation should be used *only* if ploughing and harrowing was performed and paid for as a combined activity. Otherwise, ploughing and harrowing should be coded separately.

Unit of work. This refers to the unit of measure of work accomplished by the machine such as per hectare, per day, per hour, etc. For own farm use, we suggest the more appropriate units are 2 = per day or 3 = per hour. The unit 1 = per hectare may yield less reliable information since the farmer may not know the exact area processed by the machine during each use. This unit as well as unit 4 = per parcel are more easily and accurately determined for custom work, as they are the most commonly used units.

The other units, i. e., 5 = per ton of paddy and 6 = per ton of milled rice, were devised specifically for thresher

and rice mill since the units mentioned earlier are not appropriate for these kinds of machine.

Income received. This refers to income derived from renting-out the machine. Thus, this is applicable only if work was done on farms other than the respondent's own.

2.2.18 Form 938 - Machine Breakdown and Repair

Purpose and scope. This form is designed to collect data on the breakdown and repair history of the respondent's farm machines. Data collected includes the type of machine breakdown, hours downtime, causes for delay in repair (if any) and repair costs.

INSTRUCTIONS

Type of breakdown. Codes for different types of machine breakdowns are found in the code list.⁸

Codes 10, 30, 40 and 50 are general breakdown codes while the codes under them correspond to the details of the breakdown. As much as possible, the more detailed of the breakdown should be used. The general codes should be used only when the respondent cannot

⁸Note that tire repairs are not included in this form but rather in Form 937 (Machine Use, Income, Maintenance/Accidents with Machines) as tire repairs belong more appropriately to operation costs.

specify the exact details of the breakdown. In addition, only *one* type of machine breakdown should be recorded on one card. Should there be more than one type of breakdown in one cropping season, they should be recorded separately using one card for each type.

Reasons for delay in repair. Space is provided for up to 2 reasons for delays in the repair of the machine (columns 24-25). The most important reason should be recorded first.

Number of days field activity was delayed. This question is answered only if the machine broke down while it was being used for a field activity. Otherwise, column 22 should be crossed-out.

Date of machine breakdown. The exact date of machine breakdown is coded using the date coding system for FRK (i.e., coding system consisting of week and day codes).

2.2.19 Form 921 - Inventory Changes

Purpose and scope. This form is intended to record changes (addition or loss) in the respondent's inventory of resources which occurred during the season. The form is, therefore, administered at the end of each cropping season. Specifically, the form can be used to trace changes in the following types of resources:

land, buildings, livestock, farm tools/implements,
household durables and financial liabilities.

INSTRUCTIONS

Subject group. This indicates the general category of the asset or resource in which a change took place such as, land, draft animals, buildings or productive animals. The complete list and codes of the subject groups are found at the bottom of the form.

Although the subject group farm machinery (915) was originally included in the subject group list, it was subsequently omitted because some of the important information required such as horsepower, type of fuel and machine age could not be collected if newly purchased machines were recorded on this form. Hence, all additional machines (i.e. machines not recorded during the previous season) are to be recorded only on Form 915 (Farm Machinery) and sequentially on Form 936 (Decision-making re: machine purchase). Only machines sold during the season should be recorded on the inventory changes form, as the supplementary data needed will have already been collected during the previous season.

In the same manner, only financial liabilities incurred during the previous season(s) but paid during the current season should be recorded on the form. Financial liabilities incurred during the current season should be recorded on Form 920 (Financial Liabilities). The subject group crops (913) are also used only when recording crop death/failure since sale, production and consumption, which are the most common types of crop changes that occur, can be recorded on Form 940 (Sale/marketing of Produce) and Form 939 (Disposal of produce), respectively.

Main group. This refers to the subgroup under the subject group under evaluation. For example, if a change occurred in the subject group productive animals (917), the main group (subgroup) might be cattle (010), poultry (030), pigs (090) or goats (030). If a change occurred in a farm implements the main group refers to the type of farm tool implement, i.e., plow, harrow, scythe, sack, etc.

Sub-type. The sub-type, which refers to the age and sex, is applicable only if the subject group is either draft animals (916) or productive animals (917). Otherwise, this question is NAP and the answer columns should be crossed out.

Type of change. This identifies the specific change associated with an asset or resource. The types of changes include: birth, death, sale, purchase/construction, consumption and payment of a past financial liability.

Month and week of change. This refers to the date (month and week) the change in inventory occurred. Two columns are provided for the month codes (1-12) and one column for the week code (1-4). (See Appendix 5: Code List under the heading Time Codes).

Amount. This refers to the physical quantity or number of an asset or resource which underwent change. For example, the number of male pigs that were born, the area of farm land sold, the number of female chickens consumed, etc. This question is NAP if the subject group is financial liabilities (920).

Cash or kind. Record 1 = cash if the change is either: sale, purchase/construction, payment of previous debt. Record 2 = kind if the change is birth, death/destruction consumption/donation/leave or new coming/arrival/gift received.

Value. Whether the change occurred in cash or kind, there must always be an equivalent monetary value recorded. The only case in which this is labelled NAP is when the subject group is 911 (household members/permanent labor) and the change is either birth, death, leave or arrival.

2.2.20 Resource Utilization Form

Purpose and scope. This form is designed to trace resource flows by collecting data on every input per activity and per parcel operated by the respondent. Data collected includes the amount of input, its value and the date when the activity was performed.

INSTRUCTION

Enterprise. This identifies the subject being discussed in a card, thereby implying that the data contained in one card should pertain to only one type of enterprise or subject. A different enterprise entails another card. There are 3 major types of enterprises for this form. These are: (1) crops; (2) livestock; and (3) non-wage supplementary income. A complete list of the specific enterprises and their codes appears in the appended coding list.

Parcel ID. If the enterprise is crop, parcel ID refers to the number of the parcel planted to the crop being described. If the enterprise is livestock or supplementary income, parcel ID is NAP, hence columns 04-5 should be crossed-out. Similar to enterprise, a different parcel ID also requires a new card.

Type of input/output. The type of input/output varies for each enterprise. In a crop enterprise, the type of input refers to the type of labor used for a certain farm activity, the type of power used, or the type of other materials used. All crop outputs are recorded on Form 939. In a livestock enterprise, the type of input is either the type of labor used for a certain livestock activity or other livestock inputs such as feeds, drugs and medicines. The type of output refers to milk, eggs, meat or live animal sold. In a supplementary income enterprise, output refers to the type of non-wage income such as pension, contribution or rent received. All the labor inputs for off- or non-farm supplementary activities are recorded on Form 911. It should be noted that for crop or livestock enterprise, each type of input is recorded separately, i.e., labor is recorded separately from animal power and machines, fertilizer is separate from weedicide, etc.

Labor inputs are classified into the following: family labor, permanent labor, seasonal hired labor, exchange labor and contract labor. *Family labor* is defined as any member of the household who is not paid either in cash or kind for any field work done. Any family member who gets paid for field work done should be considered hired labor. Family labor may either be

male (male 10 years old or over), female (female 10 years old or over) or child (male or female under 10 years old). *Permanent labor* is one who is hired continuously for more than one cropping season to do farm operations. Permanent hired labor may also be either male, female or child. *Seasonal hired labor* may be any person (male, female or child) who is hired for not more than one cropping season. *Exchange labor* is one who is not paid for any field work done on the mutual and implied condition that the operator returns the service in the future. This type of labor is also known as community labor. Lastly, *contract labor* is any person hired on a piecework or job basis. For this type of labor, the worker gets paid for the job, not for the number of hours or days worked as in the case of the seasonal hired labor.

When recording labor input for crop enterprises, a special coding system is used in order to relate labor hours to animal or machine hours. Thus, since the input code consists of 3 columns and only the last 20 columns are used, the first column is used to identify whether labor used was with animal, machine

or human only. The following special codes are used for signalling: 6 = with animal; 7 = with 2-wheel tractor; and 8 = with 4-wheel tractor.

If neither animal nor machine were used, the first column is coded '0' (refer to *Special coding* in Sub-section 1.12).

Activity. The activity describes the particular activity for which the input was used. The activity may either be a field activity (e.g., ploughing, harrowing, weeding, etc.), livestock activity (e.g., grazing, herding, feeding, etc.) or general farm activity (e.g., transporting, fencing, etc.). If the enterprise is non-wage supplementary income (e.g., rent received, pension, contribution received) no activity is recorded as non-wage supplementary income is considered an output rather an input. Hence, the columns are crossed-out.

Date. The date records the time (in month and week) the activity was performed or the input was used. Three columns are provided for recording the date. The first 2 columns are provided for the month code (i.e., 1st to 12 month) and the last column is for the week code (1st to 4th week). To record the date of an activity

which lasted for the whole month or which was done repeatedly for one month, a zero ('0') is recorded on the week column. For example, to record the date of weeding which was done repeatedly during the month of June, write 0 6 0 on the date column.

When recording the date, the days in a month are divided into weeks using the following system to obtain a uniform number of weeks each month:

Days 1	- 8	= week 1
Days 9	- 15	= week 2
Days 16	- 22	= week 3
Days 23	- 29/30/31	= week 4

Amount. The amount refers to the quantity of the input used. For labor or power input, the amount is recorded in man hours (i.e., number of laborers multiplied by the number of hours worked per laborer). For material input (e.g., fertilizer, seeds, etc.), and non-wage supplementary income received in kind, the unit of measurement used is kilograms if solid and liters if liquid.

When recording an amount of input less than 1 unit (hour, kilogram or liter), a floating decimal point is used, with the decimal point occupying one column. For example, record 100 gms. as /0/0/0/./1/, 10 gms. as /0/0/./0/1/, 30 min. as /0/0/0/./5/, etc. Decimal numbers greater than one are always rounded to the nearest whole number, thus doing away with the use of a floating decimal point.

Cash or kind. This is used to identify whether a transaction was paid for in 1 = cash or 2 = kind. A special code 3 = cash and meal is used if food was provided to the laborer in addition to cash payment. Code 2 = kind is used whenever the activity was done by a family member or by exchange/community labor, whether or not food was provided.

Value. The value reflects the value paid out or received in any transaction. If the transaction was paid or received in kind, the equivalent market value is recorded. If a meal was provided in addition to cash payment, a cash equivalent must be derived for the meal and added to the cash amount paid. No value is recorded *only* if the activity was carried out by family or by an exchange labor who was not given anything. If an exchange labor was provided with food, the cash value of the food is recorded.

Mixture pointer. As mentioned earlier, the mixture pointer indicates the type of crop being discussed in case of intercropped or mixed-cropped parcels. Hence, if a parcel is planted to 4 different crops, the mixture pointer can take on 4 different values, i.e., 4 different codes representing the 4 crops. The enterprise code however remains the same even if the mixture pointer changes.

For mixed-cropped or intercropped parcels, the enterprise should be that crop which occupies the largest area. If the area occupied by each crop is the same or undetermined, the enterprise may be chosen arbitrarily as long as the chosen enterprise is followed and retained throughout the season. For example, Parcel 1 is mixed-cropped with corn, watermelon and peanuts (groundnuts). If corn occupies the largest area, the enterprise should be 011 = corn. If the area occupied by each crop is not known or the same the enterprise can be either one of the three crops (i.e., 011 = corn, 161 = watermelon or 071 = groundnuts). In both cases, the mixture pointer can either be 011, 161, or 071, depending on the crop being discussed. The enterprise, however, remains the same. For instance, if the enterprise chosen is groundnuts, enterprise 071 is used whether it is corn, watermelon or groundnuts which is being discussed. Only one type of crop can be recorded on one card. A different crop requires a new card. Hence, it is important that the mixture pointer is always recorded for mixed-cropped parcels in order to determine the crop being discussed. In the case of single-cropped parcels, the mixture pointer is NAP so columns 70-72 should be crossed-out.

Card ID and Project Code. Refer to Section 1.12 (a) for card numbering and project coding system.

2.2.21 Form 939 - Disposal of Product

Purpose and scope. This form is designed to collect data on the farmer's total yield and its disposal. This is administered for every crop produced in each cropping season. Data collected include the amount and value of total yield, the parcel from which it was harvested and the various means of disposal of the harvest or produce (i.e., to harvesters/threshers, landlord, debts, etc.).

INSTRUCTIONS

Total production. Total production or yield should be in kilograms. If during the interview the respondent cannot give the total quantity in kilograms, the interviewer should write the amount in local units and the conversion rate on the space provided after the question. The quantity in the required unit (kg.) can be derived after the interview when the interviewer edits his own forms.

Value. The value of total production refers to the estimated market value of the crop at the time it was harvested. Interviewers are encouraged to verify and write down the price/kg. to provide the editor some basis when checking the total value.

Parcel ID. Refers to the code number of the parcel from which the crop was harvested. In cases where the total production refers to the aggregate harvest from *all* parcels, i.e., the farmer could not separate the harvest from every parcel, a special code of /6/6/6/ is recorded on the Parcel ID columns to denote that the data refers to the total for all parcels. As much as possible, however, the use of this special code should be avoided because it may complicate data analysis.

Paying arrangements. This refers to the sharing system between the farm operator and the harvesters and threshers such as one-sixth of the total quantity harvested or threshed, one-eighth of total harvest with free weeding labor, etc. This system is observed only if payment for harvesting or threshing is to be given in kind or in the form of harvest. If payment is to be in cash, this arrangement is not applicable. The same is true if harvesting and/or threshing was done by family or exchange labor.

Quantity used to pay debts. This refers to the amount of harvest used to pay the respondent's debts incurred during the season, such as debts to the landlord, bank, middleman, inputs dealer, etc., except debts payable to labor provided during the season and land rent.

Quantity left with farm operator. This includes quantity for home consumption, future sale and seeds for the next cropping season.

Quantity used for other purposes. This refers to the amount of harvest used as gift, donation or as payment for irrigation water consumed during the season.

Quantity paid to winnowers or blower is also included here.

Card number. Card number is necessary as questions for this form are contained on 2 separate cards because they cannot be accommodated on a single card. Thus, the first half of this form is placed on card 1 while the second half is on card 2. These 2 cards are to be filled in for each crop harvested in each cropping season, regardless of whether one card is empty except for the parcel ID, household code and project code recorded.

Product sold last season. The produce for the whole farm from the season preceding the start of the survey is collected to give us some idea about the farmer's financial position at the beginning of the study. This information is therefore collected only once, at the end of the first season. If the farmer has more than one parcel, production for last season should always be recorded on card 2 of the first parcel. For the other parcels, columns 38-68 of card 2 should be skipped.

2.2.22 Form 940 - Sale/Marketing of Product

Purpose and scope. This form is designed to collect information on the sale of the respondent's produce. Information collected includes: date of sale, quantity sold, total value of produce sold and market location.

INSTRUCTIONS

Recording instructions. Only one type of crop can be recorded on this form. If a farmer sold another crop, a second sheet is used. In addition, this form can accommodate only up to 2 sales. If more than 2 sales occurred, then a second sheet should be added.

Parcel ID. Refers to the number of the parcel from which the crop sold was harvested. If the farmer cannot identify the Parcel ID, or if the crop sold came from different parcels, record /6/6/6/ on columns 4-6. Again, as previously mentioned, the use of this special code should be avoided as much as possible. Enumerators should try to collect data on a parcel basis so as not to complicate data analysis.

Transportation cost. This is applicable only if the crop sold was marketed outside the farm, i.e., it has to be transported. If produce was sold on farm or within the village such that no transportation was required, this question is NAP.

Cropping season. This refers to the cropping season in which the crop sold was harvested. For example, if the crop was harvested in the wet season but not sold until the second cropping season, the cropping season code that should be recorded is 1 = wet season.

2.2.23 Form 941 - Land Reclamation

Purpose and Scope. This form is intended to determine whether the respondent has reclaimed a piece of land currently operated. Reclaimed land which is currently fallow (not cultivated) is also included. Data collected include: the type of power (e.g., human, machine or animal) used in land reclamation, labor hours and costs entailed.

INSTRUCTIONS

Parcel ID. This refers to the code number of the parcel which was reclaimed.

Year. This refers to the year when the parcel was reclaimed. The time frame of this question is from the year the farmer started cultivating the parcel to the current year.

Human power. When recording data on human power, the human labor which accompanied an animal or machine should be added to human labor alone (i.e., labor without animal or machine power).

2.2.24 Form 942 - Extension Services/Machine Operation

Training/Farmers' Organizations

Purpose and scope. This form is intended to collect data on the extension services and machine operation training available to the respondent. Information is also collected on farmer organization of which the respondent is a member. This form is therefore filled in for respondents who have either: (a) access to extension service; (b) been trained in machine operation or (c) are members farmers organizations.

INSTRUCTIONS

Recording. This form consists of 2 pages but fits only one card. A maximum of 2 machine training and 3 farmer organizations can be recorded on this form.

Knowledge received from extension workers. When recording the type of knowledge received from extension workers, place a '1' in every applicable form. A maximum of 6 answers may be recorded. This method is used to avoid having to make combination codes for 6 possible answers, as combination codes use more space and create confusion in recording.

Training in machine operation. This refers only to trainings received from other person/organizations. Knowledge in machine operation acquired through self-experience or self-study is not included.

Farmers organization. Space is provided for up to 3 organizations. Columns 33-40 are reserved for the first organization, columns 41-48 for the second and columns 49-56 for the third organization.

2.2.25 Form 943 - Work Opportunities/Preferences of Landless Field Laborers

Purpose and scope. This form is designed to collect data on the work opportunities available to all working members of landless field households and their work preferences. Data collected includes the type of work preferred, reasons why such work is preferred and whether a change in work has occurred before and after the village became predominantly mechanized.

INSTRUCTIONS

Recording. This form is filled in for all members (including the head) of landless field laboring households who have work and income at interview time. Only two income earners can be recorded in this form. Thus, a new form should be filled in if the number of income earners exceeds 2.

Assigned card number. This should correspond to the number of the card in Form 911 on which the income earner being discussed was recorded. For example, if the first income earner being discussed on this form was entered on card in Form 911, record '2' on column 9 of this form.

If he was entered on card 4 on Form 911, record '4' in this form, etc. For every income earner, the number recorded in columns 9 or 34 of this form should always match column 74 of Form 911.

Predominant mechanization. This refers to the year when at least 50% of the farmers in the village were using machine for land preparation. If a village has not yet reached such level, record the year when a land preparation machine was first used.

2.2.26 Form 944 - Actual and Ideal Dates of Crucial Farm Activities

Purpose and scope. This form is designed to determine the difference between actual and ideal dates of crucial farm activities. The main purpose is to establish the relationship between mechanization and turnaround time. Ideally, the dates of all activities should be ascertained. But because of the anticipated difficulty of recall, it has been decided to concentrate on certain farm activities such as plowing, harrowing, planting and harvesting.

INSTRUCTIONS

Recording. This form contains two cards. On each card can be recorded information for two parcels

currently operated by the farmer.

Date. For questions which ask for dates, record the dates on the blanks provided after the questions.

The blanks are numbered such that blank 1 is for the parcel recorded on the first card and blank 2 is for that recorded on the second card. Dates should be coded (using the FRK date codes in Appendix 5) when the interviewer edits his own forms.

2.2.27 Form 945 - Animal Diseases/Accidents with Animals

Purpose and scope. This form is intended to collect information on the diseases contracted by the draft animal owned by the respondent and accidents met by the respondent with the animal during the season. This form is equivalent to the Machine Use and Machine Breakdown and Repair forms (Forms 937 and 938). The primary purpose of this form is to determine delays and losses incurred due to non-functioning of animals when needed for farm activity. Information collected includes the date of occurrence, type of disease and seriousness of accident.

INSTRUCTIONS

Recording. A maximum of 3 types of diseases and accidents can be recorded on this form. If more than this number of diseases or accidents occurred in one cropping season,

another form should be filled in.

No. of days activity was delayed. If the disease occurred when the animal was being used for a farm activity, record the actual number of days the field activity was delayed.

No. of days animal cannot be used for field work.

If the animal died or was rendered permanently incapacitated for farm work by the disease, record /1/1/1/ on the answer columns.

2.3 Farm Recordkeeping Forms

2.3.1. Farm Map

This schedule is similar to the Farm Map used for the Survey. For details, refer to Sub-section 2.2.7.

2.3.2 Cultivation

Purpose and scope. This form is designed to collect input data by field operation for every crop and parcel operated by the FRK sample observation. Data collected include: the type, quantity and cost of labor inputs, power used and other material inputs. This schedule is the counterpart of the survey's Resource Utilization Form, except the dating scheme for this schedule (and for the rest of the FRK schedules) is more

precise, i.e., week and day vs. month and week.

INSTRUCTIONS

Year. Year refers to the current year. To record, write only the last 2 digits of the year. For example, record 1979 as 7 9, 1980 as 8 0, and so on.

Date. This refers to the date on which an activity was performed. The date should be written out first on the line provided. This should serve as a basis when checking the date code.

To code dates, use the week and day codes found in the coding list. The procedure for date coding is as follows: First determine the week to which the date belongs. Record the week code on the first 2 columns provided for date code. Then determine the day code by establishing whether the day is the first, second, third, etc. day of the week. The resulting 3-digit code would then compose the date code. For example, ploughing was done on June 21, 1979. Based on the Code List, this date belongs to week number 08 (June 17-23).

The code 08 should then be recorded in the first 2 columns. The day code would be '5' since June 21 is the fifth day of week 08. The complete date code would then be /0/8/5/. If the same activity was carried out every day for one week, code '0' is recorded on the day code column (third column).

Field activity. Includes all field operations or activities related to crop enterprise only. Activities related to livestock enterprises and general farm activities (e.g., transporting, marketing) are not included here. The forms are used for one activity and one parcel only. Thus, if in one day several activities are performed, they should be recorded on several forms of the same schedule. In the same manner, if the same activity was performed for several parcels, a separate form or sheet should be used to record for each parcel.

Parcel ID. This refers to the code or ID of the parcel on which the activity was performed. To record the parcel ID, refer to instructions in Section 2.1 Household Census Schedule.

Crop. This refers to the type of crop for which the activity is intended. If the same activity was performed for more than one type of crop (e.g., weeding for rice and vegetables), a separate sheet for each crop should be used.

Variety. This identifies whether the crop is a traditional or modern variety. For rice crops, codes are given for specific varieties. For other crops, general codes are provided, i.e., 1 = modern, 2 = traditional.

Operator's labor. This refers to the number of hours worked by the farmer if he performed or helped in an activity. If the farmer did not perform any activities, this column should be left blank or crossed-out if possible, to denote non-applicability.

Type of labor. The different types of labor are clearly defined in Subsection 2.2.19 (Resource Utilization Form) under the heading Type of input/output. The numbers enclosed in the parentheses correspond to the labor code, thereby facilitating transfer to the FAO format.

Manhours. This is equal to the number of workers multiplied by the number of hours worked. For example, if 5 men were hired for plowing and the number of hours worked by each is 8, manhours is equal to 40 (5x8).

