

## ENDNOTES

<sup>1</sup> At the time of writing, the state of Andhra Pradesh was addressing the move for the formation of a separate state for the Telangana region.

<sup>2</sup> Adger, Agrawala, Mirza et al., 2007; Aguilar, 2009; Alston, 2007; Brody et al., 2008; CAPWIP, 2008; Carr, 2008; Carvajal-Escobar et al., 2008; Chowdhury, n.d.; Dankelman et al., 2008; Lambrou and Piana, 2005; Leduc et al., 2008; Masika, 2002; Mitchell et al., 2007; Röhr, 2004; Segnestam, 2009; Terry, 2009; UNDP, 2009; UNIFEM Australia, 2008; UNISDR, 2008; WEDO, 2007.

<sup>3</sup> Ahmed and Fajber, 2009; Mula et al., 2008; Oxfam America, 2007; Parikh, 2007; Ray-Bennett, 2009; Government of India and UNDP, 2008

<sup>4</sup> For comprehensive overviews of socio-economic development and agriculture in Andhra Pradesh, see, for example, Government of Andhra Pradesh, 2008 and Acosta-Michlik et al., 2005.

<sup>5</sup> The Human Poverty Index measures the distribution of progress in achieving human development through the level of deprivation. Anantapur receives a score of 0.515 (ranking 20 out of 23 districts) and Mahabubnagar receives a score of 0.592 (ranking 22 out of 23) using 2001 figures.

<sup>6</sup> The Gender Development Index is composed of the indicators literacy rate, enrolment rate, life expectancy and per capita GNP, and takes into account the inequality in achievement between women and men. The greater the gender disparity in basic human development, the lower is the GDI of a region. Anantapur receives a score of 0.559 (ranking 19 out of 23) and Mahabubnagar receives a score of 0.493 (ranking 23 out of 23) using 2001 figures.

<sup>7</sup> The Gender Empowerment Measure Index is an indicator of whether women are able to participate actively in economic and political life. Anantapur receives a score of 0.604 (ranking 17 out of 23) and Mahabubnagar receives a score of 0.546 (ranking 23 out of 23) using 2001 figures.

<sup>8</sup> There is a substantial history of research and action to improve gender equality in India and Andhra Pradesh, however challenges persist, such as in achieving concrete improvements in women's empowerment through outreach programs (Garikipati, 2008).

<sup>9</sup> Anantapur experienced 8 years of moderate droughts during the period 1960-1999, or 20 percent of that 40-year period, and Mahabubnagar experienced 9 years with moderate droughts and 1 year with severe drought during the same period, or 25 percent of that 40-year period (Acosta-Michlik et al., 2005).

<sup>10</sup> Note that the definition of "adaptation" varies across different disciplines (Smithers and Smit, 1997) and has come to have a distinct definition in the climate change research and policy-making discourse, which is being used here.

<sup>11</sup> Andhra Pradesh Mahila Samatha Society. Annual Report 2006-2007

<sup>12</sup> Food availability means sufficient quantities of food of appropriate quality, supplied through domestic production or imports (including food aid). Food access refers to access

by individuals to adequate resources (entitlements) for acquiring appropriate foods for a nutritious diet. Utilization means utilization of food through adequate diet, clean water, sanitation and health care to reach a state of nutritional well-being where all physiological needs are met. Stability means having access to adequate food at all times. (FAO, 2006).

<sup>13</sup> Samatha Gender Resource Centre (SGRC) is the gender mainstreaming unit of the Andhra Pradesh Mahila Samatha Society, a Government of India programme dedicated to education for the empowerment of women through collaborating with village women's collectives, "sanghams". [www.apmss.org](http://www.apmss.org)

<sup>14</sup> The combination of the spread of a market economy and government subsidized grains in the region reduced the need for cultivating food crops for home consumption. In addition, oil mills led to an increase in the price for groundnut and the groundnut based cropping system became profitable for farmers (Gadgil et al., 2002).

<sup>15</sup> The surveys were administered to men and women separately so that they did not influence each other's responses.

