| GEF Regional Climate, Water and Agriculture Project: |
| Impacts on and Adaptation of Agro-Ecological Systems in Africa. |
| (Project Website: www.ceepa.co.za/Climate_Change/index.html) |
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| Center for Environmental Economics and Policy in Africa (CEEPA), University of Pretoria |
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| Manual for Farm Household Survey Questionnaire: Notes to Country Teams and Interviewers |

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Prepared by
FES, Yale University (USA) and CEEPA, University of Pretoria (South Africa)

This manual supports the farm household questionnaire that has been designed to obtain data to undertake the Ricardian analysis of climate change impacts on agriculture in Africa. The questionnaire attempts to capture information on pertinent variables that would be utilized to calculate net farm revenue as well as explain the variation in net farm revenue, land values and income across several districts, agro-climatic regions and countries in Africa. This manual outlines various tasks that Team Leaders of each country in the study need to undertake both prior to and after the completion of interviews as well instructions and clarifications for the interviewer.

Section I.   General Notes

1. The time period for the survey is the most recent 12 month farming season. Wherever the phrase "last 12 months" is stated in the survey, this refers to the most recent 12 month farming season.

2. Data collection should be based on the survey of predominant FARM TYPES in districts where agriculture is a major activity. The sample selected for the survey should therefore include households and commercial farms engaged in agriculture during the last 12 months. The farm entities should have cultivated land belonging to its' member(s) (i.e. own-farm), to someone else (e.g. rented/sharecropped land (i.e. off-farm), during the last 12 months (see below for details on sampling).

3. Note that for some questions, respondents may provide multiple responses. Please record all such responses.

4. If respondents are unable to provide responses in the specified units, please denote responses in their preferred units and convert to the specified units immediately after completion of the interview.

5. If necessary, please use additional spaces for responses (e.g. on the back of the page on which the question is referred to) with clear reference to the question numbers. These can be incorporated during coding of the data.

Tasks to be Completed prior to surveying

The following tasks should be completed by the *Country Teams* before the interviews are carried out:

1. For the French speaking countries, please translate the questionnaire into French with guidance and assistance from CEEPA.

2. **Sampling**:

The box below highlights the main conclusions reached during the first meeting of the country teams in Capetown in December 2002. The full report (from which the following content is drawn can be accessed at http://www.ceepa.co.za/Climate_Change/events.html:

Design of the Survey and Data Collection Activities

The following survey design was proposed to guide country level data collection efforts:
   a. The number of data collection units such as districts (DS) is to be within the range of 30 - 60. This will require some aggregation or disaggregation of available boundaries of survey units. In countries where the number of districts is less than 30, all the districts must be included in the sample.
   b. Aggregation/disaggregation of sampling units should be guided by a gradient of climate attributes (i.e. significant change in temperature)
   c. Within each survey unit (a district for example), a minimum of two farm types - FT (i.e. large and small) and a maximum of five farm types - FT (allowing for other farming characteristics of relevance to climate change impact analysis such as cropping system, etc.) are to be surveyed
   d. The survey of farming entities within each farm type should target typical farm households in the selected category. It is proposed that a sample of within the range of 5 - 10 households (HH) for each farm type is to be surveyed
   e. The sample size should have a trade-off between the number of households and the number of districts - more households (HH) and less districts (DS) on one hand, and less households (HH) and more districts (DS) on the other, keeping in mind each county must spend between $20,000 and $25,000 on this activity.
   f. A budget of US$ 25 per questionnaire was suggested. This means a sample size for each country in the range of 800 and 1000
   g. For example, if a country has 30 districts given three farm types it will require a sampling of 10 households per district for a total sample size of 900.
   h. Another example, if a country has 60 districts given three farm types it will require a sampling of 5 households per district for a total sample size of 900.
   i. Country teams to advise on budget suggestions

Each country team should select the primary administrative regions involved in agriculture production to sample based on maps sent by Yale. The sample should be based on the 2nd level administrative regions in each country. Country teams should sample from those districts that are regarded as a major agricultural district. **The sample selected should be based on the distribution of small, medium and large farms engaged in agriculture and cover the agro-climatic gradient in the country.** These may include farm operations that are for (a) subsistence only, (b) subsistence and commercial purposes, or (c) purely commercial purposes. **Please send CEEPA a list of the districts to be sampled prior to undertaking the surveys**. This information is also necessary for a number of reasons, including, to enable IWMI (South Africa) to estimate and provide run-off and other essential data for the Ricardian analysis.