Value of meals. The estimated market value of a meal is recorded only if meal or food was provided to the workers. When FRK data is transferred to the FAO Resource Utilization Form, meals are recorded separately from payments given in cash or in kind. They are recorded as a miscellaneous input (code 365 = meals) in kind (code 2). The activity for which it was given, the date it was given and its value is also recorded. Amount or quantity is crossed-out since it is NAP.

Power used. Refers to the type of power used for the activity such as animal, 2-wheel tractor or 4-wheel tractor. The power of the operator is not included as it is considered either as seasonal or contract labor.

Horsepower. This refers to the rated capacity of the machine used. Although this data could not be transferred to the Resource Utilization Form,

this information is likewise gathered to provide some basis in checking data reliability and for more detailed analysis of power units.

Rent. Rent refers to the cost of hiring an animal or machine for a certain activity performed on a single day. If the animal or machine is rented on a contract or piecework basis where the activity takes more than 1 day to finish, record the rental cost only at the end of the job. The daily rental rate can be derived by dividing the total rent by the number of days it took to finish the job.

Amount paid to operators. This refers to the cash amount paid to animal or machine operator(s). If it is incorporated in the rental cost of the animal or machine, estimate the operator's fee by using the current local sharing system between the animal or machine owner and the operator(s) as the basis.

Landlord's share. If the land operated by the farmer is rented, this refers to the cash equivalent of the landlord's share in expenses for labor, power and other materials inputs used.

Other material inputs. These include seeds, fertilizers, insecticides and herbicides. For pesticides, the specific brand should be recorded, as chemical or nutrient composition is harder to distinguish. Codes for the most common brands of pesticides are found in the Coding List. Space is provided for up to 3 kinds of other material inputs. Should there be more than 3, fill in a new Cultivation Schedule form.

Quantity and unit. This refers to the amount and unit of the material input used. If unit is not in standard form (kilograms or liters), it is converted to the standard unit by the village assistant during editing.

Price/Value of material inputs. The purchase price is recorded if the material input was bought. If it was produced, the equivalent market value is recorded. When transferring FRK data to the FAO format, purchased material inputs are always recorded as 1 = cash even if they were obtained through credit as long as they were bought for or are payable in cash. Material inputs are recorded as 2 = kind only if they were home-produced or given, as long as no cash was involved in their

acquisition. All material inputs must always have a corresponding value whether they were obtained in cash or in kind.

2.2.3 Production

Purpose and scope. This form is designed to determine the quantity and value of the farmer's output. Data is also collected on disposal of products and by-product.

INSTRUCTIONS

Date. Refers to the date when a certain crop was harvested

Crop. Refers to the type of crop that was harvested (e.g. palay, corn, tomatoes, etc.). If more than one crop was harvested on the same date, a new sheet should be completed.

Parcel ID. The parcel ID refers to the code number of the parcel or subparcel from which the crop was harvested. If the same crop was harvested from different parcels, the harvest from each parcel should be recorded on a separate sheet. In case a farmer harvested several parcels on one day and total production from each parcel cannot be estimated, record 6 6 6 on the spaces provided for parcel ID.

Quantity and unit. This refers to the amount harvested. The unit used should also be recorded, as the answer may not always be in standard unit (kilogram). The conversion factor should also be determined, in order to derive the quantity in kilogram, etc.

In case the farmer cannot provide the conversion rate, the village assistant can refer to the Conversion Table which was prepared for this purpose before the start of the field work. The Conversion Table was compiled by visiting village and local markets and carrying out weighing exercises to obtain rates for converting local non-standard units to standard units. Included in the tables are conversion rates for land, common crops, and material inputs such as fertilizers and pesticides.

Value of total produce and products disposed. This refers to the market value of the total produce at harvest time. For valuing products given to harvesters and threshers and landlord, products retained by the farmer and those given for other purposes, use the market price at the time they were given.

Disposal of product. This indicates the quantity and value of produce given to harvesters/threshers, landlord, debts and irrigation fees, and the amount remaining with the farm operator. If a certain amount of produce was given to harvesters/threshers, the product sharing arrangement is ascertained to establish a basis for checking responses. Produce given to the landlord refers to the portion of the crop paid as rent for the parcel from which

the produce was harvested. Produce paid for debts refers to that portion of the crop paid for loans, credits and mortgages, excluding debts payable to persons who performed labor before harvest time. Produce used for other purposes refers to produce given as gifts or contributions. Produce remaining with the farmer includes produce for household consumption, future sale and seeds.

By-products. These include straw, husk and hay. By-products which are not used or not collected (i.e., those left on the field) should not be recorded.

2.3.4 Marketing

Purpose and scope. This form is designed to trace marketing behavior through collection of information on the type of crop sold, market location, price and date of sale.

INSTRUCTIONS

Recording. This form can accommodate more than one day, one type of crop and one parcel. More specifically, a maximum of 14 crops or days or parcels can be recorded on the form. Nevertheless, this form should be completed at the end of each week even if it contains only one entry.

Parcel ID. This refers to the code number of the parcel from which the crop sold was harvested. If the crop sold was harvested from different parcels, the parcel IDs should be

recorded on separate lines. For example, if rice sold was harvested from Parcels 1 and 3, rice from Parcel 1 should be recorded separately from that which came from Parcel 3. If the crop sold was the aggregate harvest from different parcels, i.e., the farmer cannot distinguish the exact quantity coming from each parcel, record /6/6/6/ on parcel ID columns.

Quantity and unit of measurement. This refers to the quantity of crop sold and the unit of measurement used, i.e., whether in local units or standard units (kilogram). If local units are used the conversion factor should be specified to allow the village assistant to convert it to a standard unit.

Price per unit. This information is gathered mainly to provide a basis for checking the total value during editing.

- 2.3.5. Supplementary Income A: Off-farm Income
Supplementary Income B: Non-farm Income
Supplementary Income C: Rents received, Pension,
Contribution and Miscellaneous

Purpose and scope. These forms are designed to determine whether the farmer (or the landless field laborer) and his family have other sources of income aside from his farm enterprises (or aside from farm work in the case of the landless household). The main purpose of these forms is to determine whether mechanized farm households have more off-farm income due to the time saved using mechanical power

in farm activities. Data collected include the source of supplementary income, amount received and hours worked.

INSTRUCTIONS

Off-farm income. This refers to income derived from working on the farms of other people. Work may either be a field activity (e.g., plowing, harrowing, threshing, etc.), livestock activity (e.g. grazing, feeding, herding, etc.) or general farm activity (e.g., fencing, building, etc.).

Non-farm income. This refers to income derived from employment in non-agricultural sectors such as forestry, fisheries, industry, commerce, handicrafts, services, etc.

Other supplementary income. This refers to all types of non-wage income, i.e., income received without performing any labor. Examples of this type of income are pensions, rents received, contributions/gifts received and miscellaneous (i.e., winnings from games, inheritance, etc.).

Date. This refers to the day on which certain type of supplementary income was received.

First name and age of household member. This information is necessary to determine the household member code, particularly, codes for children who have off- or non-farm jobs. For example, if the first child who has an off-farm

job is named Jose and is 8 years old, he will be coded by the village assistant as 12 = child. If he is 15 years old, his code will be 13 = male. This information is NAP for Supplementary Income C as it pertains to non-wage income.

Primary and secondary occupation. A primary occupation is that occupation to which more than 50% of a person's working time is devoted. A secondary occupation is that to which less than 50% of a person's working time is allotted. If a person has more than one occupation to which his time is devoted equally, the primary occupation would be that from which he derives a major portion of his total income.

Remuneration. For a household member with off-farm work, the daily income received should be recorded on the Supplementary Income A form. Cash payment received should be recorded separately from payment received in kind. In cases where the worker is paid a fixed amount in kind at the end of the cropping season, the amount and value may **be** recorded at the start of the FRK scheme. If the payment in kind is not fixed i.e., it is undetermined at the start of FRK, record the amount and value only after the payment has been received.

Since this type of information is not transferrable to the FAO Resource Utilization Form i.e., seasonal income cannot be recorded, it must be transferred to Form 911. Thus, for the Supplementary Income A form, only household members with off-farm work and who are paid daily are recorded on the Resource Utilization Form.

For household members with non-farm jobs, the monthly salary is recorded if the member is a regular employee. Otherwise, the daily wage (or the daily profit as the case may be) is recorded. Like the previous form (Supplementary Income A), transferring of data to the FAO format will differ depending on how a household member is paid. If he is paid monthly, data is transferred to Form 911; if he is paid on a daily basis or if supplementary income is received daily, the appropriate FAO format is the Resource Utilization Form.

With regard to the Supplementary Income C form, data is transferred to the Resource Utilization Form. Since this type of income is considered an output and no input is required, the activity columns are not filled in. If income was received in cash, the amount columns are likewise ~~crossed-out~~; they are filled in only if the income received was in kind.

2.3.6 Animal Care/Maintenance

Purpose and scope. This form is designed to collect input data by activity for every type of draft animal owned by the respondent. These data will be used in comparing the cost (in time and money) of maintaining a draft animal with that of a machine. This form is thus applicable only to respondents who own animals used in farm work. Data collected on this form includes the labor inputs by type, feed inputs and other animal inputs.

INSTRUCTIONS

Activity. This refers to activities related to draft animals such as feeding, grazing, bathing, etc. This form can accommodate only one type of activity. Thus, if more than one activity was performed in one day, use other sheets such that one sheet contains only one activity.

Type of labor. Refer to Subsection 2.2.10 (Resource Utilization Form) under the heading Type of input/output for a clear definition of each type of labor.

Feed input. This includes hay, grass or grains. When coding, however, feed inputs are classified into 2 general types: 35= feed roughage (e.g. hay, grass, stalks) or 40 = feed concentrate (e.g. grain, meal).

Other inputs. This includes drugs, medicines, veterinary expenses and other material inputs.

2.3.7 Animal Diseases/Accidents with Animals

Purpose and scope. This form is designed to collect data on diseases contracted by the draft animal during the study period. The primary purpose of this is to determine whether the diseases affect the timeliness of field operations. Data collected include the date of occurrence, type of disease and seriousness of the accident.

INSTRUCTIONS

Recording. This form can accommodate several types of animal diseases. Specifically, a maximum of 11 different types of diseases can be recorded on the form. Thus, during one week, a new sheet should not be used unless more than 11 types of diseases have to be recorded.

Number of days field activity was delayed. This question is applicable only if the animal contracted a disease while doing field activity during the study period. If disease was contracted outside a field activity this question should not be answered.

2.3.8 Machine Use and Maintenance/Accidents with Machine

Purpose and scope. This form is designed to collect data on the utilization and maintenance of each machine owned by the respondent. This form is thus applicable only to respondents (farmers or non-farmers) who own (whether jointly or solely) any type of farm machine. Data collected include: operating expenses, income received from custom-services, number of hours used and accidents with the machine.

INSTRUCTIONS

Recording. This form is good for one day, one activity and one machine only. Beyond this number, a new sheet should be used for recording purposes.

Type of machine. Whether 2-wheel tractor, 4-wheel tractor, thresher, irrigation pump, etc. Machines are further broken down into machines with a permanent engine and machines with a removable engine. The rationale is that in the Philippines study area, we found most farmers use their tractor's engine for other purposes such as irrigation and threshing. Since it is only the engine which is used, machines with permanent engines were coded separately from those with removable engines.

Implement attached. This refers to the implements attached to the machine being under review. Examples are plows, harrows and irrigation pipe.

Farm activity. This refers to the type of activity performed on a certain day by the machine being recorded. For example, if the machine being recorded is a 2-wheel tractor which was used for plowing, the plowing activity should be written on the line and coded afterwards.

Unit of measurement. Whether the machine was used on a per hectare, per day, per hour or per parcel basis. If machine was used on the respondent's own farm always record 1 = per hectare as the unit of measurement.

2.3.9 Machine Breakdown and Repair

Purpose and scope. This form is designed to determine the efficiency of machines compared to animal. Data collected include: type of machine which broke down, type of breakdown and repair labor requirements.

INSTRUCTIONS

Type of breakdown. The types of breakdown are listed by general and by specific type. Farmers are, however, encouraged to record the specific type of breakdown.

Type of field activity. This refers to the type of field activity (e.g., plowing, harrowing, etc.) during which the machine broke down.

Distance. This refers to the distance (in kilometers) from the place where the machine was stored to the place where it was repaired. This information is collected to help describe the location at which the machine was repaired.

Days down time. This refers to the numbers of days the machine could not be used. This is equal to the days from the time the machine breakdown to the time it was repaired. If the number is less than one, record it as 1 day.

2.4 Transferring FRK Data to FAO Format

As mentioned earlier, data collected from the record-keeping scheme are transferred to the FAO format. This procedure is used because the FAO software system will be employed in processing FRK data. Most data are transferrable to a single FAO form, the Resource Utilization Form (RUF). The following are types of information which are transferrable to the Resource Utilization Form:

1. Cultivation activities
2. Non-wage income, supplementary income earned on daily basis and supplementary income received at the end of the season.
3. Animal care

The remainder of the FRK data are transferred as follows:

1. Total production, disposal of product and by-product - transferred to Form 939: Disposal of Product
2. Quality of product sold, price per unit, market location and distance and marketing expenses - transferred to Form 940: Sale/Marketing of Produce.
3. Supplementary income received on monthly or piecework basis - transferred to Form 911: HHI Farm Labor Form A (Farmer and other household member with other work).

2.4.1 Resource Utilization Form

The procedures for recording on the Resource Utilization Form are similar to those discussed in Subsection 2.2.19.

An exception is the date which is specified by week and day rather than by month and week. The week and day coding system is described in Subsection 2.3.2.

For cultivation activities, the information to be transferred to the RUF are: the type of crop enterprise, parcel ID, type of input, type of activity, date, amount, whether input was paid in cash or kind and value. The remainder of the data collected (e.g., area of parcel, variety, etc.) are not transferred to the RUF. They are retained in the FRK format. For animal care, the data transferred to the RUF are: type of draft animal (which is recorded in the enterprise columns), type of input (labor or feed), activity, date, amount, cash or kind and value. Parcel ID

is crossed-out since it is NAP. The enterprise code is the same as the draft animal code plus (+) 500. For example, if the animal is a buffalo, the enterprise code would be 502 (02 + 500). In the case of crops, the enterprise code is the same as to the crop code.

Supplementary income is indicated by an enterprise code of 900. Parcel ID is NAP and is crossed-out. If supplementary income is derived from daily wages from off- or non-farm job⁹, the type of input would be the type of family member who worked and received an income. If supplementary income is non-wage, the source of income or the type of output such as pension, rent received, etc. is recorded. Activity refers to the type of activity (off-farm or non-farm) performed by the household member (e.g., planting, harvesting, fishing) if the income received is a daily wage. If it is non-wage, no activity is recorded. The date records the time (in week and day) the income was received. If income is from daily wages, the amount refers to the number of hours worked by the income earner. If it is non-wage income, an amount is recorded only if income received is a crop contribution; otherwise, the columns are crossed-out.

⁹Note that in recordkeeping, off- and non-farm supplementary activities are also recorded on the Resource Utilization Form, unlike in the survey where only non-wage supplementary income is recorded. All the other supplementary activities are recorded on Form 911 on a monthly aggregate.

When off- or non-farm supplementary worker is paid at the end of the cropping season or after a certain time period, payment received is recorded not as a value but as an output. To distinguish the receiver of the payment, the payment code differs for each type of household member. For example, the payment code is 904 if it is for the household head, 905 if for the spouse, 902 if payment is for work done by 2 or more household members, etc. (See Supplementary Income Guide and Code List). If seasonal payment is for work involving different crop-related activities, use activity code 100 (all crop-related activities). If it is for a single type of activity performed, use the specific activity code (e.g., 011 = ploughing, 074 = harvesting, 317 = service, 315 = industry, etc.). The date records the time the seasonal payment was received. If payment is in kind, (specifically, a crop produce), record the amount in kilograms. Otherwise (i.e., cash or non-crop payment in kind), no amount is recorded. Whether payment received is in cash or in kind, there must always be an equivalent cash value recorded.

2.4.2 Form 939: Disposal of Product

The information to be transferred to this form are: Parcel ID, type of crop, total production, product disposal and by-product and the date of harvest. Since this form

should contain daily entries, only the total production for the day should be recorded. Total production for the whole parcel is recorded only if harvesting was completed in one day. With regard to the disposal of produce, columns 18 to 54 of card 1 and 07 to 31 of card 2 are filled in only if, on the day of the harvest, the farmer gave a portion of his produce to the landlord, harvesters/threshers, debts or other purposes. So, if the farmer did not give a share on the day of the harvest, the columns are NAP. If he gave a share to the harvesters and threshers on the day of the harvest, only cols. 18-30 are filled in; the rest are crossed out. To record produce given after harvest day, cols. 07-17 are crossed out since total production has been previously recorded i.e., recorded on the day of the harvest. Only the appropriate columns (i.e., quantity for landlord, for debts, for harvesters/threshers, for others or for farmer) are filled in and the rest are crossed out. For example, if landlord's share was given 3 days after harvest, only the Parcel ID, cols. 31-41, 66-80 of card 1 and cols. 04-06, 66-80 of card 2 are filled in. The rest are NAP.

2.4.3 Form 940 - Sale/Marketing of Produce

All information pertaining to sale of produce are recorded on this form. They include: the quantity sold, value of the sale, market location and date of sale

(in week and day). Only one type of crop harvested from one parcel can be recorded on this form. Should there be more than one type of crop or parcel, use another copy of this form.

2.4.4 Form 937 - Machine Use, Income and Maintenance/Accidents with Machine

All information recorded on the FRK form Machine Use and Maintenance are transferred to the FAO form. Data collected includes: the type of machine owned by the respondent, its specifications (i.e., horsepower, fuel, etc.), the farm activities for which the machine was used, amount of work done and the income received if machine was used for custom service.

In recording the data, the activity for which the machine was used is recorded separately. Only one type of activity should be recorded on one card. In addition, activities carried out on the farmer's farm are recorded separately from work performed outside his farm, i.e., custom service activities. For example, if the machine was used for both plowing on the owner's farm and for custom plowing, each should be recorded on separate cards even though they are the same activity.

With regard to the unit of work, code 1 = per hectare should be used. In the FRK form, this is equivalent to the column "amount of area processed (in hectare)". Amounts of less than 1.0 hectare should always be recorded with a floating decimal point, i.e., the decimal point occupies the column.

2.45 Form 938 - Machine Breakdown and Repairs

The information to be transferred to this form are those relating to machine breakdown and repairs such as the type of machine which broke down, the type of breakdown, cost of repair and date of breakdown. These data are collected to determine the cost of maintaining a farm machine compared to a draft animal. Also included are the days of down time or the number of days the machine could not be used for farm activity. Since some of the questions on this form may not be applicable on the day the machine broke down, transfer the date from the FRK form only after the machine has been repaired or after it has been determined that it can no longer be used. For example, if a machine broke down on June 21 but was not repaired until July 16, transfer the data on the day the machine was repaired.

If the breakdown is irreparable, i.e., the machine can no longer be used, record '7' on column 17.

2.4.6 Form 945 - Animal Diseases/Accidents with Animals

As in Form 938, the data recorded on the FRK form are transferred to this FAO form only after the draft animal has been cured of its disease or only after it has been determined that it can no longer be used. The reason for this rule is that columns 13-17 (number of days activity was delayed and animal cannot be used) may not be applicable if data is transferred immediately on the day the animal contracted a disease. Thus, transferring of information to Form 945 should be postponed until all data describing the disease/accident are available.

3. Conclusion

Although a wide range of data can be collected by the FAO/FMDCA system, the system is limited by a lack of data validation and editing procedures. Computerized editing and validating programs are necessary when large volumes of data are involved. Manual methods alone cannot efficiently handle large data sets and are tedious and time consuming. On the average, it requires one-half hour to manually edit a complete set of survey questionnaires from the Consequences study. Only after editing can one determine if the answers are complete, valid and consistent. Manual editing is also subject to human error, no matter how thorough and meticulous the editor is.

To accelerate data validation and editing and to ensure the generation of reliable information, we have devised a set of updating and validation programs tailored to the data set. The validation program can perform the following functions: Scans the data and lists the errors and questionable data that do not conform to specified values. Checks for the type of values a variable can take; checks the acceptable range of values for each variable and tests mathematical relationships between variables (consistency checks). A data updating program has been developed to correct errors identified by the validation program. The details of these two programs are being incorporated into a separate operations handbook.

Appendix 1

1.1 Stratification Cells, South Sulawesi

	Manual	Animal	Manual + animal	Manual + tractor	Manual + animal + tractor
Single crop	1	2	3	4	5
Double crop	6	7	8	9	10
Field labor	11				

1.2 Stratification Cells, West Java

	Manual	Animal	Manual + animal	Manual + tractor	Manual + animal + tractor
Irrigated 2 crops	1	2	3	4	5
Field labor	6				

Note: The number inside a cell represents the cell number.

1.3 Stratification Cells, Philippines

	Animal	2-wheel	4-wheel
Rainfed	1	2	3
Irrigated one crop	4	5	6
Irrigated 2 or more crops	7	8	9
Field labor	10		

Note: The number inside a cell represents the cell number.

1.4 Stratification Cells, Thailand

	Animal	Animal + machine	2-wheel	4-wheel
Rainfed	1	2	3	4
Irrigated	5	6	7	8
Field labor	9			

Note: The number inside a cell represents the cell number.