<sup>16</sup> While this report focuses on the gender roles and relations of husbands and wives, the primary decision-makers in the study households, it is noted that gender roles are more complex than the binary relationship between husband and wife and are shaped over time by other differences such as age, caste and class. For example, while both are "wives", a woman who is a Mother-in-Law will have a different role in a household than a woman who is a Daughter-In-Law. Where possible, the experiences of female heads-of-household are highlighted to demonstrate the experiences of women outside the husband-wife relationship.

<sup>17</sup> Only a single station analysis could be performed due to lack of data.

<sup>18</sup> A threshold of 35 °C was used in the analysis, a maximum upper limit beyond which the physiological processes related to loss of energy and reduced photosynthetic accumulation are induced.

<sup>19</sup> This may enhance the overall energy loss and reduced accumulation of photosynthates due to enhanced respiration. A trend of increasing minimum temperature under a changing climate may have a negative impact on rainfed crop production.

<sup>20</sup> These quotes were extracted from a broader discussion of changes in farmers' lives and reflect farmers' views of changes in climate but not their views of other positive trends that have also occurred in the study area.

<sup>21</sup> The term "changes in weather" here can be considered to be interchangeable with "changes in climate variability" because the term "weather" is used in this sense to mean what climatologists call "climate".

<sup>22</sup> It was not possible within the scope of the study to analyze responses based on age or to analyze in detail the outcomes for different age groups. One-third of farmers reported that their children's education had been disrupted due to the need to put them to work and approximately one-quarter of all respondents reported that their children's health had been affected by changes in the weather. Women were more likely than men to report

that their children were eating less food and that the food was of lesser quality.

<sup>23</sup> While it was beyond the scope of this study, it is critical to understand how coping strategies change over time, and how short-term coping strategies affect long-term options.

<sup>24</sup> The year 2008 was chosen as it was the most recent full year, so it is likely that farmers' memories of their actions are accurate.

<sup>25</sup> This report discusses the most popular coping strategies mentioned by the farmers but does not touch on all coping strategies (or responses) that have been documented in the region. One response to drought not covered here is that of farmer suicide, which has been discussed in research (e.g. World Bank, 2006) and the popular press. During this research, women farmers of Ankilla village of Mahbubnagar district spoke of their concern over the recent suicide deaths of a few farmers in the village. This issue was not brought up in the other study villages, and so it was decided not to pursue it further within this study.

<sup>26</sup> According to the Department of Food & Public Distribution (2010), the Public Distribution System (PDS) "evolved as a major instrument of the Government's economic policy for ensuring availability of foodgrains to the public at affordable prices as well as for enhancing the food security for the poor". The PDS is operated jointly through the Central and State Governments. Under the PDS, the commodities of wheat, rice, sugar and kerosene are distributed via Fair Price Shops.

<sup>27</sup> For more on indebtedness in Andhra Pradesh, including insights into the link between the debt trap and farmer suicides, see Government of India, 2007.

<sup>28</sup> This difference is in line with gender roles in the sphere of financial matters in which men play a dominant role. 51 percent of women noted their husbands had taken loans and 22 percent of men that their wives had taken loans. 8 percent had taken a joint loan. Only 6.5 percent noted they had not taken a loan. Loans were taken mainly for crop and other inputs (80 percent). The main source of the loan is the bank (79 percent).

## ANNEX I. ADDITIONAL INFORMATION ON STUDY PARTICIPANTS

**Education.** Of the 201 farmers (106 females and 95 males in total) who responded to the survey, 70 percent had no formal schooling (women were much more likely than men to have no formal schooling – 87 percent of women versus 51 percent of men surveyed had no formal schooling).

**Religion.** Ninety eight percent of the respondents were Hindu and 2 percent Muslim. Christians participated in some of the qualitative exercises but were not captured in the quantitative survey.