3. It is recommended that the country team leaders carefully study the questionnaire, convene a meeting with the team of interviewers and provide explanations for questions in the survey. Interviewers should also familiarize themselves with the content in this manual.

4. It is recommended that as much as possible country teams work with extension workers who are likely to be familiar to farmers in their countries. Experience from the pretest suggests that the implementation of the survey will made easier by working with such groups.

Section II. **Tasks for Team Leaders prior to implementing surveys.**

a) Page 1: Please ensure that the name of the country and institution that will implement the survey is filled out on the first page.

b) The district code (as provided by Yale University) and the assigned household unique ID (see item (h) below) should be clearly written **on each page of the survey** prior to commencing the interviews.

c) Page 2: Q1.0.1. Please provide information to the interviewers on the classification of farm size in your respective countries. This information should have been used as the basis for sample selection.

d) Page 3: Please create a reference key with all local units of measurement of land areas and the corresponding equivalent in HA and provide this information to interviewers. The interviewer will require this information prior to commencing an interview in the event that a respondent uses measurement units that are different from those specified in the survey. Interviewers can then use this reference key to convert measurement units provided by respondents to those specified in the survey after completing each interview.

e) Page 4: Q.3.7.1-Q.3.7.3: Please insert the approximate start and end dates of agriculture seasons in your country. For example, this could take the form of Season 1: Start - week1/Apr; End - week3/Jul. An approximation of the start and end dates is acceptable.

f) Page 12. The questions on income will be utilized as one (among many) indicators of household wellbeing. Given the general sensitivity of this question, interviewers should be careful when obtaining it. If respondents are unwilling to reveal their household income, it is suggested that each country utilize a brief table with possible ranges of income (based on per capita national income distributions in the districts) that respondents can choose from.

   An example (NB: please adjust to appropriate range and use local currency):
   KEY 1: $0-<$100 per month
        2: $100-<$300 per month
        3: $300-<$600 per month
        4: $600-<$1000
        5: $More than $1000 per month

g) Page 12: Q6.3: If respondent is unwilling to provide this information, country team leaders should use government published tax rates and estimate the amount paid in taxes for 6.3.1-6.3.4 based on responses to 6.1 and 6.2.

h) Page 14: Team leaders: please assign a unique ID for each respondent in the survey. The id should be a unique number within the sample size for each district. It is suggested that the ID range from 1 to n where n is the total number of farms sampled in a particular district.

Section III. <u>Instructions to Interviewer:</u>

Page 1:

1. The survey respondent should ideally be the head of the farm entity. However, as the head may not always be available during field visits, the next most senior adult household member should be interviewed.

    In the case of a large-scale farm (commercial entity), the respondent should be the owner of the farm entity. If the owner is not available, the manager or foreman of the farm should be interviewed.

2. Please read the introductory paragraph to the interviewee of the farm entity when contacting to interview. Emphasize that responses will be confidential.

3. If respondent is willing to complete the interview, please record the current time and commence survey.

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The information requested on household composition will be used with other socio-economic variables to explain the variation in productivity and farm revenue across farm households.

1.0.1   Please record the type of farm household been interviewed. This should be inferred from the country's sample design. Team leaders should provide an appropriate scale as specified in Section II (c) of this manual.

1.0.2   Record the relationship of interviewee to the head of the household.
The Family member code (FMC) will be as follows: 1 Head of household/Owner of commercial farm; 2. Husband; 3 Wife; 4: Child; 5 Grandchild; 6 Parent of head of household; 7: Sibling of head of household; 8: Other family member (includes household helpers); 9: Manager of farm operations.

NB: If the manager of a farm is responding to the questions, please ensure that the information in section 1 of the survey refer to the household of the **<u>owner of the farm</u>**. This information should be obtained directly from the owner or with the best of the knowledge of the manager.

1.1   and 1.2 Include the total number of only household members who have been residing (including consuming meals and sleeping) in the household for at least the last 12 months (including infants under 1 year). In the case of the commercial farms, household members refer to the family members of the owner.

1.2.1 – 1.2.6 It is recommended that you start with the household head, then the male or female members of the household.

1.2.1   Code for Gender: 1: Male; 2: Female

1.2.2   Age as of June 30, 2003.

1.2.3 Marital Status: Please use the key provided to denote responses. Married couples include those who have formally entered into marriage, or living together under other traditional arrangement. Other options include previously married but currently divorced, separated, widowed.