97a

APPENDIX 2

CODE LIST

PROJECT CODE

INDONESIA

South Sulawesi

Survey

110 - 112 Wet season
113 - 115 Second cropping season
(Dry season 1)
116 - 118 Third cropping season
(Dry season 2)

FRK

130 Wet season
131 Second cropping season (DS 1)
132 Third cropping season (DS 2)

West Java

Survey

120 - 122 Second cropping season (DS 1)
123 - 125 Third cropping season (DS 2)
126 - 128 Wet season

FRK

140 Wet season
141 Second cropping season (DS 1)
142 Third cropping season (DS 2)

PHILIPPINES

First Year

Survey

210 - 212 Wet season
213 - 215 Second cropping season (DS 1)
216 - 218 Third cropping season (DS 2)

FRK

230 Wet season
231 Second cropping season (DS 1)
232 Third cropping season (DS 2)

Second Year

Survey

220 - 222 Wet season
223 - 225 Second cropping season (DS 1)
226 - 228 Third cropping season (DS 2)

FRK

240 Wet season
241 Second cropping season (DS 1)
242 Third cropping season (DS 2)

THAILAND

First Year

Survey

310 - 312 Wet season
313 - 315 Second cropping season (DS 1)
316 - 318 Third cropping season (DS 2)

FRK

330 Wet season
331 Second cropping season (DS 1)
332 Third cropping season (DS 2)

Second Year

Survey

320 - 312 Wet season
313 - 315 Second cropping season (DS 1)
316 - 318 Third cropping season (DS 2)

FRK

340 Wet season
341 Second cropping season (DS 1)
342 Third cropping season (DS 2)

CROP ENTERPRISE GUIDE AND CODE LIST

I. TYPE OF CROP ENTERPRISE

ANNUAL CROPS

<u>GRAINS</u>	<u>OILSEEDS</u>	<u>FRUIT BEARING</u>	<u>OTHER VEGETABLES</u>
003 Wheat	072 Soyabeans	161 Watermelon	201 Cauliflower
009 Sorghum	074 Mustard	162 Other melons	
011 Corn	078 Sesame	164 Squash	<u>OTHER ANNUAL CROPS</u>
016 Rice		165 Gourds	211 Mushrooms
<u>LEGUMINOUS GRAINS</u>	<u>SPICES</u>	166 Cucumbers	221 Flowers
026 Cowpeas	091 Pepper dry	167 Eggplant	222 Flowering bulbs
028 Mungbeans	(black)	168 Okra	223 Ornamentals
029 Peanuts	<u>OTHER IND. CROPS</u>	169 Tomatoes	
<u>TUBER CROPS</u>	111 Tobacco	170 Fresh chillies	
031 Potatoes	<u>TEMPORARY FODDERS</u>	171 Sweet pepper	
032 Cassava	123 Legume forage	172 Ampalaya	
033 Sweet potato	124 Grasses	<u>TUBER CROPS</u>	
034 Arrowroot	127 Maize	181 Green garlic	
036 Yams	<u>VEGETABLES</u>	182 Green onion	
037 Onion dry	(Leafy or stem)	183 Red beets	
038 Garlic dry	141 Cabbage	184 Carrots	
<u>SUGAR CROPS</u>	142 Chinese cabbage	185 Radish	
051 Sugarcane	145 Asparagus	187 Chinese Turnips	
052 Sugarbeet	146 Celery	<u>LEGUMINOUS</u>	
<u>FIBER CROPS</u>	148 Lettuce	191 Green beans	
061 Cotton	149 Spinach	193 String beans	
063 Hemp	154 Saluyot(Phil. only)	194 Winged beans	
064 Jute	155 Himbabao(Phil. only)	195 Snap beans	
	156 Pechay (Phil. only)		
	157 Swamp cabbage		

PERENNIAL CROPS

<u>CITRUS</u>	<u>CONDIMENTS</u>	391 <u>NURSERIES</u>
251 Oranges	334 Black pepper	
252 Mandarines	335 Vanilla	395 <u>FISHPOND</u>
253 Lemons	336 Ginger	
254 Grapefruits	<u>STIMULANTS</u>	397 <u>BUSHLAND</u>
255 Lime	341 Coffee	
259 Pomelo	342 Cocoa	398 <u>FOREST</u>
<u>OTHERS</u>	343 Tea	
283 Breadfruits	<u>OILCROPS</u>	
284 Mangoes	351 Coconut	
285 Avocado	352 Oilpalm	
286 Custard apples	353 Olives	
287 Guava	<u>FIBER CROPS</u>	
291 Bananas	364 Manila Hemp	
294 Pineapple	365 Ramie	
295 Horse radish	366 Kapok	
296 Sweet-sour sop		
297 Jackfruit		
298 Santol		
299 Siniguelas		

II. TYPE OF INPUTS

A. TYPES OF LABOR

FAMILY

- 01 = father
- 02 = spouse
- 12 = children under 10 yrs.
- 13 = male 10 yrs. and over
- 14 = female 10 yrs. and over
- 19 = all family

PERMANENT LABOR

- 21 = undetermined
- 22 = children under 10 yrs.
- 23 = male 10 yrs. and over
- 24 = female 10 yrs. and over

SEASONAL HIRED LABOR

- 31 = undetermined
- 32 = children under 10 yrs.
- 33 = male 10 yrs. and over
- 34 = female 10 yrs. and over

EXCHANGE LABOR

- 41 = undetermined
- 42 = children under 10 yrs.
- 43 = male 10 yrs. and over
- 44 = female 10 yrs. and over

CONTRACT LABOR

- 51 = undetermined
- 52 = children under 10 yrs.
- 53 = male over 10 yrs.
- 54 = female over 10 yrs.

SPECIAL FIRST DIGIT CODES

- 6 = with animal
- 7 = with 2-wheel tractor
- 8 = with 4-wheel tractor

B. TYPES OF POWER

DRAFT ANIMAL

- 501 = Oxen/cattle
- 502 = buffalo/carabao
- 503 = horse/mule

MACHINES

- 111 = two-wheel tractor with permanent engine
- 112 = four-wheel tractor with permanent engine
- 113 = crawler tractor
- 114 = two-wheel tractor with removable engine (excluding engine)
- 115 = four-wheel tractor with removable engine (excluding engine)
- 116 = engine
- 142 = transplanter
- 146 = weeder
- 161 = combine
- 164 = thresher with permanent engine
- 165 = thresher with removable engine
- 167 = rice mill
- 168 = blower with permanent engine
- 171 = irrigation pump with permanent engine
- 173 = irrigation pump with removable engine (excluding engine)
- 181 = crane
- 182 = loader
- 183 = jeep/truck
- 188 = tricycle

Con't II. TYPES OF INPUTS

C. TYPES OF MATERIAL INPUTS

SEEDS

- 201 = seed
- 202 = plants, seedlings
- 203 = cuttings

FERTILIZERS

- 209 = undetermined
- 210 nitrogen fertilizers
 - 211 = urea 40% - 45%
 - 212 = amonium sulfate 26%
 - 213 = amonium chloride 25%
 - 219 = pure nitrogen
- 220 phosphate fertilizers
 - 221 = double super phosphate
 - 222 = triple super phosphate
 - 223 = solophos
 - 229 = pure P_2O_5
- 230 potassium fertilizers
 - 231 = potassium sulfate
 - 232 = potassium chloride 60%
 - 239 = K_2O
- 240 calcium fertilizers
 - 241 = ...
 - 249 = pure CaO
- 250 compound fertilizers
 - 251 = di-amonium phosphate
 - 252 = 16-20-00
 - 271 = complete (14-14-14)
- 280 organic fertilizers
 - 281 = farm manure
 - 282 = compost
 - 283 = azolla
 - 255-259 Open for Indonesia
 - 260-264 Open for Philippines
 - 265-269 Open for Thailand

Insecticides (Powder or Granule)

- 291 = Undetermined/others
- 292 = Gamma BHC
- 294 = Furadan 2F
- 295 = Hytox
- 296 = Basudin
- 298 = Pesthane
- 299 = Dinecron
- 329 = Ekalux
- 330 = Furadan 3G
- 336 = Sevin
- 337 = Baycarb
- 339 = Etrofolan
- 381 = Eradex
- 383 = Diagran
- 331-334 = Open for Indonesia
- 340-359 = Open for Thailand

Insecticides (Liquid)

- 491 = Undetermined/others
- 492 = Gamma BHC
- 493 = Furadan
- 495 = Hytox
- 496 = Basudin
- 497 = Gusathion
- 498 = Pesthane
- 499 = Dinecron
- 424 = Azodrin
- 425 = Folidol agroside
- 426 = Lannate agroside
- 427 = Endrin
- 428 = Diazinon
- 429 = Ekalux
- 435 = Brodan
- 436 = Sevin
- 437 = Baycarb
- 438 = Malathion
- 439 = Etrofolan
- 480 = Parapest
- 481 = Eradex
- 482 = Thiordan
- 483 = Diagran
- 431-434 = Open for Indonesia
- 440-459 = Open for Thailand

Con't II. TYPES OF INPUTS

Herbicide/Weedicide (Powder or Granule)

- 310 = Undetermined/others
- 311 = Machete
- 312 = 2, 4-D
- 313 = Saturn
- 316 = Hedonal MCPA
- 318 = Benti-0-Carp
- 319 = Treflan R

Herbicide/Weedicide (Liquid)

- 410 = Undetermined/others
- 411 = Machete
- 412 = 2, 4-D
- 413 = Saturn
- 414 = Gramoxone
- 415 = Agroxone
- 416 = Hedonal MCPA

Rodenticide (Powder or Granule)

- 305 = Undetermined/others
- 306 = Sulphur
- 307 = Zinc phosphate
- 308 = Karphos
- 309 = Warfarin
- 390 = Dora

Fungicide (Powder or Granule)

- 300 = Undetermined/others
- 301 = Benlate
- 302 = Funditox
- 303 = Hinosan
- 304 = Dithane
- 370 = Ceresan
- 372 = Agrosan
- 373 = Cupravit
- 374 = Bertox

Fungicide (Liquid)

- 400 = Undetermined/others
- 401 = Benlate
- 403 = Hinosan
- 404 = Dithane

Miscellaneous

- 360 = Seasonal payment to permanent labor
- 361 = Irrigation water
- 362 = Transport fee (fare)
- 363 = Fuel (gasoline or diesel)
- 364 = Marketing fee (includes packing, storing and hauling fees)
- 365 = Meals
- 367 = Oil
- 368 = Irrigation fee
- 397 = Landlord's share in labor costs
- 398 = Landlord's share in power costs
- 399 = Landlord's share in other inputs costs

Packing materials

- 321 = Bags, sacks
- 322 = Crates, boxes

III. TYPES OF FARM ACTIVITIES

Land Preparation/Planting

- 010 = Land preparation (use only if ploughing and harrowing are inseparable)
- 011 = Ploughing
- 012 = Land clearing
- 017 = Harrowing
- 018 = Application of basic fertilizer
- 020 = Direct seeding of parcel
- 021 = Transplanting
- 022 = Seedbed preparation
- 024 = Levelling
- 025 = Pulling of seedlings
- 026 = Draining of parcel
- 027 = Repair/construction/clearing of levees
- 029 = Seeding of seedbed
- 030 = Seed preparation
- 031 = Replanting
- 032 = Paddling
- 033 = Putting in climbing poles
- 034 = Transporting of seedlings

Care/Cultivation

- 041 = Weeding
- 042 = Applying herbicide/weedicide
- 046 = Applying top dressing fertilizer
- 047 = Applying insecticide
- 048 = Mulching
- 052 = Earthing up
- 053 = Applying rodenticide
- 054 = Applying fertilizer and pesticide combined

Irrigating

- 061 = Pre-sowing irrigation
- 062 = Regular irrigation
- 063 = Watering by hand

Harvesting/Processing

- 071 = Preparing bundling materials
- 072 = Harvesting and bundling and/or piling of harvest
- 073 = Bundling and/or piling of harvest
- 074 = Harvesting only
- 075 = Harvesting and threshing combined
- 076 = Harvesting, threshing and winnowing combined
- 077 = Threshing and winnowing
- 078 = Threshing only
- 079 = Winnowing only

Transporting, Milling, Marketing

- 080 = Transporting of harvest
- 081 = Bagging, packing, baling
- 082 = Grading, sorting
- 083 = Drying
- 084 = Milling
- 085 = Marketing
- 086 = Stacking of rice straws

- 100 = All crop activities (use only when recording seasonal payment to or received by a permanent laborer)

IV. TYPE OF OUTPUT (PRODUCTION)

- 901 = undetermined
- 902 = grain
- 904 = cobs
- 905 = tubers
- 906 = dry fruit
- 907 = fresh fruit
- 908 = bulbs

BY-PRODUCTS

- 925 = straw
- 926 = husk
- 927 = hay
- 928 = bran
- 929 = others (specify) _____

VARIETY

RICE

I. TRADITIONAL LOWLAND

- 01 Undetermined
- 02 Bengawan
- 03 Intan
- 04 Tjeremas
- 05 BE-3
- 06 Tinandang Puti
- 07 Tinandang Pula
- 08 Inintin
- 09 Tinabaka
- 10 Wagwag
- 11 Kennedy
- 12 Raminad

II. TRADITIONAL UPLAND

- 13 Undetermined
- 14 Fortuna
- 15 Azocena
- 16 Palawan
- 17 Dinalaga
- 18
- 19

III. OTHER TRADITIONAL VARIETIES

- 20-29 Open for Indonesia
- 30-39 Open for Philippines
- 40-49 Open for Thailand

IV. MODERN LOWLAND

- | | |
|-----------------|---------------------|
| 60 Undetermined | 75 IR42 |
| 61 IR5 | 76 C4-63 |
| 62 IR8 | 77 Others (specify) |
| 63 IR20 | 78 MRC-39 |
| 64 IR22 | 79 39 C-168 |
| 65 IR24 | 89 BPI 76 |
| 66 IR26 | 90 IR44 |
| 67 IR28 | 91 IR46 |
| 68 IR29 | 92 247 |
| 69 IR30 | 93 IR2307 |
| 70 IR32 | 30 IR7J |
| 71 IR34 | 31 Jumbo jet |
| 72 IR36 | 32 603 |
| 73 IR38 | 33 75 days |
| 74 IR40 | 34 IR48 |
| | 35 IR50 |

V. MODERN UPLAND

- 80 Undetermined
- 81 C-22
- 82 ...
- 83 ...

VI. OTHER MODERN VARIETIES

- 84-88 Open for Indonesia
- 89-93 Open for Philippines
- 94-98 Open for Thailand

CORN

- 01 Modern variety
- 02 Traditional variety

LIVESTOCK ENTERPRISE GUIDE AND CODE LIST

I. TYPE OF LIVESTOCK ENTERPRISE

A. Draft

- 501 = oxen/cattle
- 502 = buffaloes/carabaos
- 503 = horses/mules

B. Productive

- 510 = cattle
- 520 = sheep
- 530 = goats
- 540 = buffalo
- 550 = horses
- 560 = donkeys
- 580 = poultry
- 590 = pigs

II. TYPES OF INPUTS

A. TYPE OF LABOR

Family

- 01 = farmer
- 02 = spouse
- 12 = children under 10 yrs.
- 13 = male 10 yrs. and over
- 14 = female 10 yrs. and over

Permanent labor

- 21 = undetermined
- 22 = children under 10 yrs
- 23 = male 10 yrs. and over
- 24 = female 10 yrs. and over

Seasonal hired labor

- 31 = undetermined
- 32 = children under 10 yrs.
- 33 = male 10 yrs. and over
- 34 = female 10 yrs. and over

Exchange labor

- 41 = undetermined
- 42 = children under 10 yrs.
- 43 = male 10 yrs. and over
- 44 = female 10 yrs. and over

Contract labor

- 51 = undetermined
- 52 = children under 10 yrs.
- 53 = male 10 yrs. and over
- 54 = female 10 yrs. and over

B. LIVESTOCK EXPENSES

- 330 = undetermined
- 331 = rent, grazing land
- 332 = salt, minerals
- 333 = veterinary expenses
- 334 = drugs, medicines
- 335 = feed, roughage (straw, hay, fodder, corn stalks and cobs)
- 340 = feed, concentrate (grain, meal, bran)
- 342 = animal replacement
- 343 = seasonal rent for livestock
- 344 = annual rent for livestock

III. TYPE OF LIVESTOCK ACTIVITY

- 101 = undetermined
- 110 = watering only
- 111 = bathing only
- 112 = watering and bathing combined
- 120 = grazing
- 151 = stallfeeding
- 152 = cutting grass
- 153 = herding
- 154 = milking
- 155 = processing/marketing
- 156 = sanitation
- 157 = cleaning shed
- 158 = medication
- 159 = shaving (for buffalo only)

IV. TYPES OF OUTPUT (PRODUCTION)

- 951 = undetermined/live animal
- 952 = milk
- 953 = butter
- 954 = cheese
- 955 = eggs
- 956 = meat

SUPPLEMENTARY INCOME GUIDE AND CODE LIST

I. ENTERPRISE

900 = Supplementary income

II. TYPES OF INPUT/OUTPUT

Off- or non-farm supplementary income. Record the type of household member who worked and received an income. Example, 001 if the household head worked on other people's farm, 013 if the son did some carpentry jobs, etc.

Non-wage income.

901 = pension
903 = contribution/gift received
917 = rent received
918 = miscellaneous

Seasonal payment received.

902 = Seasonal payment received by the household.
904 = Seasonal payment received by the household head.
905 = Seasonal payment received by spouse.
906 = Seasonal payment received by male household member 10 years old and above.
907 = Seasonal payment received by female household member 10 years old and above.

III. TYPES OF ACTIVITY

Off-farm. If supplementary work was done on other people's farm, use farm activity codes found on page 102. For example, use code 011 if the household head performed plowing outside his own farm, 047 if the activity he performed was insecticide application, 041 if weeding, etc.

Non-farm. Refers to non-agricultural activities, such as in:

312 = forestry	315 = industry
313 = fishery	316 = commerce
314 = handicraft	317 = service

MARKET LOCATION

- 1 On-farm
- 2 In village
- 3 In municipality where village is located
- 4 In province where village is located
- 7 Others (specify) _____

TYPES OF ACCIDENTS WITH ANIMALS

- 1 Animal stepped on farmer
- 2 Animal pushed farmer
- 3 Animal bit farmer
- 4 Farmer was horned
- 5 Farmer fell off the animal
- 7 Others (specify) _____

IMPLEMENT ATTACHED TO MACHINE

- 21 Mouldboard plough
- 22 Disk plough
- 23 Chisel plough
- 24 Rotovator
- 25 Plough and harrow
- 26 Puddler
- 31 Disk harrow
- 35 Comb harrow
- 42 Transplanter (w/o engine)
- 65 Thresher (w/o engine)
- 72 Irrigation pipes

TYPES OF ACCIDENTS WITH MACHINES

- 1 Operator fell off machine
- 2 Machine turned over on operator
- 3 Hand or foot got caught in machine
- 7 Others (specify) _____

SERIOUSNESS OF ACCIDENT WITH ANIMAL
OR MACHINE

- 1 Minor injury (self-medication only)
- 2 Injury required attention of doctor/nurse
- 3 Injury required hospitalization
- 4 Death

TYPES OF MACHINE BREAKDOWN

- 10 Engine
 - 11 Injector (diesel engine)
 - 12 Pump (injection pump)
 - 13 Piston ring
 - 14 Spark plug (gasoline engine)
 - 15 Carburetor (gasoline engine)
 - 16 Contact point or breaker point (gasoline engine)
 - 17 Cylinder sleeve
 - 18 Piston and pin
 - 19 Crankshaft
 - 20 Crankshaft bearing
 - 21 Crankshaft hubbit (connecting rod bearing)
 - 22 Valve (exhaust or intake)
 - 23 Radiator
 - 24 Oil seal
 - 25 Cam shaft
 - 26 Cam shaft bearing
 - 27 Cylinder head
 - 28 Gasket
 - 29 Fan belt (diesel engine)
- 30 Transmission
 - 31 Bearing
 - 32 Chain
 - 33 Sprocket
 - 34 Shaft
 - 35 Oil seal
 - 36 Gasket
 - 37 Bushing
 - 38 Belt
- 40 Irrigation Pump (Hydraulics)
 - 41 O-ring
 - 42 Hose
 - 43 Packing
 - 44 Packing gland
 - 45 Impeller or blade
 - 46 Wear ring
 - 47 Shaft
 - 48 Oil seal
 - 49 Belt
- 50 Implement
 - 51 Broken plough share
 - 52 Bearing (for rotary tiller)
 - 53 Broken nut and bolt

TIME CODE

I. CROPPING SEASON CODE

- 1 = First cropping season
(wet or rain season)
- 2 = Second cropping season
- 3 = Third cropping season

II. MONTH AND WEEK CODE
(In survey, use for Form 913 and RUF)

Month Code

- 01 = January
- 02 = February
- 03 = March
- 04 = April
- 05 = May
- 06 = June
- 07 = July
- 08 = August
- 09 = September
- 10 = October
- 11 = November
- 12 = December

Week Code

- 1 = Days 1 - 8
- 2 = Days 9 - 15
- 3 = Days 16 - 22
- 4 = Days 23 - 29/30/31

III. WEEK AND DAY DATE CODE (Use for FRK and Survey Forms 938 and 944)

WEEK CODE

<u>Date</u>	<u>Week code</u>	<u>Date</u>	<u>Week code</u>
Apr. 29 - May 5, 1979	01	Dec. 2 - 8	32
May 6 - 12	02	9 - 15	33
13 - 19	03	16 - 22	34
20 - 26	04	23 - 29	35
27 - June 2	05	30 - Jan. 5, 1980	36
June 3 - 9	06	Jan. 6 - 12	37
10 - 16	07	13 - 19	38
17 - 23	08	20 - 26	39
24 - 30	09	27 - Feb. 2	40
July 1 - 7	10	Feb. 3 - 9	41
8 - 14	11	10 - 16	42
15 - 21	12	17 - 23	43
22 - 28	13	24 - Mar. 1	44
29 - Aug. 4	14	Mar. 2 - 8	45
Aug. 5 - 11	15	9 - 15	46
12 - 18	16	16 - 22	47
19 - 25	17	23 - 29	48
26 - Sept. 1	18	30 - Apr. 5	49
Sept. 2 - 8	19	Apr. 6 - 12	50
9 - 15	20	13 - 19	51
16 - 22	21	20 - 26	52
23 - 29	22	27 - May 3	53
30 - Oct. 6	23	May 4 - 10	54
Oct. 7 - 13	24	11 - 17	55
14 - 20	25	18 - 24	56
21 - 27	26	25 - 31	57
28 - Nov. 3	27	June 1 - 7	58
Nov. 4 - 10	28	8 - 14	59
11 - 17	29	15 - 21	60
18 - 24	30	22 - 28	61
25 - Dec. 1	31	29 - July 5	62
		July 6 - 12	63
		13 - 19	64
		20 - 26	65
		27 - Aug. 2	66
		Aug. 3 - 9	67
		10 - 16	68
		17 - 23	69
		24 - 30	70
		31 - Sept. 6	71
		Sept. 7 - 13	72
		14 - 20	73
		21 - 27	74
		28 - Oct. 4	75
		Oct. 5 - 11	76
		12 - 18	77
		19 - 25	78
		26 - Nov. 1	79
		Nov. 2 - 8	80

<u>Date</u>	<u>Week Code</u>
Nov. 9 - 15	81
16 - 22	82
23 - 29	83
30 - Dec. 6	84
Dec. 7 - 13	85
14 - 20	86
21 - 27	87
28 - Jan. 3, 1981	88
Jan. 4 - 10	89
11 - 17	90
18 - 24	91
25 - 31	92
Feb. 1 - 7	93
8 - 14	94
15 - 21	95
22 - 28	96
Mar. 1 - 7	97
8 - 14	98
15 - 21	99
22 - 28	A0
29 - Apr. 4	A1
Apr. 5 - 11	A2
12 - 18	A3
19 - 25	A4
26 - May 2	A5
May 3 - 9	A6
10 - 16	A7
17 - 23	A8
24 - 30	A9
31 - June 6	B0
June 7 - 13	B1
14 - 20	B2
21 - 27	B3
28 - July 4	B4
July 5 - 11	B5
12 - 18	B6
19 - 25	B7
26 - Aug. 1	B8
Aug. 2 - 8	B9
9 - 15	C0
16 - 22	C1
23 - 29	C2
30 - Sept. 5	C3

DAY CODE

<u>Day</u>	<u>Day code</u>
Sunday	1
Monday	2
Tuesday	3
Wednesday	4
Thursday	5
Friday	6
Saturday	7
Everyday (use only if activity was done for at least 5 days during a week)	

APPENDIX 3
HOUSEHOLD CENSUS SCHEDULE

IRRI MECHANIZATION CONSEQUENCES PROJECT

HOUSEHOLD CENSUS

Name of interviewer _____ Date of interview _____
 Interviewer code 1 2

Name of editor _____ Date edited _____

Name of respondent _____ Card no. 3

Address _____
 (no.) (street) (village) (town) Schedule Code 4 5 6

Farm Code 7 8 9 10 11

1. Are you a farm operator?

12

0 = No, SKIP TO Q. NO. 7
 1 = Yes, PROCEED TO Q. NO. 2-8 & Q. No. 12-18

Q. NOS. 2 TO 8 ARE FOR FARM OPERATORS ONLY. ANSWERS ARE TO BE RECORDED IN TABLE A BELOW. THESE QUESTIONS ARE TO BE REPEATED FOR EVERY PARCEL OR SUBPARCEL THE RESPONDENT OPERATED DURING THE PRECEDING WET SEASON. SPACE IS PROVIDED FOR SIX PARCELS OR SUBPARCELS. FILL IN THE PARCEL ID OF EACH PARCEL.