**Caste.** A majority of the sample (54 percent) belonged to the caste traditionally composed of artisans and farm labourers (the “Backward Caste”), and the rest were split almost evenly among the “Scheduled Caste” (also known as “Untouchables” or “Dalits”), “Scheduled Tribes” and “Other Caste”. “From bottom to top of the hierarchy, there are four broad caste categories: scheduled caste (SC – so-called untouchables), backward castes (BC) and other Castes (OC), plus the Scheduled Tribes (ST) which are outside the traditional hierarchy but are generally placed below SCs. BCs were mainly artisans and farm labourers in traditional agrarian society. Economic, political and social power is concentrated in the hands of OCs. In Andhra Pradesh the BC are numerically the strongest, followed by the OC, SC and then ST” (Deshingkar et al. 2003).

**Farming.** The majority of farmers report their land being rainfed only, although some of those farmers also used borewells. While 41 percent of farmers reported having borewells, only 31 percent reported that they had functioning borewells, pointing to the challenges of relying on borewells in the area. The level of mechanization of the farming was low; while 50 percent of respondents had oxen and 38 percent had a power connection for the borewell, only 7 percent had a tractor and 17 percent had sprayers. In addition to growing crops for sale as described in part C of the Methodology section, a small percentage of the farmers owned livestock: 11 percent of households had cows, 14 percent of households owned female buffalos and 23 percent of households owned oxen; a small number of households own goats and sheep. The livestock was used for powering farming activities and for milk for sale.

**Land ownership.** The majority of respondents reported that land was registered only in the husband’s name (73 percent). Land was jointly registered in both the husband’s and wife’s name for 17 percent of the respondents; land was registered in the wife’s name for 8 percent of respondents, and the remaining 2 percent of respondents had the land registered in the name of another family member. For female-headed households, land ownership was in the female head of household’s name in 10 of 11 cases; in the other case it was registered in a child’s name. Land ownership in the name of the woman does

not necessarily mean that she has authority over how the land is used. In fact, registering a portion of land in the wife's name was a strategy used by some men for obtaining assistance or to benefit from loans that were targeted to women, according to observations made by staff of the Samatha Gender Resource Centre who work in the study villages.

## ANNEX II. QUALITATIVE TOOLS USED TO MEET RESEARCH OBJECTIVES

The following tools were used to facilitate focus group discussions with separate groups of men and women. The results were then validated with a group of men and women as well as with key informant interviews. The tools were designed in English and carried out in the local language, Telugu. The research was not presented to the participants as being about climate change. A series of questions about the weather and natural resources were used to establish that farmers have seen changes in the weather and experienced severe droughts. From there the questions shifted to a focus on the impacts of the climatic changes. Note that some tools were used to meet more than one research objective.

**Objective 1.** To characterize the local climate conditions and risks, to identify trends in climate variability over the past four decades (according to recorded data); to compare how recorded data corresponds to men and women farmers' perceptions.

**Seasonal Calendar Past and Present:** To describe the farmers' perceptions of seasonal climate parameters such as typical rainfall amounts and timing as well as average seasonal temperatures over the last forty years at regular intervals of 10 years.

**Ranking:** To document the risks to farm production as perceived by the farmers and to rank them in terms of importance to the farmers.

**Time Line & Trend Analysis:** To document the farm activities, food security and major livelihood opportunities, including migration, during the same decades as the seasonal calendar in order to overlay the climate conditions onto the livelihood activities.

**Water Resources Map Forty Years Ago and Present:** To document farmers' perceptions of water resources including drinking water, water bodies, irrigation sources, rivers and drainage, at two points in time in order to document any changes in entitlement, utilization and related problems as well as perceptions of any changes in water resources and linkages to rainfall distribution.

**Objective 2.** To understand how men and women in farm households perceive and experience climatic shifts and how this is linked to food security.

**Time Line & Trend Analysis:** To document the farm activities, food security and major livelihood opportunities, including migration, during the same decades as the seasonal calendar in order to overlay the climate conditions onto the livelihood activities (as used for objective 1).

**Food Security Annual Calendar:** To show the availability, access and distribution of food within the household as well as the community over the course of a reference year and to examine climate-related factors influencing food access, including access to water for agricultural purposes.