1.2.4 Education should be recorded in terms of formal schooling years completed. Additional year(s) spent repeating a school year due to failure to complete for any reason should not be counted. If household member has not been to school denote with zero (0).

1.2.5 An individual is deemed to be working on farm activities, if he/she engaged in any (physical or non-physical) activity that contributes directly or indirectly to the production of output from the household owned or any other farm.

1.2.6 Non-farm activities includes any non-agriculture activities that a household member may be involved in either full- or part-time.

Use additional space on the back of the page if household size is greater 8. Please remember to number the questions and corresponding responses correctly.

1.4 Please use the following key:
   KEY: 1. Nonreligious; 2: Christianity; 3: Islam;
          4; African Traditional Religion; 5: Other (pls. specify_____)

1.5 If the household is connected to the national power grid, denote "1". If the household is NOT connected to the national grid (i.e. has any other source of energy--such as own generator, solar, biogas, etc.), denote "2".

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2.1-2.2   The following classification is an example of possible responses:
   1. Farmer   2. Agriculture (farm) laborer
   3. Artisan   4. Office worker
   5. Civil Servant   6. Teacher
   7. Health worker   8. Trader
   9. Student   10 Unemployed
   11. Not in labor force   12. Other non-agriculture worker

2.3 and 2.5: We are interested in obtaining the average number of days (per week) spent on Primary and secondary occupations. By definition, **one day of work = 6-8 hours of work. (NB: The total number of days spent per week on Primary and Secondary occupation must be = 7)**

2.7`We are interested in a measure of the number of days a person was incapacitated from undertaking any work (both primary and secondary occupations).

Page 3-4
PLEASE NOTE THAT THE **QUESTIONS IN SECTION 3 ARE EXTREMELY IMPORTANT FOR ESTIMATING NET REVENUE**.

NB: Interviewer: Please ensure that the denoted units of the quantity of land in Q3.1a and Q3.1c is converted to the equivalent of HA upon completion of the interview.

3.1a and 3.1.1   Definition of PLOT:
   A.   For small-scale and medium-scale farms:
   (a) If the total farmland is effectively a **single** block of land area (irrespective of its size -- i.e. respondent chose option 1 to question 3.1)**,** then treat the total farmland as 1 PLOT.

   (b) If the total farmland is **divided into several blocks**, (i.e. respondent chose option 2, 3 or 4 in question 3.1) **but the total area of farm land is = 5HA (approximately)**, the farmland is effectively 1 PLOT.

(c) If the total farmland is **divided into several blocks**, and the total area is (approximately) **> 5HA** then treat the **largest area** (as denoted in 3.1a.1) as PLOT 1 and the sum of ALL other areas (3.1a.2 and 3.1a.3) as PLOT 2.

This in effect means the majority of small-scale farms surveyed will have 1 plot, and a few cases will have 2 plots.

Example A:

3.1   H*ow many separated land areas are used as farmland*:_____**4**
3.1a *Please ask about the size of 2 largest Fields:*
3.1a.1   Largest single Area*:*   5
3.1a.2   2nd largest single Area*:*   2
3.1a.3   Cumulative size of all remaining areas*:* 1.5

So, according to the definition in **(A)**, this farm has **2 PLOTS** and
                                Total Area of PLOT1   = 5 (equals amount in 3.1a.1)
                                Total Area of PLOT2   = 3.5 (equals sum of amount in 3.1a.2 and 3.1a.3)

NB:
1/   If units are in something other than HA, then interviewer will need to convert to HA. **COUNTRY TEAM LEADERS:** Please create a key with all local units of measurement of land areas and the corresponding equivalent in HA and provide this information to interviewers. They will require this data prior to commencing an interview.

B. For large scale (commercial) farms:
(a) If the total farmland is effectively **a single block** of land area (irrespective of its size -- i.e. respondent chose option 1 to question 3.1), then treat the total farmland as 1 PLOT.

(b) If the total farmland is **divided into several blocks**, (i.e. respondent chose option 2, 3 or 4 in question 3.1) **but the total area of farm land is = 20HA (approximately)**, the farmland is effectively 1 PLOT.

(c) If the total farmland is **divided into several blocks**, but the total area is (approximately) **> 20HA** then treat the **largest area** (as denoted in 3.1a.1) as PLOT 1 and the sum of ALL other areas (3.1a.2 and 3.1a.3) as PLOT 2.