2. How large is your farm (total area in has.)?

13 14 15 16

3. How many parcels do you operate (owned land minus rented-out land plus rented in-land) during the preceding wet season?

17 18

4. How big was this parcel (in ha.) during the preceding wet season?

5. How much of this parcel (in ha.) was planted to rice during the preceding wet season?

6. What type of parcel is planted to rice?

7. If this parcel is irrigated, how adequate is the water during the growing stage?

8. What type of power did you use in plowing this parcel during the preceding wet season?

Table A

Parcel no.	Parcel ID	Parcel size (ha.) ^{1/}	Area planted to rice (preceding wet season)	Type of rice ^{2/} land ^{2/}	If irrigated water ^{3/} adequacy ^{3/}	Type of power (preceding ^{4/} wet season ^{4/})
1	19	22	26	30	31	32
2	33	34	40	44	45	46
3	47	50	54	58	59	60
4	61	64	68	72	73	74
5	12	15	19	23	24	25
6	26	29	33	37	38	39

CODING INSTRUCTIONS

^{1/} Record no. of has. using 2 decimal places

^{2/} 1 = Rainfed

2 = Irrigated one cropping season

3 = Irrigated 2 cropping seasons

4 = Irrigated more than 2 cropping seasons

^{3/} 1 = Adequate 80-100% of the time

2 = Adequate 60-79% of the time

3 = Adequate 50-59% of the time

4 = Adequate below 50% of the time

^{4/} 1 = Human

2 = Animal

3 = 2-wheel tractor

4 = 4-wheel tractor

5 = Animal and 2-wheel tractor

6 = Animal and 4-wheel tractor

7 = Others (specify)

APPENDIX 4
FARM SURVEY FORMS

DATA IDENTIFICATION FORMS (cont'd)

Punch Card Column		
01	/9/0/5/	<u>RAINFALL</u> , mm
04	///	YEAR, 19.....
06	//////	January, February
16	//////	March, April
26	//////	May, June
36	//////	July, August
46	//////	September, October
56	//////	November, December
66	////////	TOTAL/YEAR
78	///	PROJECT CODE
01	/9/0/6/	<u>MEAN MONTHLY TEMPERATURE</u> , °C
04	///	YEAR, 19....
06	//////	January, February
16	//////	March, April
26	//////	May, June
36	//////	July, August
46	//////	September, October
56	//////	November, December
66	////////	<u>ALTITUDE</u> , metres
78	///	PROJECT CODE
01	/9/0/7/	<u>AUTHOR OF SURVEY</u>
04	//////////	
14	//////////	
78	///	PROJECT CODE
01	/9/0/8/	<u>DESCRIPTIVE SOIL TYPE</u>
04	//////////	
14	//////////	
78	///	PROJECT CODE
01	/9/0/9/	
78	///	PROJECT CODE

Punch
card
column

DATA IDENTIFICATION (Cont'd) (8 Forms)

01	/9/1/0/	<u>WRITE UP</u>
04	/	/
41	/	/
78	/	PROJECT CODE
01	/9/1/0/	<u>WRITE UP</u>
04	/	/
41	/	/
78	/	PROJECT CODE
01	/9/1/0/	<u>WRITE UP</u>
04	/	/
41	/	/
78	/	PROJECT CODE
01	/9/1/0/	<u>WRITE UP</u>
04	/	/
41	/	/
78	/	PROJECT CODE
01	/9/1/0/	<u>WRITE UP</u>
04	/	/
41	/	/
78	/	PROJECT CODE
01	/9/1/0/	<u>WRITE UP</u>
04	/	/
41	/	/
78	/	PROJECT CODE
01	/9/1/0/	<u>WRITE UP</u>
04	/	/
41	/	/
78	/	PROJECT CODE
01	/9/1/0/	<u>WRITE UP</u>
04	/	/
41	/	/
78	/	PROJECT CODE
01	/9/1/0/	<u>WRITE UP</u>
04	/	/
41	/	/
78	/	PROJECT CODE

LIST OF FORMS

R's HH code / / / /

R's name _____

R's address _____

Cropping season / /

Interviewer's code / / /

Interviewer's name _____

Editor _____

Date edited _____

Page No.	Form	Mandatory code	No. of cards for this R*	Date interviewed	Status ⁺
	List of Forms	NAP	NAP		
	Remarks Sheet	NAP	NAP		
1	HH Labour Form A (Farmer and HH members with other work)	911			
2	HH Labour Form B (Other HH members not recorded in Form A or C)	911-99			
3	HH Labour Form C (Permanent Labourers)	911-020			
4	Demographic Information	930			
5	Farm Land	912			
6	Map of Currently Operated Parcels	NAP	NAP		
7	Landlord's Contribution to Cultivation Expenses	931			
8	Cropping Pattern History	932			
9	Machine Use/Changes in Cropping Pattern	933			
10	Crops	913			
11	Draft Animals	916			
12	Productive Animals	917			
13	Buildings	918			
14	Farm Implements and Tools	919			
15	Other Assets: Non-Agricultural Land and Vehicles	934			
16	Other Assets: Home Consumer Durables	935			
17	Financial Liabilities	920			
18	Farm Machinery	915			
19	Decision-Making re: Machine Purchase	936			
20	Machine Use, Income, and Maintenance	937			
21	Machine Breakdown and Repair	938			
22	Inventory Change Form	921			
23	Resource Utilization	NAP			
24	Disposal of Product	939			
25	Sale/Marketing of Produce	940			
26	Land Reclamation	941			
27	Extension Services/Machine Operation Training/ Farmer's Organization	942			
28	Work Opportunities/Preferences of Landless Field Labourers	943			
29	Actual and Ideal Dates for Crucial Farm Activities	944			
30	Animal Diseases/Accidents with Animals	945			

*Write NAP if forms are not applicable to respondent.

+Status: C - completed

CNS - complete next season

CNR - complete next round

FC - for callback

120

Household code — — —

Project code — — —

Cropping season —

REMARKS SHEET

01	Farmer/H/I head /9/1/1/	/9/1/1/	/9/1/1/	(Mandatory code)
04	/ /	skip	skip	(Insert "1" if the farmer H/I head is a male; "2" if a female)
05	/ / /	/ / /	/ / /	HOUSEHOLD MEMBER CODE (Classify the household member being discussed): 01 = farmer; 02 = spouse; 12 = children under 10 yrs; 13 = male adult (10 yrs. & over); 14 = female adult (10 yrs. and over)
07	/ / /	/ / /	/ / /	How old are you (is this person)?
09	/ / /	/ / /	/ / /	How many years did you (did this person) study?
11	/ / /	skip	skip	How many years have you been farming?
13	/ / /	/ / /	/ / /	What type of other work do you (does this person) do? (Write type of work in space below blanks. Code during editing): 11 = agriculture 15 = industry 12 = forestry 16 = commerce 13 = fishery 17 = services 14 = handicraft (See codes below for job combination codes. If H/I head has no other work, col. 15-54 are NAP).
15	/ /	/ /	/ /	Are you (is this person) self-employed or an employee of someone else? 1 = employee 2 = self-employed
16-18	skip	skip	skip	How many days did you (did this person) work every month this crop year?
19	/ / / / / / /	/ / / / / / /	/ / / / / / /	1st income earner:
23	/ / / / / / /	/ / / / / / /	/ / / / / / /	Jan. _____ Feb. _____
27	/ / / / / / /	/ / / / / / /	/ / / / / / /	March _____ Apr. _____
31	/ / / / / / /	/ / / / / / /	/ / / / / / /	May _____ June _____
35	/ / / / / / /	/ / / / / / /	/ / / / / / /	July _____ Aug. _____
39	/ / / / / / /	/ / / / / / /	/ / / / / / /	Sept. _____ Oct. _____
43	/ / / / / / /	/ / / / / / /	/ / / / / / /	Nov. _____ Dec. _____
49	/ / / / / / /	/ / / / / / /	/ / / / / / /	How much did you (did this person) earn in <u>cash</u> this year?
55-73	skip	skip	skip	How much did you (did this person) earn in <u>kind</u> (cash equivalent) this year?
74	/ /	/ /	/ /	Card no.
75	/ / / / /	/ / / / /	/ / / / /	HOUSEHOLD CODE
78	/ / / / /	/ / / / /	/ / / / /	PROJECT CODE

1/COMBINATION OF TYPES OF WORK (For persons with more than one job).

- 21 = agriculture and forestry
- 22 = agriculture and fishery
- 23 = agriculture and handicraft
- 24 = agriculture and industry
- 25 = agriculture and commerce
- 26 = agriculture and services
- 27 = forestry and fishery
- 28 = forestry and handicraft
- 29 = forestry and industry
- 30 = forestry and commerce
- 31 = forestry and services
- 32 = fishery and handicraft
- 33 = fishery and industry
- 34 = fishery and commerce
- 35 = fishery and services
- 36 = handicraft and industry
- 37 = handicraft and commerce
- 38 = handicraft and services
- 39 = industry and commerce
- 40 = industry and services
- 41 = commerce and services
- 77 = others (specify) _____

2nd income earner:

Jan.	_____	Feb.	_____
March	_____	Apr.	_____
May	_____	June	_____
July	_____	Aug.	_____
Sept.	_____	Oct.	_____
Nov.	_____	Dec.	_____

3rd income earner:

Jan.	_____	Feb.	_____
March	_____	Apr.	_____
May	_____	June	_____
July	_____	Aug.	_____
Sept.	_____	Oct.	_____
Nov.	_____	Dec.	_____

Form B

Punch card column	III LABOUR FORM B (<u>Other</u> household members <u>not</u> recorded on Form A)	
01	<u>/9/1/1/</u>	(Mandatory code)
04	<u>/9/9/</u>	(Mandatory code)
07	<u>///</u>	Number of wives
09	<u>///</u>	Number of <u>other</u> male adults (10 yrs. and over)
11	<u>///</u>	Number of <u>other</u> female adults (10 yrs. and over)
13	<u>///</u>	Number of <u>other</u> children (male or female children below 10 yrs.)
15-74	skip	
75	<u>////</u>	HOUSEHOLD CODE
78	<u>////</u>	PROJECT CODE

DETAILS RE: III MEMBERS (Not for punching)

First name	Relationship to III head	Age	Sex (F or M)
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			

102

Punch card column		III LABOUR FORM C (Permanent labourers)	
01	/9/1/1/	/9/1/1/	(Mandatory code)
04	/0/2/0/	/0/2/0/	(Mandatory code)
07	/ / /	/ / /	How old is this permanent labourer (PL)?
09	/ /	/ /	Is this PL male or female? 1 = male; 2 = female
10-18	skip	skip	How many days in each month is this permanent labourer available to work?
<u>1st permanent labourer:</u>			
19	/ / / /	/ / / /	Jan. _____ Feb. _____
23	/ / / /	/ / / /	March _____ April _____
27	/ / / /	/ / / /	May _____ June _____
31	/ / / /	/ / / /	July _____ August _____
35	/ / / /	/ / / /	Sept. _____ Oct. _____
39	/ / / /	/ / / /	Nov. _____ Dec. _____
<u>2nd permanent laborer:</u>			
			Jan. _____ Feb. _____
			March _____ April _____
			May _____ June _____
			July _____ August _____
			Sept. _____ Oct. _____
			Nov. _____ Dec. _____
43	/ / / / / / / /	/ / / / / / / /	How much did this permanent labourer earn <u>in cash</u> this year?
49	/ / / / / / / /	/ / / / / / / /	How much did this permanent labourer earn <u>in kind</u> (cash equivalent) this year?
<u>If labourer is employed for only one enterprise:</u>			
55	/ / / /	/ / / /	What enterprise does this permanent labourer work for?
<u>Place a "1" where applicable:</u>			
58	/ / / /	/ / / /	Do you provide this permanent labourer any of the ff: food? clothing? lodging?
61	/ / / /	/ / / /	land? others? (specify) _____
63	/ / / / / /	/ / / / / /	What is the estimated cash value of all these provisions/year?
67-73	skip	skip	
74	/ /	/ /	Card no.
75	/ / / /	/ / / /	HOUSEHOLD CODE
78	/ / / /	/ / / /	PROJECT CODE

DEMOGRAPHIC INFORMATION

01	/9/3/0/	(Mandatory code) Ask the following 3 questions for each of the farmers wives: (If more than one):
04	/_/_/	<u>WIFE 1</u> How old was your wife when she was first married?
06	/_/_/	How many times has she given birth (including still-born children)?
08	/_/_/	How many of her children have died (including still-born children)?
10	/_/_/	<u>WIFE 2</u> How old was your wife when she was first married?
12	/_/_/	How many times has she given birth (include still-born children)?
14	/_/_/	How many of her children have died (including still-born children)?
16	/_/_/	<u>NONPERMANENT HH MEMBERS RETURNING TO HELP IN FARM WORK</u> How many nonpermanent HH members came back to help you in farm work this cropping season?
18	/_/_/	How many contributed to the each of the following activities?
19	/_/_/	18 = land preparation
20	/_/_/	19 = planting
21	/_/_/	20 = weeding/fertilizer or pesticide application
22	/_/_/_/	21 = harvesting/threshing What was the total no. of days contributed by these people during this cropping season?
<u>OUTMIGRATION</u>		
25	/_/_/	What year did this farm household adopt the use of machines in land preparation? (NAP for non-farm HH's or non-mechanized farm HH)
27	/_/_/	How many HH members have permanently left the household <u>since the year after</u> this HH (or this village) adopted the use of machines in land preparation?
29	/_/_/ /_/_/	What type of HH members were these (space is provided for 5 persons); classify them as they were at the time they left.
33	/_/_/ /_/_/	01 = farmer 13 = male adult (10 yrs. & over)
37	/_/_/	02 = spouse 14 = female adult (10 yrs. & over)
		12 = children below 10 years
39	/_/_/ /_/_/	What were their reasons for leaving (Match reason to persons).
43	/_/_/ /_/_/	01 = to study 04 = to get married
47	/_/_/	02 = to find work (no job available in village) 05 = to join relatives or friends elsewhere
		03 = to find a better job (higher wages or better conditions) 77 = others (specify) 1) _____ 2) _____ 3) _____ 4) _____ 5) _____
49	/_/_/	How many HH members have become seasonal migration workers (who work outside the village for short periods at a time) since the year after this HH (or this village) adopted machines in land preparation?
50	/_/_/	What year did this farm household get its irrigation supply? (NAP for non-farm HH's and non-irrigated farms).
52	/_/_/	How many HH members have permanently left the household <u>since the year after</u> this HH (or this village) got its irrigation supply?
54	/_/_/ /_/_/	What type of HH members were these? (Space is provided for 5 persons; classify them as they were when they left).
58	/_/_/ /_/_/	01 = farmer 13 = male adult (10 years and over)
62	/_/_/	02 = spouse 14 = female adult (10 years and over)
		12 = children below 5 years
64	/_/_/ /_/_/	What were their reasons for leaving? (Match reasons to persons)
68	/_/_/ /_/_/	01 = to study 04 = to get married
72	/_/_/	02 = to find work (no job available in village) 05 = to join relatives or friends elsewhere
		03 = to find a better job (higher wages or better conditions) 77 = others (specify) 1) _____ 2) _____ 3) _____ 4) _____ 5) _____
74	/_/_/	How many HH members have become seasonal migration workers (who work outside the village for short periods at a time) since the year after this HH (or this village) got its irrigation supply?
75	/_/_/_/	HOUSEHOLD CODE
78	/_/_/_/	PROJECT CODE

III CODE -----
PROJECT CODE -----
CROPPING SEASON ----

MAP* OF CURRENTLY OPERATED PARCELS+

-
- *Should include:
- a) size of parcels
 - b) distance from house
 - c) whether subdivided into sub-parcels based on different type of crop,
different type of irrigation or different tenure status
 - d) any landmarks
 - e) ID of parcels using guideline instructions

+Rented out parcels should be drawn on back of this sheet

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CROPPING PATTERN HISTORY (one per parcel)

Punch card column	Survey year	Yr. before mechanization	
01	/9/3/2/	/9/3/2/	(Mandatory code)
04	/_/_/_/	/_/_/_/	Parcel/Subparcel ID
07	/_/_/	/_/_/	YEAR CODE (1 = survey year; 2 = year before mechanization of land preparation)
08	/_/_/	/_/_/	YEAR (Record last 2 digits only)
10	/_/_/	/_/_/	If parcel was not yet cultivated during year before mechanization of land prep. record '1' on col. 10 of the 'survey year' card and cross out the mandatory code of the 'year before mechanization' card. If parcel is currently uncultivated record '1' on col. 10 of 'year before mechanization' card and cross out the mandatory code of 'survey year' card.
13	/_./_./_./	/_./_./_./	How big is this parcel (in ha. using 3 decimal places)?
17	/_/_/	/_/_/	What type of water control (irrigation) do you have in this parcel? 1 = rainfed; 2 = irrigated one crop; 3 = irrigated two crops; 4 = irrigated three crops.
18	/_/_/	/_/_/	What is the tenure status of this parcel? 10 = owned; 11 = amortized Rented-out; 21 = leased-out; 22 = share-cropped (tenanted); 23 = mortgaged-out; 27 = others (specify in space below blanks); <u>Rented-in</u> : 31 = leased-in; 32 = share-cropped (tenanted); 33 = mortgaged-in; 37 = others (specify in space below blanks).
			DATA PER SEASON
			<u>SEASON 1 (Wet season)</u>
20	/_./_./_./	/_./_./_./	What area of this parcel did you cultivate during the wet season?
24	/_/_/	/_/_/	How adequate was the irrigation supply during the wet season? 1 = constant supply 2 = insufficient at land preparation stage 3 = insufficient at early growth stage 4 = insufficient at late growth stage 5 = insufficient at two or more stages 6 = insufficient to irrigate whole parcel 7 = others (specify) Year 1 _____ Year 2 _____
25	/_./_./_./	/_./_./_./	What was your <u>main crop</u> during the wet season? Year 1 _____ (See code list for crop codes) Year 2 _____
28	/_./_./_./	/_./_./_./	What was your <u>second crop</u> (if any intercropped) during the wet season? Year 1 _____ Year 2 _____
31	/_./_./_./	/_./_./_./	What was your <u>third crop</u> (if any intercropped) during the wet season? Year 1 _____ Year 2 _____
			<u>SEASON 2 (dry season 1)</u>
34	/_./_./_./	/_./_./_./	What area of this parcel did you cultivate during the dry season (1)?
38	/_/_/	/_/_/	How adequate was the irrigation supply during this dry season (1)? (See col. 24 question for codes).
39	/_./_./_./	/_./_./_./	What was your <u>main crop</u> during the dry season (1)? Year 1 _____ (See code list for crop codes). Year 2 _____
42	/_./_./_./	/_./_./_./	What was your <u>second crop</u> (if any intercropped) during the dry season (1)? Year 1 _____ Year 2 _____
45	/_./_./_./	/_./_./_./	What was your <u>third crop</u> (if any intercropped) during the dry season (1)? Year 1 _____ Year 2 _____
			<u>SEASON 3 (Dry season 2)</u>
48	/_./_./_./	/_./_./_./	What area of this parcel did you cultivate during the dry season (2)?
52	/_/_/	/_/_/	How adequate was the irrigation supply during the dry season (2)? (See col. 24 question for codes).
53	/_./_./_./	/_./_./_./	What was your <u>main crop</u> during the dry season (2)? Year 1 _____ Year 2 _____
56	/_./_./_./	/_./_./_./	What was your <u>second crop</u> (if any intercropped) during the dry season (2)? Year 1 _____ Year 2 _____
59	/_./_./_./	/_./_./_./	What was your <u>third crop</u> (if any intercropped) during the dry season (2)? Year 1 _____ Year 2 _____
62-72	skip	skip	
73	/_/_/	/_/_/	Sub-subparcel no.
74	/_/_/	/_/_/	Card no.
75	/_./_./_./	/_./_./_./	HOUSEHOLD CODE
78	/_./_./_./	/_./_./_./	PROJECT CODE

Punch card column	CROPS	
01	/9/1/3/	(Mandatory code)
04	/_/_/_/	Parcel/Subparcel ID
07-08	skip	
09	/_/_/_/_/	How big is this parcel? (in hectares using 3 decimal places).
13	/_/_/_/	What is the <u>main crop</u> planted in this parcel? (WRITE IN BLANK) _____
16	/_/_/_/	What is the <u>second crop</u> (if any intercropped) planted in this parcel? _____
19	/_/_/_/	What is the <u>third crop</u> (if any intercropped) planted in this parcel? _____
22	/_/_/_/	Mixture pointer (In case of intercrop mixtures, this indicates the particular crop of the intercrop mixture the information below relates to. One half card is to be filled in for each crop of the mixture. The parcel ID, size, and main crop remains the same while the mixture pointer changes).
25	/_/_/	What is the variety of this crop? (WRITE IN BLANK) _____ (When coding, see codes below).
29	/_/_/	What method did you use when planting in this parcel? 10 = broadcasting irregular 30 = transplanting in straight rows 20 = transplanting irregular 40 = direct seeding in straight rows
31	/_/_/	What month (1-12) did you plant in this parcel? (WRITE IN BLANK) _____
33	/_/_/	Which week (1-4) of this month did you plant in this parcel? (WRITE DATE IN BLANK) _____
34	/_/_/	Sub-subparcel no.
35-39	skip	
40	/_/_/_/	Parcel/Subparcel ID
43	/_/_/_/_/	How big is this parcel? (in hectares using 3 decimal places).
47	/_/_/_/	What is the <u>main crop</u> planted in this parcel? (WRITE IN BLANK) _____
50	/_/_/_/	What is the <u>second crop</u> (if any intercropped) planted in this parcel? _____
53	/_/_/_/	What is the <u>third crop</u> (if any intercropped) planted in this parcel? _____
56	/_/_/_/	Mixture pointer (In case of intercrop mixture, this indicates the particular crop of the intercrop mixture the information below relates to. One half card is to be filled in for each crop of the mixture. The parcel ID, size, and main crop remains the same while the mixture pointer changes).
59	/_/_/	What is the variety of this crop? (WRITE IN BLANK) _____
61	/_/_/	What method did you use when planting in this parcel? 10 = broadcasting irregular 30 = transplanting in straight rows 20 = transplanting irregular 40 = direct seeding in straight rows
63	/_/_/	What month (1-12) did you plant in this parcel (WRITE IN BLANK) _____
65	/_/_/	Which week (1-4) of this month did you plant in this parcel? (WRITE IN BLANK) _____
66-68	skip	
69	/_/_/	Cropping season: 1 = wet season; 2 = 2nd season; 3 = 3rd season
70-72	skip	
73	/_/_/	Sub-subparcel no.
74	/_/_/	Card no.
75	/_/_/_/	HOUSEHOLD CODE
78	/_/_/_/	PROJECT CODE

1/RICE VARIETIES

Traditional lowland

- 01 = undetermined trad. lowland
- 02 = Bengawan
- 03 = Intan
- 04 = Tjeremas
- 05 = BE-3
- 06 = Tinandang Puti
- 07 = Tinandang Pula
- 08 = Inintiw
- 09 = Tinabaka

Traditional upland

- 13 = undetermined trad. upland
- 14 = Fortuna
- 15 = Azocena
- 16 = Palawan
- 17 = Dinalaga

Other trad. rice varieties

- 20-29 = Open for Indonesia
- 40-59 = Open for Thailand
- 30-39 = Open for Philippines (used)

Modern lowland

- 60 = undet. modern lowland
- 61 = IR 5 71 = IR 34 92 = 247
- 62 = IR 8 72 = IR 36 93 = IR2307
- 63 = IR 20 73 = IR 38 30 = IR 71
- 64 = IR 22 74 = IR 40 31 = Jumbo
- 65 = IR 24 75 = IR 42 jet
- 66 = IR 26 76 = C4-63 32 = 603
- 67 = IR 28 78 = MRC 39 33 = 75 days
- 68 = IR 29 79 = C 168 34 = IR 48
- 69 = IR 30 89 = BP1 76 35 = IR 50
- 70 = IR 32 90 = IR 44
- 91 = IR46

Modern upland

- 80 Undetermined modern upland
- 81 C-22

Other modern rice varieties

- 84-88 Open for Indonesia
- 89-93 Open for Phil. (used)
- 94-98 Open for Thailand

Corn & all other crops

- 01 Traditional
- 02 Modern or improved

N.B.

The codes for Thailand are completely different from those for Indonesia and the Philippines.

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Punch card column				DRAFT ANIMALS (3 types per page)
01	/9/1/6/	/9/1/6/	/9/1/6/	(Mandatory code)
04	skip	skip	skip	
05	/_/_/	/_/_/	/_/_/	What types of draft animals do you own? 01 = oxen/cattle 04 = donkeys 02 = buffaloes/carabaos 77 = others (specify) 03 = horses
07	/_/_/	/_/_/	/_/_/	Is this type of draft animal local or improved breed? 10 = local; 20 = improved; 30 = mixed
09	/_/_/	/_/_/	/_/_/	Which of the following management practices do you follow in caring for this type of draft animal? (Up to 2 practices): 01 = undetermined 04 = stallfeeding 02 = herding/grazing 05 = loose 03 = paddocking 06 = tied 77 = others (specify)
13	/_/_/_/	/_/_/_/	/_/_/_/	(Interviewer should classify each type of a draft animal into subtypes by age and sex using the codes below) ^{1/} SUBTYPE ^{1/}
16	/_/_/_/	/_/_/_/	/_/_/_/	How many animals of this subtype do you own?
19	/_/_/_/_/_/	/_/_/_/_/_/	/_/_/_/_/_/	What is the total value of the animals of this subtype?
25	/_/_/_/	/_/_/_/	/_/_/_/	SUBTYPE ^{1/}
28	/_/_/_/	/_/_/_/	/_/_/_/	How many animals of this subtype do you own?
31	/_/_/_/_/_/	/_/_/_/_/_/	/_/_/_/_/_/	What is the total value of the animals of this subtype?
37	/_/_/_/	/_/_/_/	/_/_/_/	SUBTYPE ^{1/}
40	/_/_/_/	/_/_/_/	/_/_/_/	How many animals of this subtype do you own?
43	/_/_/_/_/_/	/_/_/_/_/_/	/_/_/_/_/_/	What is the total value of the animals of this subtype?
49	/_/_/_/	/_/_/_/	/_/_/_/	SUBTYPE ^{1/}
52	/_/_/_/	/_/_/_/	/_/_/_/	How many animals of this subtype do you own?
55	/_/_/_/_/_/	/_/_/_/_/_/	/_/_/_/_/_/	What is the total value of the animals of this subtype?
61	/_/_/_/	/_/_/_/	/_/_/_/	SUBTYPE ^{1/}
64	/_/_/_/	/_/_/_/	/_/_/_/	How many animals of this subtype do you own?
67	/_/_/_/_/_/	/_/_/_/_/_/	/_/_/_/_/_/	What is the total value of the animals of this subtype?
73	skip	skip	skip	
74	/_/_/	/_/_/	/_/_/	Card no.
75	/_/_/_/	/_/_/_/	/_/_/_/	HOUSEHOLD CODE
78	/_/_/_/	/_/_/_/	/_/_/_/	PROJECT CODE

^{1/} SUBTYPES

Males

11 = undetermined
12 = under 6 months
13 = under one year
14 = 1-3 years
15 = over 3 years

Females

21 = undetermined
22 = under 6 months
23 = under one year
24 = 1-3 years
25 = over 3 years

Undetermined

31 = undetermined
32 = under 6 months
33 = under one year
34 = 1-3 years
35 = over 3 years

Punch card column	PRODUCTIVE ANIMALS (3 types per page)			
01	/9/1/7/	/9/1/7/	/9/1/7/	(Mandatory code)
04	skip	skip	skip	
05	/_/_/	/_/_/	/_/_/	What types of productive animals do you own? 10 = cattle 60 = donkeys 20 = sheep 80 = poultry 30 = goats 90 = pigs 40 = buffaloes 77 = others (specify) 50 = horses
07	/_/_/	/_/_/	/_/_/	Is the type of productive animal local or improved breed? 10 = local; 20 = improved; 30 = mixed
09	/_/_/	/_/_/	/_/_/	Which of the following management practices do you follow in caring for this type of productive animal? 01 = undetermined 04 = stallfeeding 02 = herding/grazing 05 = loose 03 = paddocking 06 = tied 77 = others (specify)
11	/_/	/_/	/_/	For what main purpose do you keep this type of productive animal? (Up to 2 answers; start from left): 1 = milk 4 = tradition 2 = meat 5 = eggs 3 = breeding 7 = others (specify)
12	/_/	/_/	/_/	Do you raise these animals for: 1 = sale; 2 = home consumption; 3 = sale and home consumption
13	/_/_/_/	/_/_/_/	/_/_/_/	(Interviewer should classify each type of productive animal into subtypes by age and sex using the codes below) ^{1/} SUBTYPE ^{1/}
16	/_/_/_/	/_/_/_/	/_/_/_/	How many animals of this subtype do you own?
19	/_/_/_/_/_/	/_/_/_/_/_/	/_/_/_/_/_/	What is the total value of your productive animals of this subtype?
25	/_/_/_/	/_/_/_/	/_/_/_/	SUBTYPE ^{1/}
28	/_/_/_/	/_/_/_/	/_/_/_/	How many animals of this subtype do you own?
31	/_/_/_/_/_/	/_/_/_/_/_/	/_/_/_/_/_/	What is the total value of your productive animals of this subtype?
37	/_/_/_/	/_/_/_/	/_/_/_/	SUBTYPE ^{1/}
40	/_/_/_/	/_/_/_/	/_/_/_/	How many animals of this subtype do you own?
43	/_/_/_/_/_/	/_/_/_/_/_/	/_/_/_/_/_/	What is the total value of your productive animals of this subtype?
49	/_/_/_/	/_/_/_/	/_/_/_/	SUBTYPE ^{1/}
52	/_/_/_/	/_/_/_/	/_/_/_/	How many animals of this subtype do you own?
55	/_/_/_/_/_/	/_/_/_/_/_/	/_/_/_/_/_/	What is the total value of your productive animals of this subtype?
61	/_/_/_/	/_/_/_/	/_/_/_/	SUBTYPE ^{1/}
64	/_/_/_/	/_/_/_/	/_/_/_/	How many animals of this subtype do you own?
67	/_/_/_/_/_/	/_/_/_/_/_/	/_/_/_/_/_/	What is the total value of your productive animals of this subtype?
73	skip	skip	skip	
74	/_/	/_/	/_/	Card no.
75	/_/_/_/	/_/_/_/	/_/_/_/	HOUSEHOLD CODE
78	/_/_/_/	/_/_/_/	/_/_/_/	PROJECT CODE

^{1/}SUBTYPES

Males:

- 11 = undetermined
- 12 = under 6 months
- 13 = under 1 year
- 14 = 1-3 years
- 15 = over 3 years

Females:

- 21 = undetermined
- 22 = under 6 months
- 23 = under 1 year
- 24 = 1-3 years
- 25 = over 3 years

Undetermined

- 31 = undetermined
- 32 = under 6 months
- 33 = under 1 year
- 34 = 1-3 years
- 35 = over 3 years

Punch card column	BUILDINGS	
01	/9/1/8/	(Mandatory code)
04-06	skip	
07	/_/_/	What type of building do you have? 10 = residential house 70 = machine house 20 = multipurpose farm house 80 = crop storage 30 = livestock house 77 = others (specify) 40 = farm house
09	/_/_/	What type of construction materials is this building made of? 1 = light building materials 2 = mixed building materials 3 = strong building materials
10	/_/_/_/	What is the capacity of this building? (Specify in square meters)
13	/_/_/_/	Which enterprise is this building attributable to? (Specify using crop or livestock enterprise codes, i.e., codes for rice, corn, cattle, etc)
16	skip	
17	/_/_/	How old (in years) is this building?
19-20	skip	
21	/_/_/_/_/	How much did you spend for repair and maintenance of this building last year?
25	/_/_/_/_/_/	What was the original construction cost of this building?
Do not punch	)	Do you own this building or do you rent it?
	)	1 = owned
	)	2 = rented
	)	3 = borrowing without rental fee
	)	<u>If rented:</u> How much rent do you pay for this building per year?
31	/_/_/	What type of building do you have? 10 = residential house 70 = machine house 20 = multipurpose farm house 80 = crop storage 30 = livestock house 77 = others (specify) 40 = farm house
33	/_/_/	What type of construction materials is this building made of? 1 = light building materials 2 = mixed building materials 3 = strong building materials
34	/_/_/_/	What is the capacity of this building? (Specify in square meters)
37	/_/_/_/	Which enterprise is this building attributable to? (Specify using crop or livestock enterprise codes, i.e. codes for rice, corn, cattle, etc) .
40	skip	
41	/_/_/	How old (in years) is this building?
43-44	skip	
45	/_/_/_/_/	How much did you spend for repair and maintenance of this building last year?
49	/_/_/_/_/_/	What was the original construction cost of this building?
Do not punch	)	Do you own this building or do you rent it?
	)	1 = owned
	)	2 = rented
	)	3 = borrowed without rental fee
	)	<u>If rented:</u> How much rent do you pay for this building per year?
55-73	skip	
74	/_/_/	Card no.
75	/_/_/_/	HOUSEHOLD CODE
78	/_/_/_/	PROJECT CODE

Punch card column	FARM IMPLEMENTS/TOOLS (3 forms, 5 types each)			
01	/9/1/9/	/9/1/9/	/9/1/9/	(Mandatory code)
04-07	skip	skip	skip	
08	/ / /	/ / /	/ / /	TYPE ^{1/} What type of hand implements/tools do you own?
10	/ / / /	/ / / /	/ / / /	Number How many of this type do you own?
13	/ / / / / / /	/ / / / / / /	/ / / / / / /	Total value What is the total sales value of all the hand implements/tools you own of this type?
19	skip	skip	skip	
20	/ / /	/ / /	/ / /	TYPE ^{1/} What type of hand implements/tools do you own?
22	/ / / /	/ / / /	/ / / /	Number How many of this type do you own?
25	/ / / / / / /	/ / / / / / /	/ / / / / / /	Total value What is the total sales value of all the hand implements/tools you own of this type?
31	skip	skip	skip	
32	/ / /	/ / /	/ / /	TYPE ^{1/} What type of hand implements/tools do you own?
34	/ / / /	/ / / /	/ / / /	Number How many of this type do you own?
37	/ / / / / / /	/ / / / / / /	/ / / / / / /	Total value What is the total sales value of all the hand implements/tools you own of this type?
43	skip	skip	skip	
44	/ / /	/ / /	/ / /	TYPE ^{1/} What type of hand implements/tools do you own?
46	/ / / /	/ / / /	/ / / /	Number How many of this type do you own?
49	/ / / / / / /	/ / / / / / /	/ / / / / / /	Total value What is the total sales value of all the hand implements/tools you own of this type?
55	skip	skip	skip	
56	/ / /	/ / /	/ / /	TYPE ^{1/} What type of hand implements/tools do you own?
58	/ / / /	/ / / /	/ / / /	Number How many of this type do you own?
61	/ / / / / / /	/ / / / / / /	/ / / / / / /	Total value What is the total sales value of all the hand implements/tools you own of this type?
67-73	skip	skip	skip	
74	/ /	/ /	/ /	Card no.
75	/ / / /	/ / / /	/ / / /	HOUSEHOLD CODE
78	/ / / /	/ / / /	/ / / /	PROJECT CODE

1/Hand or animal implements:

- 01 undetermined
- 11 ox plough
- 12 hoe
- 13 fork
- 15 spade
- 16 harrow
- 17 rake
- 45 sprayer
- 46 mechanical weeder
- 71 machet
- 73 sickle or scythe
- 74 winnower
- 76 flail
- 91 basket
- 92 sacks
- 93 axe
- 97 saw
- 77 others (specify) _____

1/Implements attached to machine:

- 21 mouldboard plough
- 22 disc plough
- 23 chisel plough
- 24 rotovator
- 31 disc harrow
- 35 comb harrow
- 46 weeder
- 65 big thresher (without engine)
- 72 irrigation pipes
- 75 blower (without engine)
- 89 transplanter
- 77 others (specify) _____

Punch card
column

OTHER ASSETS: Non-agricultural Land and Vehicles

01	/9/3/4/	(Mandatory code)
04-06	skip	
NON-AGRICULTURAL LAND		
07	/_/_	How many pieces of non-agricultural land do you own?
<u>First piece of land</u>		
08	/_/_	What type of land is the first piece of land you own? 1 = commercial land 7 = others (specify) 2 = residential land
09	/_/_/_/_/_	How big is this piece of land (in square meters)? Description (to help estimate and verify value) _____
13	/_/_/_/_/_	What is the present sales value of this land?
<u>Second piece of land</u>		
18	/_/_	What type of land is the second piece of land you own? 1 = commercial land 7 = others (specify) 2 = residential land
19	/_/_/_/_/_	How big is this piece of land (in square meters)? Description (to help estimate and verify value) _____
23	/_/_/_/_/_	What is the present sales value of this land?
VEHICLES		
28	/_/_	How many vehicles do you own?
<u>First vehicle</u>		
29	/_/_	What type of vehicle do you own? 1 = car 4 = motorized tricycle 7 = others (specify) 2 = jeep 5 = motorcycle 3 = truck 6 = bicycle 8 = tricycle without motor
30	/_/_/_	How old (in years) is this vehicle?
32	/_/_/_/_/_	How much did you pay for this vehicle?
37-38	skip	
39	/_/_/_/_/_	How much did you spend for the maintenance of this vehicle last year?
<u>Second vehicle</u>		
43	/_/_	What other type of vehicle do you own?
44	/_/_/_	How old (in years) is this vehicle?
46	/_/_/_/_/_	How much did you pay for this vehicle?
51-52	skip	
53	/_/_/_/_/_	How much did you spend for the maintenance of this vehicle last year?
<u>Third vehicle</u>		
57	/_/_	What other type of vehicle do you own?
58	/_/_/_	How old (in years) is this vehicle?
60	/_/_/_/_/_	How much did you pay for this vehicle?
65-66	skip	
67	/_/_/_/_/_	How much did you spend for the maintenance of this vehicle last year?
70-73	skip	
74	/_/_	Card no.
75	/_/_/_/_	HOUSEHOLD CODE
78	/_/_/_/_	PROJECT CCDE

Punch card column	OTHER ASSETS: HOME CONSUMER DURABLES		
01	/9/3/5/	/9/3/5/	(Mandatory code)
04-08	skip	skip	
07	/_/_/	/_/_/	What type of home consumer durable do you own? (See codes below) ^{1/}
09	/_/_/	/_/_/	How many years have you had this item?
11	/_/_/_/_/	/_/_/_/_/	How much did you pay to acquire this item?
15-16	skip	skip	
17	/_/_/	/_/_/	<u>Type</u> : What other type of home consumer durable do you own? (See codes below) ^{1/}
19	/_/_/	/_/_/	<u>Age</u> (in years)
21	/_/_/_/_/	/_/_/_/_/	<u>Acquisition cost</u>
25-26	skip	skip	
27	/_/_/	/_/_/	<u>Type</u> (See codes below) ^{1/}
29	/_/_/	/_/_/	<u>Age</u> (in years)
31	/_/_/_/_/	/_/_/_/_/	<u>Acquisition cost</u>
35-36	skip	skip	
37	/_/_/	/_/_/	<u>Type</u> (See codes below) ^{1/}
39	/_/_/	/_/_/	<u>Age</u> (in years)
41	/_/_/_/_/	/_/_/_/_/	<u>Acquisition cost</u>
45-46	skip	skip	
47	/_/_/	/_/_/	<u>Type</u> (See codes below) ^{1/}
49	/_/_/	/_/_/	<u>Age</u> (in years)
51	/_/_/_/_/	/_/_/_/_/	<u>Acquisition cost</u>
55-56	skip	skip	
57	/_/_/	/_/_/	<u>Type</u> (See codes below) ^{1/}
59	/_/_/	/_/_/	<u>Age</u> (in years)
61	/_/_/_/_/	/_/_/_/_/	<u>Acquisition cost</u>
65-73	skip	skip	
74	/_/_/	/_/_/	Card no.
75	/_/_/_/_/	/_/_/_/_/	HOUSEHOLD CODE
78	/_/_/_/_/	/_/_/_/_/	PROJECT CODE

^{1/}TYPE:

- 01 = radio
- 02 = bed
- 03 = sala set
- 04 = dresser
- 05 = burner
- 06 = flat iron
- 07 = lantern
- 08 = clock/watch
- 09 = camera
- 10 = record player
- 11 = refrigerator
- 12 = television
- 13 = electric fan
- 14 = kitchen wares
- 15 = dining set
- 16 = household water pump
- 17 = sewing machine
- 77 = others (specify) _____

Punch card column	FARM MACHINERY		
01	<u>/9/1/5/</u>	<u>/9/1/5/</u>	(Mandatory codes)
04	//	//	Machine ID
05	///	///	What type of machine do you own? (See codes below) ^{1/}
07	////	////	How many horsepower (HP) does this machine have?
10	////	////	What enterprise is this machine used for? (Fill in <u>only</u> if machine is used <u>only</u> for one enterprise, otherwise, cross out; use crop and livestock codes).
13	///	///	How old (in years) is this machine?
15-16	skip	skip	
17	///	///	<u>In case of joint ownership:</u> How many percent is your share in the ownership of this machine?
19	skip	skip	
20	////////	////////	How much did you pay for this machine?
25-30	skip	skip	
31	////////	////////	How much is your total annual fixed costs for this machine (e.g., tax and insurance)?
			NOTE TO INTERVIEWER: Columns 37-72 are to be left blank during the interview; these figures are to be derived from data in the resource utilization form and recorded later.
37	////////	////////	Annual repair and maintenance costs.
43	///	///	<u>Fuel</u> , liter/hour
45	////	////	Price/liter
49	///	///	Oil, liters/500 hours
51	////	////	Price/liter
55	////////	////////	<u>Own use</u> in hours/season
61	//	//	<u>Rental use</u> (1 = hours; 2 = hectares)/season
62	////	////	Amount of rental use
67	////////	////////	Income from rental use
73	skip	skip	
74	//	//	Card no.
75	////	////	HOUSEHOLD CODE
78	////	////	PROJECT CODE

Single underlined column numbers essential for calculating variable costs of machine use/hour.

Double underlined column numbers essential for calculating depreciation.

1/Type of machine:

- 11 2-wheel tractor with permanent engine.
- 12 4-wheel tractor with permanent engine
- 14 2-wheel tractor with removable engine (excluding engine)
- 15 4-wheel tractor with removable engine (excluding engine)
- 13 crawler tractor
- 16 engine
- 64 thresher with permanent engine
- 65 thresher with removable engine (excluding engine)
- 67 rice mill
- 71 irrigation pump with permanent engine
- 73 irrigation pump with removable engine (excluding engine)
- 77 others (specify) _____

DECISION MAKING RE: MACHINE PURCHASE

Punch card column			
01	/9/3/6/	/9/3/6/	(Mandatory codes) <u>NOTE TO INTERVIEWER:</u> Duplicate information for columns 04-14, 29-35 and 51-58 from Form 915
04	//	//	Machine ID
05-06	skip	skip	Type of machine: 11=2-wheel t (w/ PE); 12=4-wheel t (w/ PE); 13=crawler tractor; 14=2-wheel t (w/o E); 15=4-wheel t (w/o E); 16=engine; 64=thresher (w/PE); 65=thresher (w/o E); 67=rice mill; 71 = irrigation pump (w/ PE); 73 = irrigation pump (w/o E); 77 = others (specify)
07	///	///	Machine specification (no. of HP)
09	////	////	Fuel/power used: 1 = gasoline; 2 = diesel; 3 = kerosene; 4 = electricity
12	//	//	Implement regularly attached to machine ^{1/}
13	///	///	Who were involved in making the decision to purchase this machine? (Rank up to 2 persons): 1 = family member of R; 2 = extension worker; 3 = machine dealer; 4 = farmer's organization; 5 = village head; 6 = fellow farmer of R; 7 = others (specify in space below blanks).
15	// //	// //	What advantages of owning this machine were considered when deciding to purchase it? (Up to 3 advantages; rank up to 3 reasons using codes below) ^{2/}
17	/// //	/// //	
21	///	///	
23-27	skip	skip	
28	//	//	Machine ID
29	///	///	Type of machine
31	////	////	Machine specifications (no. of HP)
34	//	//	Fuel/power used: 1 = gasoline; 2 = diesel; 3 = kerosene; 4 = electricity
35	// //	// //	Implement regularly attached to machine ^{1/}
37	// //	// //	Persons involved (up to 2) in decision-making
39	/// //	/// //	Advantages (up to 3) of owning this machine which were considered in decision to buy ^{2/} (Rank).
43	///	///	
44-49	skip	skip	
50	//	//	Machine ID
51	///	///	Type of machine
53	////	////	Machine specification (no. of HP).
56	//	//	Fuel/power used: 1 = gasoline; 2 = diesel; 3 = kerosene; 4 = electricity
57	///	///	Implement regularly attached to machine ^{1/}
59	// //	// //	Persons involved (up to 2) in decision-making
61	/// //	/// //	Advantages (up to 3) of owning this machine which were considered in decision to buy ^{2/} (Rank).
67-73	skip	skip	
74	//	//	Card no.
75	////	////	HOUSEHOLD CODE
78	////	////	PROJECT CODE

1/Implement regularly attached to machine: 21 = mouldboard plough; 22 = disc plough; 23 = chisel plough; 24 = rotovator; 25 = plough and harrow; 31 = harrow (disc or comb); 33 = cultivator; 34 = subsoiler; 41 = seed driller; 42 = planter; 45 = winnower; 66 = wagon or tractor; 72 = irrigation pipes; 77 = others (specify in space below blanks).