Example B:

3.1b H*ow many separate areas is used as farmland*:___**4**
3.1c *Please ask about the size of 3 largest Fields:*
3.1c.1   Largest single Area*::*   40
3.1c.2   2nd largest single Area*:*   35
3.1c.3   Cumulative size of all remaining areas*:* 35

So, this large-scale (commercial) farm with *a cumulative area* of 110 HA of farmland (with separate land areas farmed), has effectively **2 plots.**
                                Total Area of PLOT1   = 40 (equals amount in 3.1a.1)
                                Total Area of PLOT2   = 70 (equals sum of amount in 3.1a.2 and 3.1a.3)

NB:
Interviewer: If units are in something other than HA, then interviewer will need to convert to HA.

COUNTRY TEAM LEADERS: Please create a key with all local units of measurement of land areas and the corresponding equivalent in HA and provide this information to interviewers. They will require this data prior to commencing an interview.

3.2 The following classification is an example of possible responses for System of Farming. Please allow for others that may not be in this list. (**Interviewer:** *Please allow for multiple responses.)*

1: Shifting cultivation (With long fallow period)
2: Continuous cropping (no fallow period)
3: Continuous cropping with multiple rotations (includes short fallow period)
4. Livestock grazing land
5. Other (pls. specify . . .)

3.3 The following classification is an example of possible responses for type of tenure (**Interviewer:** *Please allow for multiple responses*.):

1: Own land and own use   2. Own land and rent to others
3: Sharecropped land   4: Communal land
5: Rented land   6: Borrowed land (Do not pay for usage)
7: Other (pls. specify . . .)

3.4`For PLOT 1 (i.e. largest unit of farm land), please ask number of years the plot has been in operation. In the case of Plot 2, please provide an average estimate of the number of years that all other farmland has been operated.

If respondent is unable to provide an average estimate of the number of years that all other areas (i.e PLOT 2) has been in operation, please denote either the number of years that each of the remaining areas have been used as farmland, or the year that each of the separate areas commence operation.   Convert these years into an average immediately after the interview

NB. Interviewer: If the respondent has been farming lands that have been passed to him by family (e.g. heritage) please note the response and code it appropriately. Contact CEEPA or Yale for guidance.

3.6 The purpose of this question is to elicit an approximate value/worth of the farm operations (including value of land, buildings, equipment, animals). If interviewer traditionally inherits or passes land within family/community, please ask question 3.6.1.

3.7.1-3.7.3 Country teams should have inserted the start month and end-month of seasons in each country. An approximate estimate is sufficient.

3.8: Workers include household members as well as hired (full time/part time) labor. Adults are defined as any individual of 16 years of age or older. Children are defined as individuals less than 16 years of age.

3.8.2.1-3.8.2.3 and 3.8.3.1-3.8.3.3 and 3.8.4
For each type of farm activity, please denote the total number of household and hired labor as well as the average number of days worked by the various categories of labor.
The number of workers ("No."). column should record the total number of workers of the specified category.
The "days "column should record the average number of days worked by **1 individual.** By definition, **1 day=6-8 hours** of work completed by 1 individual.

3.9.1 (a-c)   Please denote the average wage/day per class of family member

3.9.1 (e-g)   Please denote the average wage/day per class of hired member

3.9.2 (a-c)   Please denote total in-kind payments/day for each type of family member

3.9.2 (e-g)   Please denote in-kind payments/day for each type of hired member

PLEASE NOTE THAT THE **QUESTIONS IN <u>SECTION 4</u> ARE EXTREMELY IMPORTANT FOR ESTIMATING NET REVENUE**.

4.1 Please use the following key for crops.

1. alfalfa	15. cucumber	29. okra	43. sheanut
2. banana	16. enset	30. onion	44. sorghum
3. barley	17. field pea	31. palm dates	45. soybean
4. beans	18. flax	32. paprika	46. spinach
5. cashew	19. garden-eggs	33. peanuts	47. squash
6. cassava	20. garlic	34. pepper	48. sugarcane
7. chickpeas	21. grape	35. pigeon pea	49. sunflower
8. citrus fruits	22. groundnut	36. pineapple	50. tea
9. clover	23. kola	37. plantain	51. tef
10. cocoa	24. lentil	38. potato	52. tobacco
11. cocoyam	25. mango	39. rice	53. tomato
12. cowpea	26. maize	40. safflower	54. wheat
13. coffee	27. millet	41. sesame	55. yam
14. cotton	28. oil palm	42. shallots	56. other (specify)

If there are crops which are not included in the list, classify them under "56.Other"

4.1.1   Please refer to definition of plot on page 6-7of this manual.

4.1.2   Please refer to crop codes provided under 4.1.

4.2- 4.3 Please provide the approximate dates of planting and harvesting. We require an approximate period during which these activities commence. Please be as specific as possible (e.g. 1st week of April etc).