2/Advantages of owning machine: 01 = cheaper, saves money; 02 = enables farmer to plant on time; 3 = no human/animal labor required; 04 = plows field better, i.e., deeper or more thorough; 05 = easier, eases physical burden; 06 = can also be used for transportation; 07 = saves time, enables farmer to do other jobs; 08 = increases income (from machines custom work); 09 = can expand area of cultivation; 10 = lessens weeds; 11 = increases yields; 12 = avoids boredom or drudgery; 13 = more prestigious; 17 = others (specify)

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MACHINE USE, INCOME, MAINTENANCE/ACCIDENTS WITH MACHINES
(one card per farm activity)

Punch card column			
01	/9/3/7/	/9/3/7/	(Mandatory code) NOTE TO INTERVIEWER: Duplicate information for cols. 04-14 from Form 915 or 936
04	/ /	/ /	Machine ID
05-06	skip	skip	
07	/ / /	/ / /	Type of machine: 11 = 2-wheel tractor (w/ PE); 12 = 4-wheel tractor (w/ PE); 13 = crawler tractor; 14 = 2-wheel tractor (w/o E); 15 = 4-wheel tractor (w/o E); 16 = engine; 64 = thresher (w/ PE); 65 = thresher (w/o E); 67 = rice mill; 71 = irrigation pump (w/ PE); 73 = irrigation pump (w/o E); 77 = others (specify)
09	/ / / /	/ / / /	Machine specification (no. of HP)
12	/ /	/ /	Fuel/power used: 1 = gasoline; 2 = diesel; 3 = kerosene; 4 = electricity
13	/ / /	/ / /	Implement regularly attached to machine ^{1/}
15	/ / / /	/ / / /	For what farm activity did you use this machine? (Fill one card per activity machine was used for. Record in order of occurrence. Own farm use and custom work is recorded in separate cards per activity). See code list below for list of farm activities.)
20	/ /	/ /	Was this machine used for activities on your own farm or for custom work on other farms? 1 = own farm; 2 = custom work; 3 = custom work at special reduced price; 4 = lent for free
21	/ /	/ /	What unit do you use to measure the amount of work accomplished? 1 (If machine was used on own farm, use per day or per hour as unit of work). 1 = per hectare; 2 = per day; 3 = per hour; 4 = per parcel or contract; 5 = per ton of paddy; 6 = per ton of milled rice
22	/ / / /	/ / / /	How many units were accomplished by this machine for this activity?
25	/ / / /	/ / / /	If custom work: How much do you charge per unit?
28	/ / / / /	/ / / / /	If custom work: What was the total amount or income you received for the work accomplished by this machine for this activity?
32-37	skip	skip	
38	/ / / /	/ / / /	What was the total number of liters of fuel you consumed for this activity?
41	/ / / / /	/ / / / /	What was the total cost of fuel you used for this activity?
45	/ / /	/ / /	What was the total no. of liters of oil you used for this activity?
47	/ / / /	/ / / /	What was the total cost of oil you used for this activity?
50	/ /	/ /	If filters were changed: How many filters did you use for this activity?
51	/ / /	/ / /	If filters were changed: What was the cost of the filters you used for this act.?
53	/ / /	/ / /	If any tire repair: How many times did you have to repair your tires for this activity?
55	/ / / /	/ / / /	If any tire repair: What was the total cost of tire repairs for this activity?
			MACHINE OPERATORS
58	/ / / /	/ / / /	How many hours of family labor were used for this activity?
61	/ / / /	/ / / /	How many hours of hired labor were used for this activity?
64	/ / / / /	/ / / / /	How much did you pay your hired labor for this activity?
68	skip	skip	
69	/ /	/ /	Cropping season: 1 = wet season; 2 = 2nd cropping season; 3 = 3rd cropping season
			ACCIDENTS WITH MACHINES
70	/ / / /	/ / / /	Type of accident with this machine ^{3/} (Record up to 2 types)
72	/ / / /	/ / / /	Seriousness of accident ^{4/}
74	/ /	/ /	Card no.
75	/ / / /	/ / / /	HOUSEHOLD CODE
78	/ / / /	/ / / /	PROJECT CODE

1/Implement regularly attached to machine:

- 21 = mouldboard plough
- 22 = disc plough
- 23 = chisel plough
- 24 = rotovator
- 25 = plough and harrow
- 31 = harrow (disc or comb)
- 33 = cultivator
- 34 = sub-soiler
- 41 = seed driller
- 42 = planter
- 45 = winnower
- 72 = irrigation pipe

2/Activity:

- 010 = land preparation
- 011 = ploughing
- 017 = harrowing
- 060 = irrigation
- 078 = threshing
- 080 = transporting
- 084 = milling

3/Accidents

- 1 = operator fell off machine
- 2 = machine turned over the operator
- 3 = hand or foot was caught in machine
- 7 = others (specify)

4/ Seriousness

- 1 = minor injury (self medication only)
- 2 = injury requires attention of doctor or nurse
- 3 = injury requires hospitalization
- 4 = death

MACHINE BREAKDOWN (one card per machine breakdown)

Punch card column			
01	/9/3/8/	/9/3/8/	(Mandatory code)
			<u>NOTE TO INTERVIEWER:</u> Duplicate information for columns 04-14 from Form 915, 936 or 937.
04	//	//	Machine ID
07	///	///	<u>Type of machine:</u> 11=2-wheel t (w/PE); 12=4-wheel t (w/PE); 13 = crawler tractor; 14=2-wheel t (w/o E); 15=4-wheel t (w/o E); 16 = engine; 64=thresher (w/PE); 65=thresher (w/o E); 67 = rice mill; 71 = irrigation pump (w/PE); 73=irrigation pump (w/o E); 77 = others (specify).
09	////	////	Machine specification (no. of HP)
12	//	//	<u>Fuel/power used:</u> 1 = gasoline; 2 = diesel; 3 = kerosene; 4 = electricity
13	///	///	<u>Implement regularly attached to machine</u> ^{1/}
15	///	///	What kind of breakdown did this machine have? (Write type of breakdown on space provided and code during editing)
17	//	//	How serious was the breakdown of this machine? 1 = machine still runs but has defect; 2 = machine not operable or endangers life; 7 = machine can no longer be used.
18	//	//	Did you repair this machine? 0 = no; 1 = yes
19	////	////	<u>If machine repaired:</u> How many days was the machine inoperable? (If machine not repaired cross out columns).
22	//	//	<u>If machine broke down during field activity:</u> How many days was the field activity delayed?
23	//	//	Was there any delay in the repair of this machine? 0 = no; 1 = yes
24	// //	// //	<u>If machine repair was delayed:</u> What caused the delay in the repair of this machine? (Rank up to 2 answers). 1 = no time to fix; 2 = no time to bring to mechanic; 3 = no mechanic available; 4 = no space parts available; 5 = no money for repair; 7 = others (specify in space below blanks).
26	//	//	<u>If lack of spare parts was cause of delay:</u> What action did you take to facilitate to acquire the necessary spare parts? 1 = substitute for spare part was manufactured; 2 = spare part was ordered; 3 = just waited
27	//////	//////	What was the total value of the spare parts used for this repair?
31	////	////	How many hours of family labor was used to repair this machine?
34	////	////	How many hours of hired labor (mechanic) was used to repair this machine?
37	//////	//////	What was the total amount you paid to your hired labor? (excluding spare parts if mentioned earlier).
41	//	//	Where was this machine repaired? 1 = on farm; 2 = local repair shop; 3 = local dealer's shop; 4 = on farm and local repair shop; 5 = on farm and local dealer's shop; 6 = local repair shop and local dealer's shop; 7 = others (specify in space below blanks); 8 = respondent's house
42	///	///	How far (in km) is the place where you had your machine repaired? (If repaired on farm, cross out columns).
44	////	////	How much did you spend to transport your machine to and from the place of repair?
47	//	//	Were you satisfied with the repair of this machine? 0 = no; 1 = yes
48	//	//	How many times have you had the same type of breakdown with this machine since you acquired it?
49	//	//	How old (in years) is this machine?
50	////	////	When did this machine break down? (Specify full date on blank; convert to week and day code during editing).
53-68	skip	skip	
69	//	//	Cropping season: 1=wet season; 2=2nd cropping season; 3=3rd cropping season
70-73	skip	skip	
74	//	//	Card no.
75	////	////	HOUSEHOLD CODE
78	////	////	PROJECT CODE

^{1/}Implement regularly attached to machine: 21 = mouldboard plough; 22 = disc plough; 23 = chisel plough; 24 = rotovator; 25 = plough and harrow; 31 = harrow (disc or comb); 33 = cultivator; 34 = sub-soiler; 41 = seed driller; 42 = planter; 45 = winnower; 72 = irrigation pipes

01	/9/2/1/	/9/2/1/	(Mandatory code)
07	/ / / /	/ / / /	In what <u>subject group</u> did change occur ^{1/} ?
10	/ / / /	/ / / /	In what <u>main group</u> did change occur ^{2/} ?
13	/ / /	/ / /	In what subtype of your livestock did change occur ^{3/} ?
15	/ /	/ /	What type of change occurred ^{4/} ?
16	/ / /	/ / /	In what month did this change occur?
18	/ /	/ /	In what week did this change occur?
19	/ / / / / / / /	/ / / / / / / /	What was the amount (numbers) that changed?
25	/ /	/ /	Did the change occur in cash or in kind? 1 = cash; 2 = kind
26	/ / / / / / / /	/ / / / / / / /	What was the total value of this change?
31	/ / / /	/ / / /	In what <u>subject group</u> did change occur ^{1/} ?
34	/ / / /	/ / / /	In what <u>main group</u> did change occur ^{2/} ?
37	/ / /	/ / /	In what subtype of your livestock did change occur ^{3/} ?
39	/ /	/ /	What type of change occurred ^{4/} ?
40	/ / /	/ / /	In what month did this change occur?
42	/ /	/ /	In what week did this change occur?
43	/ / / / / / / /	/ / / / / / / /	What was the amount (numbers) that changed?
49	/ /	/ /	Did the change occur in cash or in kind?
50	/ / / / / / / /	/ / / / / / / /	What was the total value of this change?
55-68	skip	skip	
69	/ /	/ /	Cropping season: 1 = wet season; 2 = 2nd cropping season; 3 = 3rd cropping season
70-73	skip	skip	
74	/ /	/ /	Card no.
75	/ / / /	/ / / /	HOUSEHOLD CODE
78	/ / / /	/ / / /	PROJECT CODE

1/ Subject group

- 911 Farm family,
perm. hired labor
- 912 Land
- 913 Crops
- 915 Machinery (use only to record
sale)
- 916 Draft/pack animals
- 917 Productive animals
- 918 Buildings
- 919 Implements/tools
- 920 Financial liabilities
- 935 Vehicles
- 935 Home consumer durables

2/ Main group for change

Such as:

Type of machines, animals,
buildings, crops. (See
code list and Forms 916, 917
918, 919, 920, 934 and 935)

3/ Sub-types (livestock)

- Males
- 11 Undetermined
 - 12 Under 6 months
 - 13 Under 1 year
 - 14 1-3 years
 - 15 Over 3 years
- Females
- 21 Undetermined
 - 22 Under 6 months
 - 23 Under 1 year
 - 24 1-3 years
 - 25 Over 3 years

Undetermined

- 31 Undetermined
- 32 Under 6 months
- 33 Under 1 year
- 34 1-3 years
- 35 over 3 years

4/ Type of change

- 1 Birth
- 2 Death, destruction
- 3 Sale
- 4 Consumption, eaten
taken away, leave
- 5 Purchase, construction
- 6 Newcoming, arrival,
contribution received,
taken back
- 7 Debt paid back

RESOURCE UTILIZATION SCRATCH SHEET

Enterprise ___ ___ ___
Parcel ID ___ ___ ___

Household code ___ ___ ___
Project code ___ ___ ___

<u>Activity</u>	<u>Date</u>	<u>Input</u>	<u>Amount</u>	<u>Cash or kind</u>	<u>Value</u>
-----------------	-------------	--------------	---------------	-------------------------	--------------

Punch card column	SURVEY			RESOURCE UTILIZATION FORM: input/output, income/expenditures (3 cards with 3 sets of data each)
01	/ / / /	/ / / /	/ / / /	Enterprise ^{1/}
04	/ / / /	/ / / /	/ / / /	Parcel/Subparcel ID
07	/ / / /	/ / / /	/ / / /	Type of input/output ^{2/}
10	/ / / /	/ / / /	/ / / /	Activity ^{3/}
13	/ / / /	/ / / /	/ / / /	Date (month + week)
16	/ / / / / /	/ / / / / /	/ / / / / /	Amount, in hours, kg.
21	/ /	/ /	/ /	1 = cash; 2 = kind; 3 = cash + meal
22	/ / / / / / / /	/ / / / / / / /	/ / / / / / / /	Value
28	/ / / /	/ / / /	/ / / /	Type of input/output ^{2/}
31	/ / / /	/ / / /	/ / / /	Activity ^{3/}
34	/ / / /	/ / / /	/ / / /	Date (month + week)
37	/ / / / / /	/ / / / / /	/ / / / / /	Amount, in hours, kg.
42	/ /	/ /	/ /	1 = cash; 2 = kind; 3 = cash + meal
43	/ / / / / / / /	/ / / / / / / /	/ / / / / / / /	Value
49	/ / / /	/ / / /	/ / / /	Type of input/output ^{2/}
52	/ / / /	/ / / /	/ / / /	Activity ^{3/}
55	/ / / /	/ / / /	/ / / /	Date (month + week)
58	/ / / / / /	/ / / / / /	/ / / / / /	Amount, in hours, kg.
63	/ /	/ /	/ /	1 = cash; 2 = kind; 3 = cash + meal
64	/ / / / / / / /	/ / / / / / / /	/ / / / / / / /	Value
70	/ / / /	/ / / /	/ / / /	Mixture pointer
73	/ /	/ /	/ /	Sub-sub parcel ID
74	/ /	/ /	/ /	Card ID
75	/ / / /	/ / / /	/ / / /	HOUSEHOLD CODE
78	/ / / /	/ / / /	/ / / /	PROJECT CODE

1/See crop and livestock enterprise guide and code list (I in guide and code list).

2/See input/output code list (II in guide and code list).

3/See activities code list (III in guide and code list).

Punch
card
column

DISPOSAL OF PRODUCT (One from (2 pages) per crop per cropping season)

01	/9/3/9/	(Mandatory code)
04	////	Parcel/Subparcel ID
<u>TOTAL PRODUCTION</u>		
07	////	What was the total no. of kilograms (kg) you produced this season? (If not in kg, specify amount and unit of measurement) _____
12	////	What was the value of this total production? (Verify price per kg. = _____)
<u>QUANTITY PAID TO HARVESTERS/THRESHERS</u>		
18	/	Did you use any amount of your produce to pay harvesters/threshers this season? 0 = No; 1 = Harvesters & threshers; 2 = Harvesters only; 3 = Threshers only
19	/	What kind of paying arrangement did you have with your harvesters/threshers? 01 = one sixth of harvest to H/T 32 = 5% to thresher owner 02 = one seventh of harvest to H/T 33 = 6% to thresher owner 03 = one eighth of harvest to H/T 34 = 7% to thresher owner 04 = one sixth with free weeding 77 = others (specify) _____ 05 = one seventh with free weeding Extra codes 06 = one eighth with free weeding 20-29 = Open for Indonesia 30 = one ninth 40-49 = Open for Thailand 31 = one tenth
21	////	How many kg. did you pay to your harvesters/threshers?
26	////	What was the total value of the kg. you used to pay your harvesters/threshers? (Verify price per kg = _____)
<u>QUANTITY PAID TO LANDLORD</u>		
31	/	Did you use any amount of your produce to pay your rent and/or debts to your landlord this season? 0 = No; 1 = Yes
32	////	How many kg. did you pay to your landlord?
37	////	What was the total value of the kg. you used to pay your landlord? (Verify price per kg = _____).
<u>QUANTITY USED TO PAY DEBTS</u>		
42	/	Did you use any amount of your produce to pay any of your debts this season (excluding debt to landlord)? 0 = No; 1 = Yes
43	////	How many kg. did you use to pay your debts?
48	////	What was the total value of the kg. you used to pay your debts? (Verify price per kg. = _____).
<u>QUANTITY SOLD</u>		
53	/	Did you sell any of your produce this season? 0 = No; 1 = Yes
54	////	How many kg. did you sell?
59	////	What was the total value of the kg. you sold? (Verify price per kg. = _____)
64-68	skip	
69	/	Cropping season: 1 = wet season; 2 = 2nd season; 3 = 3rd season
70	////	Crop code
73	/	Sub-subparcel No.
74	/	Card no.
75	////	HOUSEHOLD CODE
78	////	PROJECT CODE

Punch card column	Cont'n. DISPOSAL OF PRODUCT [one form (2 pages) per crop per cropping season]	
01	/9/3/9/	(Mandatory code)
04	/ / / /	Parcel ID <u>QUANTITY LEFT WITH FARM OPERATOR</u>
07	/ /	Did you retain any amount of your produce this season? 0 = No; 1 = Yes
08	/ /	For what purpose did you retain this produce? 1 = home consumption; 2 = future sale; 3 = home consumption & future sale; 4 = seeds; 5 = consumption & seeds; 6 = future sale & seeds; 8 = home consumption, future sale and seeds combined; 7 = others (specify) _____
09	/ / / / / /	How many kg. did you retain for home consumption, seeds and/or future sale?
14	/ / / / / /	What was the total value of the kg. you retained for home consumption, seeds and/or future sale? (Verify per kg = _____) <u>QUANTITY USED FOR OTHER PURPOSES</u>
19	/ /	Did you use any amount of your produce this season for other purposes (aside from those already mentioned)?
20	/ /	What purpose did you use it for? 1 = gift; 2 = irrigation fee 7 = others (specify) _____
21	/ / / / / /	How many kg. did you use for this other purpose(s)?
26	/ / / / / / / /	What was the total value of the kg. you used for these other purposes? (Verify price per kg. = _____).
		<u>BY-PRODUCTS</u>
32	/ /	What type of by-product(s) did you have this season (include only those by-products actually used by R or sold)? 1 = straw; 2 = husk; 3 = hay; 4 = bran; 7 = others (specify) _____
33	/ / / / / /	What was the value of this by-product used and/or sold? Write in blank price per unit and unit used) _____
		<u>PRODUCT SOLD LAST SEASON</u> (To be asked for the <u>whole farm</u> and only once, at the <u>end of the</u> <u>first season of the survey</u>)
38	/ / / / /	What crop(s) did you produce last season? (Record up to 2 crops for <u>whole farm</u>).
44	/ / / / / / / / / / / / / / / /	How much (in kgs.) of this produce did you consume and sell? (Record on columns corresponding to crop code).
54	/ / / / / / / / / / / / / / / /	What was the average price/kg. of the last season's produce you <u>sold</u> ?
64-68	skip	
69	/ /	Cropping season: 1 = wet season; 2 = 2nd cropping season; 3 = 3rd cropping season
70	/ / / /	Crop code
73	/ /	Sub-subparcel ID
74	/2/	Card number
75	/ / / /	HOUSEHOLD CODE
78	/ / / /	PROJECT CODE

SALE/MARKETING OF PRODUCT
(one form per crop)*

Punch card column		
01	/9/4/0/	(Mandatory code)
04	/ / / /	Parcel/Subparcel ID
07-09	skip	
10	/ /	How many times did you sell your produce from this season?
11	/ /	When did the first sale of your produce occur? 1 = Harvest week 2 = 1 to 2 weeks after harvest 3 = 3 to 4 weeks after harvest 4 = more than 1 month to less than 3 mos. 5 = 3 mos. to less than 5 mos. 6 = more than 5 mos. after harvest 7 = Others (specify) _____
12	/ / / / / /	How many kg. did you sell that time?
17	/ /	What was the quality of your produce during that sale? 1 = wet, special/fancy variety 2 = dry, special/fancy variety 3 = wet, ordinary variety 4 = dry, ordinary variety 5 = others (specify) _____
18	/ / / . / /	How much were you able to sell one kilogram at that time? (Price per kg.)
22	/ / / / / / / /	What was the total value you received for the produce you sold that time?
28	/ /	Where did you sell your produce (market location)? 1 = on farm 2 = within village 3 = outside village, within municipality 4 = outside municipality, within province 7 = others (specify) _____
29	/ / / . /	How far (in km.) is this market from where you store your produce?
32	/ /	How adequate is the transportation to this market? 0 = inadequate 1 = adequate (Describe) _____
33	/ / / /	How much did it cost you to transport your produce to the market?
36	/ /	When did the second sale of your produce occur? 1 = Harvest week 2 = 1 to 2 weeks after harvest 3 = 3 to 4 weeks after harvest 4 = more than 1 mo. to less than 3 mos. 5 = 3 mos. to less than 5 mos. 6 = more than 5 mos. after harvest 7 = Others (specify) _____
37	/ / / / / / / /	How many kg. did you sell that time?
43	/ /	What was the quality of your produce during that sale? 1 = Wet, special/fancy variety 2 = Dry, special/fancy variety 3 = Wet, ordinary variety 4 = Dry, ordinary variety 7 = Others (specify) _____
44	/ / / . / /	How much were you able to sell one kilogram at that time?
48	/ / / / / / / /	What was the total value you received for the produce you sold that time?
54	/ /	Where did you sell your produce (market location)? 1 = on farm 2 = within village 3 = outside village, within municipality 4 = outside municipality, within province 7 = Others (specify) _____
55	/ / / /	How far (in km.) is this market from where you store your produce?
58	/ /	How adequate is the transportation to this market? 0 = inadequate 1 = adequate (Describe) _____
59	/ / / /	How much did it cost you to transport your produce to the market?
62-68	skip	
69	/ /	Cropping season: 1 = wet season; 2 = 2nd cropping season; 3 = 3rd cropping season
70	/ / / /	Crop code
73	/ /	Sub-subparcel ID
74	/ /	Card no.
75	/ / / /	HOUSEHOLD CODE
78	/ / / /	PROJECT CODE