4.4 Record the proportion of **plot area** cultivated by each crop.

NB: Interviewer: For the following questions (4.5-4.9 and 4.11) respondents can provide their responses in any other appropriate unit. Please convert to the specified unit after completion of the interview.

4.5 This includes all harvests over the specified season.

4.6- 4.7 Enter amount of harvest that is consumed by the household and livestock. If the crop that is consumed is from the 2 specified plots, then estimate the average for a single plot. This amount also includes the amount kept as storage for household consumption.

4.8 Enter amount of crop harvest losses due to disease and pests outbreaks in each season.

4.9   Enter amount (in kgs) of harvest that is sold in the market place. If the amount is specified in another unit, record that unit and convert to kgs AFTER completion of the interview.

4.9a   Please note to whom the output is sold:
KEY for 4.9a: 1. Directly to consumers by farm entity
                    2. Middleman/wholesale establishment who in turn sell output to consumers
                    3. Other

4.10   Please ensure that _**farm -gate** value_ is recorded. This is the value based on what the farmer directly receives from the sale of his output and NOT the market price.

4.11a   If farmer is unable to provide an estimate of the amount of seeds used in kgs, then note the units in which he is able to provide a response (#bags, etc) and convert to kg using a suitable conversion factor. Please ensure the conversion factor is recorded and reported in the final data sets.

4.11b   This is based on the market price of seeds.

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4.12 Please only note codes of 5 principal crops (i.e. in terms of value). Please use crop codes provided for Q4.1 and Q4.1.2.

4.12.1 "Normal Average Yield" refers to the average yield in a year where there are no unusual (e.g. drought etc) weather effects. The normal year can be selected over the previous 5-10 years. The measurement should be in terms of kg/HA. If alternative units are used, record units and convert to kgs/HA on completion of the interview.

4.13.2   Please allow for multiple responses to water sources to farm. The following are examples of likely responses although it is recommended that the interviewer allows for others:

KEY for 4.13.2   1: irrigated- major scheme (public)
                     2: irrigated minor scheme (private)
                     3: irrigated - groundwater
                     4: rain-fed
                     5: Other (pls. specify . . .)

4.13.3   Please note that respondents should be allowed to provide more than one option as an answer.:

KEY for 4.13.3   1: gravity
                     2: sprinklers
                     3: drip systems
                     4: other (please specify in space provided in the column)

4.13.4-4.13.5   Please record the amount (kilograms) of fertilizer and pesticide used in each plot per year.

4.14-4.15 Please record the average cost per kg of inputs (fertilizer and pesticide). If farmers are unable to answer, country teams should denote average price for the district concerned.

NB: Interviewers: 4.13.4 – 4.15 If the unit of measurement is an alternative, please convert to kilograms at the most convenient time immediately AFTER the completion of the interview.

NB: Interviewer: In section 4.16, wherever it states *"Other.....please specify"* use additional space to record each item and information requested in 4.16.1-4.16.3a.

4.16.1   Record the number of each type of primary machinery used in farm activities over the last 12 months.

4.16.2   Machinery can be owned by the farm entity, jointly owned with other households or rented. Please record which of the following options applies for each item of machinery:

    KEY for 4.16.2:   1: household/commercial farm has ownership;
                            2: jointly owned with other households/farm entities
                            3. hired for household or joint use

4.16.3   If a tool, machinery, or implement is privately owned by a member of the farm entity, denote the purchase price/unit. If machinery is hired, record the total fee/unit paid. If jointly owned, enter the amount contributed to the purchase of the jointly owned item.

NB: Team Leaders: If respondent has difficulty answering these questions, country team should estimate value of equipment based on current market price in the districts concerned.

4.16.3a Please provide information on the average lifespan on the machinery. **NB: Country teams** can estimate lifespan based on information from other local sources (such as extension agents).

4.16.4   Please only include buildings owned by the farming entity. Buildings are defined as permanent construction structures that are used specifically for farm activities.