Punch card column	LAND RECLAMATION		
01	/9/4/1/	/9/4/1/	(Mandatory code)
04	/ / / /	/ / / /	Parcel/subparcel ID
07	/ / / /	/ / / /	What year did you reclaim this piece of land?
09	/ / / / / /	/ / / / / /	How big (in ha) is this piece of land?
13	/ /	/ /	What type of land was it before you reclaimed it? 1 = flooded area 4 = area with small hills/not level 2 = marshland 5 = forest/wooded area 3 = stone area 7 = others (specify) _____
14	/ / / / / / / /	/ / / / / / / /	What was the sales value of this land <u>before</u> you reclaimed it?
19	/ /	/ /	What type of land did you transform it into by reclaiming it? 1 = upland fields (unbunded) 4 = fishpond 2 = paddy fields (unbunded) 7 = others (specify) _____ 3 = paddy fields (bunded) _____
20	/ / / / / / / /	/ / / / / / / /	What was the sales value of this land <u>after</u> you reclaimed it?
25	/ / / /	/ / / /	What type of power did you use to reclaim this land? 01 = human alone 06 = animal and two-wheel tractor 02 = animal 07 = animal and four-wheel tractor 03 = human alone and animal 08 = bulldozer 04 = two-wheel tractor 05 = four-wheel tractor
<u>HUMAN POWER USED</u>			
27	/ / / /	/ / / /	How many people worked to reclaim this land? (Include human labor alone and human labor with animal and machines).
29	/ / / / / /	/ / / / / /	How many hours were spent by these people to reclaim this land? (Include hours of human labor alone and human labor with animals and machines).
33	/ / / / / /	/ / / / / /	What was the value of this human labor? (Include value of human labor alone and human labor with animals and machines; use local labor rates at that time).
<u>ANIMAL POWER USED</u>			
37	/ / / /	/ / / /	How many animals were used in reclaiming this land?
39	/ / / / / /	/ / / / / /	How many hours of animal labor were used in reclaiming this land?
43	/ / / / / /	/ / / / / /	What was the value of this animal labor? (Use local custom rates at that time).
<u>MACHINE POWER USED</u>			
47	/ /	/ /	How many machines were used in reclaiming this land?
48	/ / / / / /	/ / / / / /	How many hours was the machine used in reclaiming this land?
51	/ / / / / /	/ / / / / /	What was the value of this machine labor? (Use local custom rates at that time).
55	/ /	/ /	Would you have been able to reclaim this land without using a machine? 0 = No; 1 = Yes
56	/ / / /	/ / / /	Why did you choose to use a machine to reclaim this land? ^{1/} (Up to two reasons).
58	/ / / / / / / /	/ / / / / / / /	Place '1' where applicable: What type of machine did you use in reclaiming this land? 58 = 2-wheel tractor; 59 = 4-wheel tractor; 60 = crawler tractor; 61 = grader; 62 = bulldozer; 63 = others. (specify) _____
73	/ /	/ /	Sub-subparcel ID
74	/ /	/ /	Card no.
75	/ / / / / /	/ / / / / /	HOUSEHOLD CODE
78	/ / / / / /	/ / / / / /	PROJECT CODE

1/Reasons farmer chose to use machine:

- 1 = would take too long without machine
- 2 = would be too hard without machine
- 3 = cheaper with machine

- 4 = no human/animal labor available
- 7 = others (specify) _____

01	/ 2 / 4 / 2 /	(Mandatory code)
07	/ /	Where is the nearest extension workers' office? 1 = within village; 2 = within municipality; 3 = within province
08	/ / / / / / 08 09 10	What type of knowledge have you received from the extension workers? (Put a "1" in each applicable column). 08 = re: planting practices; 09 = re: fertilizers; 10 = re: pest control 11 = re: water control;
11	/ / / / / / 11 12 13	12 = re: use of HYV; 13 = others (specify) _____
14	/ /	How many times this cropping season have you attended meetings conducted by an extension worker?
15	/ /	How many times this cropping season have you visited an extension worker's office?
16	/ /	How many times this cropping season did an extension worker visit you?
17	/ /	How would you rate the performance of your extension worker(s)? 0 = inadequate 1 = adequate
18	/ / / /	What other person or organization (aside from the extension worker) do you consult about farm problems? 1 = village head; 2 = farmer's organization 3 = relative; 4 = fellow farmer; 7 = others (specify) _____
TRAINING IN MACHINE OPERATION		
20	/ /	Have you ever been trained in the operation of any farm machine? 0 = no; 1 = yes <u>Machine 1</u>
21	/ / / /	What machine were you trained to operate? 11 = two-wheel tractor; 12 = four-wheel tractor; 61 = combine; 64 = thresher; 67 = rice mill; 71 = irrigation pump; 81 = crane; 82 = loader
23	/ /	Who trained you how to operate this machine? 1 = extension worker; 2 = machine dealer; 3 = farmer's organization 7 = others (specify) _____
24	/ / / /	What year did this training occur (last 2 digits)? <u>Machine 2</u>
26	/ / / /	What machine were you trained to operate? 11 = two-wheel tractor; 12 = four-wheel tractor; 61 = combine; 64 = thresher; 67 = rice mill; 71 = irrigation pump; 81 = crane; 82 = loader
28	/ /	Who trained you how to operate this machine? 1 = extension worker; 2 = machine dealer; 3 = farmer's organization; 7 = others (specify) _____
29	/ / / /	What year did this training occur (last 2 digits)?
FARMERS ORGANIZATION		
31	/ /	Are you a member of any farmers organization(s)? 0 = no; 1 = yes
32	/ /	How many organizations are you a member of? <u>Farmers Organization 1</u>
33	/ /	Is this organization a private or a government organization? 1 = private; 2 = government
34	/ / / /	What are the advantages (rank up to 2 advantages) of belonging to this organization? (See codes below) ^{1/}
36	/ / / /	What are the disadvantages (rank up to 2 disadvantages) of belonging to this organization? (See codes below) ^{2/}
38	/ /	Were you required to join this organization? 0 = no; 1 = yes
39	/ /	How many meetings did this organization have this cropping season?
40	/ /	How many meetings did you attend this cropping season?

- 1/ Advantages of belonging:
- 1 = can get loans directly from association
 - 2 = can get loans from other sources because of membership in association
 - 3 = can use machine owned by association
 - 4 = can get irrigation water
 - 5 = can get knowledge (e.g., modern technology)
 - 7 = others (specify) _____

- 2/ Disadvantages of belonging:
- 1 = membership fee is high
 - 2 = have to attend too many meetings
 - 3 = have to contribute too much (either time or money)
 - 7 = others (specify) _____

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Punch card column		Cont'n. EXTENSION SERVICES . . .
		<u>Farmers Organization 2</u>
41	//	Is this organization a private or a government organization?
42	// //	What are the advantages (rank up to 2 advantages) of belonging to this organization? (See codes below) ^{1/}
44	// //	What are the disadvantages (rank up to 2 disadvantages) of belonging to this organization? (See codes below) ^{2/}
46	//	Were you required to join this organization? 0 = no; 1 = yes
47	//	How many meetings did this organization have this cropping season?
48	//	How many meetings did you attend this cropping season?
		<u>Farmers Organization 3</u>
49	//	Is this organization a private or a government organization?
50	// //	What are the advantages (rank up to 2 advantages) of belonging to this organization? (See codes below) ^{1/}
52	// //	What are the disadvantages (rank up to 2 disadvantages) of belonging to this organization? (See codes below) ^{2/}
54	//	Were you required to join this organization? 0 = no; 1 = yes
55	//	How many meetings did this organization have this cropping season?
56	//	How many meetings did you attend this cropping season?
57-68	skip	
69	//	Cropping season: 1 = wet season; 2 = 2nd season; 3 = 3rd season
70-74	skip	
75	// // //	HOUSEHOLD CODE
78	// // //	PROJECT CODE

^{1/}Advantages of belonging:

- 1 = can get loans directly from association
- 2 = can get loans from other sources because of membership in association
- 3 = can use machine owned by association
- 4 = can get irrigation water
- 5 = can get knowledge (e.g., modern technology)
- 7 = others (specify) _____

^{2/}Disadvantages of belonging:

- 1 = membership fee is high
- 2 = have to attend too many meetings
- 3 = have to contribute too much (either time or money)
- 7 = others (specify) _____

Punch card column	WORK OPPORTUNITIES/PREFERENCES OF LANDLESS FIELD LABOURERS	
01	/9/4/3/	(Mandatory code)
04	skip	NOTE TO INTERVIEWER: Fill in this form for all members of <u>landless field households</u> who work and have an income. Duplicate information for columns 05-09, 30-34 from Form 911 (Farm Labour Form A), columns 05-08 and col. 74.
		<u>Income earner 1</u>
05	/ / /	HOUSEHOLD MEMBER CODE (duplicate from columns 05-06 in Form 911)
07	/ / /	AGE (duplicate columns 07-08 in Form 911)
09	/ /	Assigned card no. in Form 911 (duplicate from column 74 in Form 911)
10	/ / /	When did this village become predominantly mechanized? (at least 50%; verify with village background data).
12	/ / /	<u>If this person working at that time:</u> What kind of work did you have at that time? (Rank up to 3 of the most common types of work done; specify types in following blanks) 1) _____; 2) _____; 3) _____
14	/ / /	(During editing, code into general types using following codes:) 11 = agriculture;
16	/ / /	12 = forestry; 13 = fishery; 14 = handicraft; 15 = industry; 16 = commerce; 17 = services. If R not working at that time, record '77'
18	/ / /	At present, what kind of work do you do? (Rank up to 3 of the most common types of work done; specify types in following blanks:) 1) _____; 2) _____;
20	/ / /	3) _____ (During editing, code into general types using codes from col.11-16)
22	/ / /	
24	/ /	<u>If there has been a change in types of work done before and after mechanization:</u> What was the reason for the change in the type of work you do (this person does)? 1 = old job not easily available anymore; 2 = bored with old job; 3 = better pay from new job; 4 = prefer new job; 5 = had to move to new localities for personal reasons; 7 = others (specify) _____
25	/ / /	What types of work would you like most to have at present? (Fill in only if R would prefer <u>another</u> type of work; rank up to 2 choices, specify in following blanks:)
27	/ / /	1) _____; 2) _____; 3) _____ (Code into general types during editing using codes from column 11-16).
29	/ /	Why do you prefer this job? 1 = physically easier; 2 = higher pay; 3 = nearer to home 4 = more prestigious; 7 = others (specify) _____
		<u>Income earner 2</u>
30	/ / /	HOUSEHOLD MEMBER CODE (duplicate from columns 05-06 in Form 911).
32	/ / /	AGE (duplicate in columns 07-08 in Form 911).
34	/ /	Assigned card no. in Form 911 (duplicate from column 74 in Form 911).
35	/ / /	When did this village become predominantly mechanized? (At least 50%; verify with village background data).
37	/ / /	<u>If this person working at that time:</u> What kind of work did you have at that time? (Rank up to 3 of the most common types of work done, specify types in following blanks:) 1) _____; 2) _____; 3) _____
39	/ / /	(During editing, code into general types using following codes:) 11 = agriculture;
41	/ / /	12 = forestry; 13 = fishery; 14 = handicraft; 15 = industry; 16 = commerce; 17 = services. If R not working at that time, record '77'.
43	/ / /	At present, what kind of work do you do? (Rank up to 3 of the most common types of work done; specify types in following blanks:) 1) _____; 2) _____;
45	/ / /	3) _____ (During editing, code into general types using codes from col.11-16)
47	/ / /	
49	/ /	<u>If there has been a change in types of work done before and after mechanization:</u> What the reason for the change in the type of work you do (this person does)? 1 = old job not easily available anymore; 2 = bored with old job; 3 = better pay from new job; 4 = prefer new job; 5 = had to move to new localities for personal reasons; 7 = others (specify) _____
50	/ / /	What types of work would you like most to have at present? (Fill in only if R would prefer <u>another</u> type of work; rank up to 2 choices, specify in following blanks:)
52	/ / /	1) _____; 2) _____; 3) _____ (Code into general types during editing using codes from column 11-16).
54	/ /	Why do you prefer this job? 1 = physically easier; 2 = higher pay; 3 = nearer to home 4 = more prestigious; 7 = others (specify) _____
55-73	skip	
74	/ /	Card No.
75	/ / / /	HOUSEHOLD CODE
78	/ / / /	PROJECT CODE

Punch card column	ACTUAL AND IDEAL DATES OF CRUCIAL FARM ACTIVITIES		
01	/9/4/4/	/9/4/4/	(Mandatory codes)
04	/ / / /	/ / / /	Parcel/Subparcel ID
07	/ /	/ /	Sub-sub parcel ID
08	skip	skip	
			NOTE TO INTERVIEWER: For all succeeding questions, write dates in blanks; code during editing using FKK date coding system.
09	/ / / /	/ / / /	What date did you start ploughing this parcel? 1) _____; 2) _____
12	/ / / /	/ / / /	What was the most ideal date to start ploughing this parcel? 1) _____; 2) _____
15	/ /	/ /	If ploughing was delayed: What was the reason for the delay in ploughing this parcel? 1/
16	/ / / /	/ / / /	What date did you start harrowing this parcel? 1) _____; 2) _____
19	/ / / /	/ / / /	What was the most ideal date to start harrowing this parcel? 1) _____; 2) _____
22	/ /	/ /	If harrowing was delayed: What was the reason for the delay in harrowing this parcel? 1/
23	/ / / /	/ / / /	What date did you start planting this parcel? 1) _____; 2) _____
26	/ / / /	/ / / /	What was the most ideal date to start planting this parcel? 1) _____; 2) _____
29	/ /	/ /	If planting was delayed: What was the reason for the delay in planting this parcel?
30	/ / / /	/ / / /	What date did you start harvesting this parcel?
33	/ / / /	/ / / /	What was the most ideal date to start harvesting this parcel?
36	/ /	/ /	If harvesting was delayed: What was the reason for the delay in harvesting this parcel?
37	/ / / /	/ / / /	Parcel/Subparcel ID
40	/ /	/ /	Sub-sub parcel ID
41	/ / / /	/ / / /	What date did you start ploughing this parcel? 1) _____; 2) _____
44	/ / / /	/ / / /	What was the most ideal date to start ploughing this parcel? 1) _____; 2) _____
47	/ /	/ /	If ploughing was delayed: What was the reason for the delay in ploughing this parcel? 1/
48	/ / / /	/ / / /	What date did you start harrowing this parcel? 1) _____; 2) _____
51	/ / / /	/ / / /	What was the most ideal date to start harrowing this parcel? 1) _____; 2) _____
54	/ /	/ /	If harrowing was delayed: What was the reason for the delay in harrowing this parcel?
55	/ / / /	/ / / /	What date did you start planting this parcel?
58	/ / / /	/ / / /	What was the most ideal date to start planting this parcel?
61	/ /	/ /	If planting was delayed: What was the reason for the delay in planting this parcel?
62	/ / / /	/ / / /	What date did you start harvesting this parcel?
65	/ / / /	/ / / /	What was the most ideal date to start harvesting this parcel?
68	/ /	/ /	If harvesting was delayed: What was the reason for the delay in harvesting this parcel?
69	/ /	/ /	Cropping season: 1 = wet season; 2 = 2nd season; 3 = 3rd season
70-73	skip	skip	
74	/ /	/ /	Card no.
75	/ / / /	/ / / /	HOUSEHOLD CODE
78	/ / / /	/ / / /	PROJECT CODE

1/Reasons for delay:

- 1 = water delayed or insufficient
- 2 = no human labor available
- 3 = no animal labor available

- 4 = no machine labor available
- 5 = another previous farm activity was delayed
- 6 = lack of money
- 7 = others (specify) _____

Punch
card
column

ANIMAL DISEASES/ACCIDENTS WITH ANIMALS

01	/9/4/5/	(Mandatory code)
04-06	skip	<u>ANIMAL DISEASES</u>
		<u>Animal disease 1</u>
07	/ / /	What type of draft animal contracted a disease? 01 = cattle; 02 = water buffalo; 03 = horses; 07 = others (specify) _____
09	/ / /	How many of this type of animal contracted a disease?
11	/ /	What disease did this animal(s) contract? 1 = hoof and mouth disease; 2 = cold; 3 = anthrax (high fever due to infection); 4 = brucellosis (disease related to miscarriage or abortion); 5 = rinder pest (cattle disease); 7 = others (specify) _____
12	/ /	Did this animal contract this disease during a 0 = No; 1 = Yes
13	/ / / /	If disease occurred during a field activity: How many days was the activity delayed?
16	/ / /	How many days were you unable to use this animal for field work? ^{1/}
		<u>Animal disease 2</u>
18	/ / /	What type of draft animal contracted a disease? 01 = cattle; 02 = water buffalo; 03 = horses; 07 = others (specify) _____
20	/ / /	How many of this type of animal contracted a disease?
22	/ /	What disease did this animal(s) contract? (See codes in col. 11)
23	/ /	Did this animal contract this disease during a 0 = No; 1 = Yes
24	/ / / /	If disease occurred during a field activity: How many days was the activity delayed?
27	/ / /	How many days were you unable to use this animal for field work? ^{1/}
		<u>Animal disease 3</u>
29	/ / /	What type of draft animal contracted a disease? 01 = cattle; 02 = water buffalo; 3 = horse; 7 = others (specify) _____
31	/ / /	How many of this type of animal contracted a disease?
33	/ /	What disease did this animal(s) contract? (See codes in col. 11)
34	/ /	Did this animal contract this disease during a period of field activity? 0 = No; 1 = Yes
35	/ / / /	If disease occurred during a field activity: How many days was the activity delayed?
38	/ / /	How many days were you unable to use this animal for field work? ^{1/}
		<u>ACCIDENTS WITH ANIMALS</u>
		<u>Accident 1</u>
40	/ / /	With what type of draft animal did you have an accident? 01 = cattle; 02 = water buffalo; 03 = horse; 07 = others (specify) _____
42	/ /	What type of accident occurred? 1 = animal stepped on farmer; 2 = animal pushed farmer; 3 = animal bit farmer; 7 = others (specify) _____
43	/ /	How serious was the accident? 1 = minor injury (self medication only); 2 = injury required attention of doctor/nurse; 3 = injury required hospitalization; 4 = death
		<u>Accident 2</u>
44	/ / /	With what type of draft animal did you have an accident? 01 = cattle; 02 = water buffalo; 03 = horse; 07 = others (specify) _____
46	/ /	What type of accident occurred? (See codes in col. 42)
47	/ /	How serious was the accident? (See codes in col. 43)
		<u>Accident 3</u>
48	/ / /	With what type of draft animal did you have an accident? 01 = cattle; 02 = water buffalo; 03 = horse; 07 = others (specify) _____
50	/ /	What type of accident occurred? (See codes in col. 42)
51	/ /	How serious was the accident? (See codes in col. 43).
52-58	skip	
69	/ /	Cropping season: 1 = wet season; 2 = 2nd cropping season; 3 = 3rd cropping season
70-72	skip	
74	/ /	Card no.
75	/ / / /	HOUSEHOLD CODE
78	/ / / /	PROJECT CODE

^{1/}If animal can no longer be used for field work, record 7/7/ .

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APPENDIX 5
FARM RECORDKEEPING FORMS

2. Cultivation Schedule
(1 day, 1 type of activity and 1 parcel per sheet)

Project code _____

Year _____

Farm code _____

Date _____

Cropping season _____

Date code _____

A. Field Activity

Field activity	Activity code	Parcel ID	Size of parcel (has.)	Area cropped (has)	Crop	Crop code	Variety	Variety code
_____	---	---	---	---	---	---	---	---

B. Farm Operator's Labor (01) C. Family Labor

No. of hrs.	Spouse (02)			Male (13)			Female (14)			Child (12)			
	No. of hrs.	No.	Hrs.	ManHrs	No.	Hrs.	ManHrs.	No.	Hrs.	ManHrs.	No.	Hrs.	ManHrs.
---	---	---	---	---	---	---	---	---	---	---	---	---	---

D. Permanent Labor

	Type code	No.	Hrs.	ManHrs.	If cash, amount	If kind, value
Male	2 3	---	---	---	---	---
Female	2 4	---	---	---	---	---
Child	2 2	---	---	---	---	---

E. Seasonal Hired Labor

	Type code	No.	Hrs.	ManHrs	If cash, value	If kind, value
Male	3 3	---	---	---	---	---
Female	3 4	---	---	---	---	---
Child	3 2	---	---	---	---	---

F. Exchange Labor

Male (43)			Female (44)			Child (42)		
No.	Hrs.	ManHrs.	No.	Hrs.	ManHrs.	No.	Hrs.	ManHrs.
---	---	---	---	---	---	---	---	---

G. Contract Labor (51)

No.	Hrs.	ManHrs.	If cash, amount	If kind, value
---	---	---	---	---

H. Value of meal

Value of meal

I. Power used^{1/}

Power used	Power code	Horsepower	Rent	Hours used	No. of power operators
---	---	---	---	---	---

Operator ManHrs.	Area processed	% to total area	Amt. paid to operators
---	---	---	---

K. Landlord's Contribution (if land is rented)

Landlord's contribution in		
Labor expenses	Power expenses	Other inputs expenses
---	---	---

J. Other Material Inputs^{2/}

Other inputs	Input code	Quantity & unit	Quantity in kg. or liter	If purchased, price	If produced, value
---	---	---	---	---	---
---	---	---	---	---	---
---	---	---	---	---	---

^{1/}Whether animal or machine such as 2-wheel tractor, 4-wheel tractor, etc.

^{2/}Includes seeds, fertilizers, pesticide and irrigation water.

3. PRODUCTION SCHEDULE
(1 day, 1 type of crop and 1 parcel per sheet)

Project code _____
Farm code _____

Cropping season __
Year ___

A. Total Product

Date	Date code	Crop	Crop code	Parcel ID ^{1/}	Total Production		
					Qty. & unit	Qty. in kg.	Value ^{2/}
---	---	---	---	---	---	---	---

B. Disposal of Product

Harvesters and threshers				Landlord		
Sharing arrangement	Qty. & unit	Qty. in kg.	Value	Qty. & unit	Qty. in kg.	Value
---	---	---	---	---	---	---

Debts ^{4/}			Irrigation Fee		
Qty. & unit	Qty. in kg.	Value	Qty. & unit	Qty. in kg.	Value
---	---	---	---	---	---

Farm Operator ^{5/}			Others ^{6/}		
Qty. & unit	Qty. in kg.	Value	Qty. & unit	Qty. in kg.	Value
---	---	---	---	---	---

C. By-product

By-product ^{7/}	Code	Qty. & unit	Qty. in kg.	Value
---	---	---	---	---

^{1/}Refers to the ID of the parcel from which the crop was harvested. If undetermined, record 666.

^{2/}Value at farm gate.

- ^{3/}
- 01 = one-sixth
 - 02 = one-seventh
 - 03 = one-eighth
 - 04 = one-sixth with free weeding
 - 05 = one-seventh with free weeding
 - 06 = one-eighth with free weeding
 - 77 = others (specify) _____

^{4/}Does not include debts payable to farm labor.