Please provide an approximate value of the buildings and indication of their purpose
        Key: 1: Space for storage of agriculture products;
2: Space for farm activities (crop and livestock activities);
            3: Space for housing of agriculture workers
            4. Space for storage of farm equipment
            5. Other uses

NB: Interviewer: If responses to the value of the building is difficult, please inquire about how much it would cost to purchase a similar building.

4.17.1-4.17.3   Distance can be measured in terms of average kilometers or hours. Preference is to measure in terms of distance. Please specify which unit is used.

4.17.2   KEY:
        1. walk   2.animal   3. cart   4. truck or other motorized vehicle   5. Other (Specify_____)

4.18   If response is no this question, skip following questions and go directly to question 4.20.

4.18.1 and 4.19.1   Wherever it states *"Other.....please specify"* use additional space to record each item and corresponding information requested. If game farming is practiced on the farm, please classify this as also part of "*Other…please specify*" and denote answers to corresponding questions.

4.18.2   Please denote approximate number of animals owned by farm entity at the commencement of the
agric ulture year (i.e. on 1st day of 1st month of the last 12 month period).

4.18.3.1 Include number of animals lost through theft, diseases, prey animals etc. for the year.

4.19.1   Milk Products include cheeses, yogurts etc.

4.19.2 and 4.19.4 **NB: Interviewer:** If responses are in a different unit to kg, please note the new unit during the
interview and then convert to kg/year after the completion of the survey using an appropriate scale. Please
highlight the scale on the survey next to the table.

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4.20   Please record the TOTAL COST per year for each of the row items.
4.20.1.3 and 4.20.2.3: STORAGE COSTS: Storage costs include cost of maintaining agriculture produce (e.g. cost of
granary, refrigeration etc). This includes the physical as well as other storage related costs (e.g. spraying etc).

Section 5 is on extension services. Extension is defined as including any assistance (in the form of advice,
training or information) that farmers receive from an external agent(s).(i.e. not member of household).

5.3   This question is meant to understand whether farmers obtain advice on crop and livestock production from other
sources apart from assistance from official extension agents. This question asks about informal sources of
extension advice.
Key for 5.3:
1:Media; 2:Neighboring farmer, 3:Shopkeepers in village; 4: Others (please specify); 5: none

The option "5: none" means the farmer receives extension information and advice from only formal extension agents.

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NB: Country Teams The questions on income will be utilized as one (among many) indicator of household
wellbeing. Given the general sensitivity of this question, interviewers should be careful when obtaining it. If
respondents are unwilling to reveal their actual household income, it is suggested that the interviewer utilize a
brief table with possible ranges of income (based on per capita national income distributions in the districts that
respondents can choose from.
An example: (NB: please adjust to appropriate range and use local currency):

KEY   1: $0-<$100 per month
       2:    $100-<$300 per month
       3:    $300-<$600 per month
       4:    $600-<$1000
       5:    $More than $1000 per month

(NB: COUNTRY TEAM LEADERS-- Please provide this table to the interviewer

For questions 6.1-6.2.1, **Net** income means income AFTER the amount paid as income tax has been deducted.
"Normal Average Year" refers to a year where there are no unusual (e.g. drought etc) weather effects. The
normal year can be selected over the previous 5-10 years.

6.1 and 6.2   Please note that total NET household income includes income from both farm (own farm and off-
farm (e.g. if household member works on someone else's farm)) and non-farm activities.

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6.1.1 and 6.2.1   These focus on income from non-farm/non-agriculture sources such as salaries, gifts, pensions and other government support.

6.5.2   Examples of sources of agriculture subsidies include:
KEY   1   From the government
2   From NGO
3   From private sector sources
4   From other (please specify source)

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7.0 We would like to know for how long respondent has been practicing farming (in number of years).If respondent has been a farmer all his life, please indicate current age.

In Section 7, we seek brief but detailed responses on the types of adjustments in farming practices such as changing crops, acres planted, planting and harvest dates, that farmers are currently undertaking to rainfall and temperature changes.

Tasks to be Completed AFTER survey is completed
Page 13: **Interviewer**: Please complete this page upon completion of the interview. It is extremely important in order to clarify unusual observations among others reasons (e.g. permit mapping of findings of the survey).

It is highly recommended that contact information for the respondent is also recorded on this page in order to help with any future follow up activities.

Page 9: Q4.16.3a: Country teams should estimate the lifespan of machinery based on information from other local sources (such as extension agents). If respondent has failed to answer this question district averages can then be utilized.

Information on coding of survey data: CEEPA and Yale will provide all country teams with information on coding of the data by end of July 2003.