^{5/}Includes products for household consumption, future sale and seedlings.

^{6/}Includes products given away as gifts.

- ^{7/}
- 925 = straw
 - 926 = husk
 - 927 = hay
 - 928 = bran
 - 929 = others (specify)

8. ANIMAL CARE/MAINTENANCE^{1/}
 (1 day, 1 activity and 1 type of animal per sheet)

Project code _____
 Farm code _____

Cropping season ____
 Year ____

A. Livestock Activity

Date	Date code	Activity	Activity code	Animal ^{2/}	Animal code

B. Farm Operator's Labor (01)

Number of hours

C. Family Labor

Spouse (02)		Male (13)			Female (14)			Child (12)		
No. of hrs.	No.	Hrs.	ManHrs.	No.	Hrs.	ManHrs.	No.	Hrs.	ManHrs.	

D. Permanent Labor

	Type code	No.	Hrs.	Man-Hrs.	If cash, amount	If kind, value
Male	2 3					
Female	2 4					
Child	2 2					

F. Seasonal hired labor

	Type code	No.	Hrs.	Man-Hrs.	If cash, amount	If kind, value
Male	3 3					
Female	3 4					
Child	3 2					

F. Exchange Labor

Male (43)			Female (44)			Child (42)		
No.	Hrs.	ManHrs.	No.	Hrs.	ManHrs.	No.	Hrs.	ManHrs.

G. Meal Provided to Laborers

Value of meal

H. Feed Inputs

Type of feed ^{3/}	Feed code	Qty. & unit	Qty. in kg. or liter	If purchased, price	If produced, value

I. Other Inputs

Other Inputs ^{4/}	Input code	Qty. & unit	Qty. in kg. or liter	If purchased, price	If produced, value

^{1/}For draft animal owners only.

^{2/}Refers only to animals used in the farm such as: 01 = cattle; 02 = carabao; 03 = horse

^{3/}Whether 335 = hay, grass, corn stalk or 340 = grains, meal

^{4/}Includes: 331 = rent, grazing land; 332 = salt, minerals; 333 = veterinary fees, 334 = drugs, medicines.

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10. Machine Use/Maintenance^{1/}
 (1 day, 1 type of machine and 1 type of activity per sheet)

Project code ---
 Farm code ---

Cropping season ---
 Year ---

A. Machine Use

Date	Date code	Type of machine used ^{2/}	Machine code	Horse-power	Type of feed ^{3/}	Implement attached ^{4/}	Implement code
---	---	---	---	---	---	---	---

Farm activities machine was used	Activity code	Own or custom work ^{5/}	Unit of measurement ^{6/}	No. of units	If custom work		Distance travelled	Travelling expenses
					Charge per unit	Income received		
---	---	---	---	---	---	---	---	---

B. Machine Maintenance

Fuel		Oil		Filter		Tire	
Liters consumed	Total cost	Liters consumed	Total cost	No. consumed	Total cost	No. of repairs	Total cost
---	---	---	---	---	---	---	---

C. Machine Operator

Family Labor			Hired Labor			
No.	Hrs.	ManHrs.	No.	Hrs.	ManHrs.	Amount paid
---	---	---	---	---	---	---

D. Accidents with this machine

Type of accident ^{7/}	Accident code	How serious was the accident ^{8/}
---	---	---

^{1/}For machine owners only.

- ^{2/}
- 11 = 2-wheel tractor (permanent engine)
 - 12 = 4-wheel tractor (permanent engine)
 - 13 = crawler tractor
 - 14 = 2-wheel tractor (removable engine, except engine)
 - 15 = 4-wheel tractor (removable engine, except engine)
 - 16 = engine
 - 61 = combine
 - 64 = thresher (with engine)
 - 65 = thresher (without engine)
 - 67 = rice mill
 - 71 = irrigation pump (permanent engine)
 - 73 = irrigation pump (removable engine)
 - 81 = crane
 - 82 = loader

^{3/}Fuel

- 1 = gasoline
- 2 = diesel
- 3 = kerosene

^{4/}Implement

- 21 = mouldboard plough
- 22 = disk plough
- 23 = chisel plough
- 24 = rotovator
- 31 = disk harrow
- 35 = comb harrow
- 65 = thresher (without engine)
- 72 = irrigation pipe

^{5/}0 = own
 1 = custom work

^{6/}1 = per hectare
 2 = per day
 3 = per hour
 4 = per parcel

^{7/}Accidents

- 1 = operator fell off machine
- 2 = machine turned over on operator
- 3 = hand or foot caught in machine
- 7 = others (specify) _____

^{8/}1 = minor injury (self medication only)
 2 = injury required attention of doctor or nurse
 3 = injury required hospitalization
 4 = death

11. MACHINE BREAKDOWN AND REPAIR^{1/}
(1 day, 1 type of machine and 1 type of breakdown per sheet)

Project code _____
Farm code _____

Cropping season _____
Year _____

A. Machine Breakdown

Date	Date code	Machine w/c broke down ^{2/}	Machine code	Horse-power	Type of fuel ^{3/}	Type of breakdown ^{4/}	Breakdown code	Whether it occurred during field activity ^{5/}	Type of field activity
---	---	---	---	---	---	---	---	---	---

Activity code	No. of days activity was delayed	Whether repaired ^{6/}	Whether any delay ^{7/}	Cause(s) of delay ^{8/}	If spare part was cause of delay ^{9/} , action taken ^{9/}
---	---	---	---	---	---

B. Machine Repair

Repair Labor							Place of repair ^{10/}	Distance in km.
Family Labor			Mechanic			Cost		
No.	Hrs.	ManHrs.	No.	Hrs.	ManHrs.	Cost		
---	---	---	---	---	---	---	---	---

Cost of transporting machine	Date repaired	Downtime (in days)	Whether satisfied w/ repair ^{11/}	No. of same breakdown since acquisition of machine	Age of machine
---	---	---	---	---	---

^{1/}For machine owners only.

^{2/}Machine

- 11 = 2-wheel tractor (permanent engine)
- 12 = 4-wheel tractor (permanent engine)
- 13 = crawler
- 14 = 2-wheel tractor (removable engine, except engine)
- 15 = 4-wheel tractor (removable engine, except engine)
- 16 = engine
- 61 = combine
- 64 = thresher (with engine)
- 65 = thresher (without engine)
- 67 = rice mill
- 71 = irrigation pump (permanent engine)
- 73 = irrigation pump (removable engine)
- 81 = crane
- 82 = loader

^{3/}Fuel

- 1 = gasoline
- 2 = diesel
- 3 = kerosene

^{4/}10

- Engine
- 11 = injector (diesel)
- 12 = pump (diesel)
- 13 = piston ring (diesel)
- 14 = spark plug (gasoline)
- 15 = carburetor (gasoline)
- 16 = contact point or breaker point (gasoline)

20 Transmission

- 21 = bearing
- 22 = chain
- 23 = sprocket
- 27 = others (specify) _____

30 Implement

- 31 = broken plough
- 32 = bearing
- 33 = broken nut
- 37 = others (specify) _____

40 Hydraulics

- 41 = o-ring
- 42 = pump
- 43 = hose
- 47 = others (specify) _____

^{5/}0 = no

- 1 = yes

^{6/}0 = no

- 1 = yes

^{7/}0 = no

- 1 = yes

^{8/}Causes of delay

- 1 = no time to fix
- 2 = no time to bring to mechanic
- 3 = no mechanic available
- 4 = no spare part available
- 5 = no money for repair
- 7 = others (specify) _____

^{9/}Action taken

- 1 = substitute for spare part was manufactured
- 2 = spare part was ordered
- 3 = just waiting

^{10/}1 = own farm

- 2 = local repair shop
- 3 = local dealer shop
- 4 = own farm and local repair shop
- 5 = own farm and local dealer shop
- 6 = local repair and dealer shop
- 7 = others (specify) _____

^{11/}0 = not satisfied

- 1 = satisfied

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Punch:
card
column

FRK RESOURCE UTILIZATION FORM: input/output,
income/expenditures (3 forms with 3 sets of data each)

01	/ / / /	/ / / /	/ / / /	Enterprise ^{1/}
04	/ / / /	/ / / /	/ / / /	Parcel/field number
07	/ / / /	/ / / /	/ / / /	Type of input/output ^{2/}
10	/ / / /	/ / / /	/ / / /	Activity ^{3/}
13	/ / / /	/ / / /	/ / / /	Date (week & day)
16	/ / / / / /	/ / / / / /	/ / / / / /	Amount, in hours, kg.
21	/ /	/ /	/ /	1 = cash; 2 = kind;
22	/ / / / / / / /	/ / / / / / / /	/ / / / / / / /	Value
28	/ / / /	/ / / /	/ / / /	Type of input/output ^{2/}
31	/ / / /	/ / / /	/ / / /	Activity ^{3/}
34	/ / / /	/ / / /	/ / / /	Date (week & day)
37	/ / / / / /	/ / / / / /	/ / / / / /	Amount, in hours, kg.
42	/ /	/ /	/ /	1 = cash; 2 = kind;
43	/ / / / / / / /	/ / / / / / / /	/ / / / / / / /	Value
49	/ / / /	/ / / /	/ / / /	Type of input/output ^{2/}
52	/ / / /	/ / / /	/ / / /	Activity ^{3/}
55	/ / / /	/ / / /	/ / / /	Date (week & day)
58	/ / / / / /	/ / / / / /	/ / / / / /	Amount, in hours, kg.
63	/ /	/ /	/ /	1 = cash; 2 = kind;
64	/ / / / / / / /	/ / / / / / / /	/ / / / / / / /	Value
70	/ / / /	/ / / /	/ / / /	Mixture pointer
73	/ /	/ /	/ /	Sub-subparcel
74	/ /	/ /	/ /	Card no.
75	/ / / /	/ / / /	/ / / /	HH CODE
78	/ / / /	/ / / /	/ / / /	PROJECT CODE

1/See subject code

2/See input/output code

3/See activities code

Punch card column	FRK	DISPOSAL OF PRODUCT (one form (2 pages) per crop parcel)
01	/9/3/9/	(Mandatory code)
04	////	Parcel ID*
		<u>TOTAL PRODUCTION</u>
07	////////	What was the total no. of kilograms you produce this harvest? (If not in kg., specify amount and unit and convert to kg.) _____
12	////////	What was the market value of this total production? (Verify price per kg. = _____)
		<u>DISPOSAL OF PRODUCT</u>
		<u>QUANTITY PAID TO HARVESTERS AND THRESHERS</u>
18	//	Did you use any amount of your produce to pay your harvesters and threshers this season? 0 = no; 1 = yes
19	///	What kind of paying arrangement did you have with your harvesters/threshers? 01 = 1/6 of harvest to H/T 32 = 5% to thresher owner 02 = 1/7 of harvest to H/T 33 = 6% to thresher owner 03 = 1/8 of harvest to H/T 34 = 7% to thresher owner 04 = 1/6 with free weeding 77 = others (specify) 05 = 1/7 with free weeding 06 = 1/8 with free weeding <u>Extra codes</u> 30 = 1/9 with free weeding 20-29 = Open for Indonesia ?1 = 1/10 with free weeding 40-49 = Open for Thailand
21	////////	How many kgs. did you pay your harvesters/threshers?
26	////////	What was the total market value of the amount you used to pay your harvesters/threshers? (Verify price per kg. _____)
		<u>QUANTITY FOR LANDLORD</u>
31	//	Did you use any amount of your produce to pay your rent and/or debt to your landlord this season? 0 = no; 1 = yes
32	////////	How many kg. did you give to your landlord?
37	////////	What was the total market value of the amount you gave/will give to your landlord? (Verify price per kg. = _____)
		<u>QUANTITY FOR DEBTS</u>
42	//	Did you use any amount of your produce to pay any of your debts this season (excluding debt to landlord)? 0 = no; 1 = yes
43	////////	How many kg. did you use to pay debts?
48	////////	What was the total market value of amount you used/will use to pay your debts? (Verify price per kg. = _____)
53-65	skip	
66	////	Date (week and day)
69	//	Cropping season ID: 1 = wet season; 2 = 2nd season; 3 = 3rd season
70	////	Crop code
73	////	Sub-subparcel ID
74	/1/	Card no.
75	////	HOUSEHOLD CODE
78	////	PROJECT CODE

*Record /6/6/6/ if the farmer does not know the total harvest for each parcel or if he cannot give the exact amount of harvest disposed per parcel (Example: the quantity paid to debts might be the harvest from all his parcels).

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Punch card column	FRK	SALE/MARKETING OF PRODUCT one form per crop per parcel
01	/9/4/0/	(Mandatory code)
04	/___/	Parcel ID
12	/___/___/	How many kg. did you sell?
17	/_/	What was the quality of the produce you sold? 1 = wet, special/fancy variety 2 = dry, special/fancy variety 3 = wet, ordinary variety 4 = dry, ordinary variety 7 = others (specify)
18	/___/___/	What was the price per kg. of the produce you sold?
22	/___/___/___/	What was the total value you received for the produce you sold?
28	/_/	Where did you sell your produce (location of market)? 1 = on-farm 2 = within the village where R resides 3 = outside the village but within the municipality where R reside; 4 = outside the municipality but within the province where R resides 7 = others (specify)
29	/___/___/	How far (in km.) is this market from where you stored your produce?
32	/_/	How adequate is the transportation to this market? 0 = inadequate 1 = adequate (Describe) _____
33	/___/___/	How much did it cost you to transport your produce to the market?
36-65	skip	
66	/___/___/	Date (week and day)
69	/_/	Cropping season: 1 = wet season; 2 = second season; 3 = third season
70	/___/___/	Crop code
73	/_/	Sub-subparcel
74	/_/	Card No.
75	/___/___/	Household code
78	/___/___/	Project code

Punch card column

FRK MACHINE USE, INCOME, MAINTENANCE (one card per farm activity)

01	/9/3/7/	/9/3/7/	(Mandatory code) NOTE TO INTERVIEWER: Duplicate information for cols. 04-14 from Form 915 or 936
04	//	//	Machine ID
07	///	///	Type of machine: 11 = 2-wheel tractor (w/ PE); 12 = 4-wheel tractor (w/ PE); 13 = crawler tractor; 14 = 2-wheel tractor (w/o E); 15 = 4-wheel tractor (w/o E); 16 = engine; 64 = thresher (w/ PE); 65 = thresher (w/o E); 67 = rice mill; 71 = irrigation pump (w/ PE); 73 = irrigation pump (w/o E); 77 = others (specify)
09	////	////	Machine specification (no. of HP)
12	//	//	Fuel/power used: 1 = gasoline; 2 = diesel; 3 = kerosene; 4 = electricity
13	///	///	Implement regularly attached to machine ^{1/}
15	////	////	For what farm activity did you use this machine? (Fill one card per activity machine was used for. Record in order of occurrence (own farm use and custom work is recorded in separate cards per activity). See code list below for list of farm activities.
20	//	//	Was this machine used for activities on your own farm or for custom work on other farms? 1 = own farm; 2 = custom work; 3 = custom work at special reduced price; 4 = lent for free
21	//	//	What unit do you use to measure the amount of work accomplished? 1 = per hectare; 2 = per day; 3 = per hour; 4 = per parcel or contract; 5 = per ton of paddy; 6 = per ton of milled rice
22	////	////	How many units were accomplished by this machine for this activity?
25	////	////	If custom work: How much do you charge per unit?
28	//////	//////	If custom work: What was the total amount you received for the work accomplished by this machine for this activity?
32-37	skip	skip	
38	////	////	What was the total number of liters of fuel you consumed for this activity?
41	////	////	What was the total cost of fuel you used for this activity?
44	///	///	What was the total number of liters of oil you used for this activity?
46	///	///	What was the total cost of oil you used for this activity?
48	//	//	If filters were changed: How many filters did you use for this activity?
49	///	///	If filters were changed: What was the cost of the filters you used for this activity?
51	///	///	If any tire repair: How many times did you have to repair your tires for this activity?
53	////	////	If any tire repair: What was the total cost of tire repairs for this activity?
			MACHINE OPERATORS:
56	////	////	How many hours of family labor were used for this activity?
59	////	////	How many hours of hired labor were used for this activity?
62	//////	//////	How much did you pay your hired labor for this activity?
66	////	////	Date machine was used (week + day)
69	//	//	Cropping season: 1 = wet season; 2 = 2nd cropping season; 3 = 3rd cropping s.
			ACCIDENTS WITH MACHINES
70	// //	// //	Type(s) of accident with this machine ^{3/}
72	// //	// //	Seriousness of accident ^{4/}
74	//	//	Card no.
75	////	////	FARM CODE
78	////	////	PROJECT CODE

1/Implement regularly attached to machine:

- 21 = mouldboard plough
- 22 = disc plough
- 23 = chisel plough
- 24 = rotovator
- 31 = harrow disc or comb
- 33 = cultivator
- 34 = sub-soiler
- 41 = seed driller
- 42 = planter
- 45 = winnower
- 72 = irrigation pipes

4/Seriousness

- 1=minor injury (self med.)
- 2=injury requires attn. of doctor or nurse
- 3=injury requires hospitalization
- 4 = death

2/Activity:

- 010 = land preparation
- 011 = ploughing
- 017 = harrowing
- 060 = irrigation
- 080 = transporting
- 078 = threshing
- 084 = milling

3/Accidents

- 1=operator fell off machine
- 2=machine turned over operator
- 3=hand/foot was caught in machine
- 7=others (specify)

MACHINE BREAKDOWN (one card per machine breakdown)

Punch card column			
01	/9/3/8/	/9/3/8/	(Mandatory code) <u>NOTE TO INTERVIEWER:</u> Duplicate information for columns 04-14 from Form 915, 936 or 937.
04	//	//	Machine ID
07	///	///	<u>Type of machine:</u> 11=2-wheel t (w/PE); 12=4-wheel t (w/PE); 13 = crawler tractor; 14=2-wheel t (w/o E); 15=4-wheel t (w/o E); 16 = engine; 64=thresher (w/PE); 65=thresher (w/o E); 67 = rice mill; 71 = irrigation pump (w/PE); 73=irrigation pump (w/o E); 77 = others (specify).
09	////	////	Machine specification (no. of HP)
12	//	//	<u>Fuel/power used:</u> 1 = gasoline; 2 = diesel; 3 = kerosene; 4 = electricity
13	///	///	<u>Implement regularly attached to machine</u> ^{1/}
15	///	///	What kind of breakdown did this machine have? (Write type of breakdown on space provided and code during editing) _____
17	//	//	How serious was the breakdown of this machine? 1 = machine still runs but has defect; 2 = machine not operable or endangers life; 7 = machine can no longer be used.
18	//	//	Did you repair this machine? 0 = no; 1 = yes
19	////	////	<u>If machine repaired:</u> How many days was the machine inoperable? (If machine not repaired cross out columns).
22	//	//	<u>If machine broke down during field activity:</u> How many days was the field activity delayed?
23	//	//	Was there any delay in the repair of this machine? 0 = no; 1 = yes
24	///	///	<u>If machine repair was delayed:</u> What caused the delay in the repair of this machine? (Rank up to 2 answers). 1 = no time to fix; 2 = no time to bring to mechanic; 3 = no mechanic available; 4 = no space parts available; 5 = no money for repair; 7 = others (specify in space below blanks).
26	//	//	<u>If lack of spare parts was cause of delay:</u> What action did you take to facilitate to acquire the necessary spare parts? 1 = substitute for spare part was manufactured; 2 = spare part was ordered; 3 = just waited
27	////	////	What was the total value of the spare parts used for this repair?
31	////	////	How many hours of family labor was used to repair this machine?
34	////	////	How many hours of hired labor (mechanic) was used to repair this machine?
37	////	////	What was the total amount you paid to your hired labor? (excluding spare parts if mentioned earlier).
41	//	//	Where was this machine repaired? 1 = on farm; 2 = local repair shop; 3 = local dealer's shop; 4 = on farm and local repair shop; 5 = on farm and local dealer's shop; 6 = local repair shop and local dealer's shop; 7 = others (specify in space below blanks); 8 = respondent's house
42	///	///	How far (in km) is the place where you had your machine repaired? (If repaired on farm, cross out columns).
44	////	////	How much did you spend to transport your machine to and from the place of repair?
47	//	//	Were you satisfied with the repair of this machine? 0 = no; 1 = yes
48	//	//	How many times have you had the same type of breakdown with this machine since you acquired it?
49	//	//	How old (in years) is this machine?
50	////	////	When did this machine break down? (Specify full date on blank; convert to week and day code during editing). _____
53-68	skip	skip	
69	//	//	Cropping season: 1=wet season; 2=2nd cropping season; 3=3rd cropping season
70-73	skip	skip	
74	//	//	Card no.
75	////	////	HOUSEHOLD CODE
78	////	////	PROJECT CODE

^{1/}Implement regularly attached to machine: 21 = mouldboard plough; 22 = disc plough; 23 = chisel plough; 24 = rotovator; 25 = plough and harrow; 31 = harrow (disc or comb); 33 = cultivator; 34 = sub-soiler; 41 = seed driller; 42 = planter; 45 = winnower; 72 = irrigation pipes

Punch card column	FRK	ANIMAL DISEASES/ACCIDENTS WITH ANIMALS
01	/9/4/5/	(Mandatory code)
		<u>ANIMAL DISEASES</u>
		<u>Animal disease 1</u>
07	/ / /	What type of draft animal contracted disease? 01 = cattle; 02 = water buffalo; 03 = horse; 07 = others (specify) _____
09	/ / /	How many of this type of animal contracted a disease?
11	/ /	What disease did these animal(s) contract? 1 = hoof and mouth disease; 2 = cold; 3 = anthrax (high fever due to infection); 4 = brucellosis (disease related to miscarriage or abortion); 5 = rinder pest (cattle disease); 7 = others (specify) _____
12	/ /	Did this animal contract this disease during a period of field activity? 0 = No; 1 = Yes
13	/ / / /	How many days was this field activity delayed?
16	/ / /	How many days were you unable to use this animal for field work? ^{1/}
18-39	skip	
		<u>ACCIDENTS WITH ANIMALS</u>
		<u>Accident 1</u>
40	/ / / /	With what type of draft animal did you have an accident? 01 = cattle; 02 = water buffalo; 03 = horse; 07 = others (specify) _____
42	/ / /	What type of accident occurred? 1 = animal stepped on farmer; 2 = animal pushed farmer; 3 = animal bit farmer; 7 = others (specify) _____
43	/ / /	How serious was the accident? 1 = minor injury (self medication only) 2 = injury required attention of doctor/nurse; 3 = injury required hospitalization; 4 = death
44-65	skip	
66	/ / / / /	Date disease/accident occurred (week + day)
69	/ / /	Cropping season: 1 = wet season; 2 = second season; 3 = third season
70-73	skip	
74	/ / /	Card no.
75	/ / / / /	Farm code
78	/ / / / /	Project code

^{1/} If animal can no longer be used for field work (e.g., permanently incapacitated), record / / / / /.