**Guided Focus Group Discussion: Example guiding questions:**

Do you notice any change in the rainfall pattern over these last few decades?  
Do these changes affect you, your family, your community? In what ways?  
When you have crop losses, how do you ensure food security at household level?  
If you migrate, which are the places to which you migrate? Who decides where to migrate to? What happens to the agricultural land?

**Objective 3.** To identify the coping strategies that men and women farmers utilize in order to ensure a measure of food security in response to climate variability; to understand the resources and decision making processes utilized, and to assess the related outcomes for food security.

**Web Exercise on Drought:** To capture the farmers' perceptions of cause and effect of a major past drought event, as well as the impacts and responses, particularly with regard to food security.

**Food Security Cycle:** To show the availability, access and distribution of food within the household as well as the community over the course of a reference year and to document coping strategies at different points in the year including the decision making process and resources used.

**Guided Focus Group Discussion: Example guiding questions:**

When a family gets some food to eat, how is it distributed and is it sufficient for each person? Does this change during a dry year?  
If food was not available, what was the alternative, what do you eat?  
Did any family member have information on growing crops that use less water?  
Did women try to give their inputs and how did the men react to it?  
Was there any change in the crops they cultivated during the drought event?

**Objective 4.** To identify the institutions that support farmer decision making with regard to climate, agriculture and food security and to assess the extent to which institutional support is available, accessible and usable by men and women.

**Venn Diagram:** To identify key institutions farmers utilize; the degree to which men and women farmers can access their services and deem them effective; and the relative importance of the institutions in the farmers' lives.

**Guided Focus Group Discussion:**

Are there programs specifically for women in agriculture or animal or natural resources management? If yes, what organizations are involved?  
What sources of information exist on farming practices?  
Who provides advice on what to plant? Are your neighbors a good source of information?

## ANNEX III. QUANTITATIVE SURVEY

Notes on the survey:

The outputs of the qualitative exercises were used in designing the survey questions and responses. Some aspects are thus specific to the study area but could be modified for use elsewhere.

Additional questions were asked but were not discussed in the report so are not included here.

The surveys were carried out with one man and one woman from the same household separately so that their answers were not influenced by their spouse.

The data from the questionnaires was entered into the Statistical Package for Social Sciences (SPSS). Cross-tabulation analysis was performed to examine gender differences in perceptions of changes in climate and related climate, as well as coping strategies and institutional support. Statistical differences and significances were obtained using chi-square.

### QUESTIONNAIRE

Food and Agriculture Organization of the UN

#### CONSENT FORM

##### Introduction

My name is \_\_\_\_\_, and I am here on behalf of FAO/APMSS. We are conducting a survey of farmers and their family members to understand various issues facing farmers.

##### Purpose and Procedure

This survey will be conducted with farmers in Anantapur and Mahbubnagar Districts of Andhra Pradesh. The findings of this survey will be used as part of a research project that will inform policymakers on issues farmers raise. The interview will take about 45 minutes.

Your participation in this interview is voluntary. All answers you give will be kept completely confidential and will not be reported individually. We are interested in your ideas and experiences, and so we want your frank and honest opinion on these issues. There are no risks in participating in this survey. If, for any reason, there are any questions that you do not wish to respond to, you are free to skip those questions. Do you agree to be interviewed?

##### Respondent agreed to be interviewed

Yes  No

##### Consent has been read to the respondent

Signature of interviewer \_\_\_\_\_

Date \_\_\_\_\_

Village \_\_\_\_\_

Mandal \_\_\_\_\_

District \_\_\_\_\_



Section 1. Profile of Respondent		
No.	Question	Response
101	Questionnaire Number	
102	Respondent's Category	<input type="checkbox"/> Rainfed farmer (primarily) <input type="checkbox"/> Borewell farmer (primarily) <input type="checkbox"/> Big farmer (6-25 acres) <input type="checkbox"/> Female-headed farming household
103	Respondent's Age	<input type="checkbox"/> 40-49 <input type="checkbox"/> 50-59 <input type="checkbox"/> 60-69
104	Respondent's Sex	<input type="checkbox"/> Male <input type="checkbox"/> Female
105	Highest level of education achieved	<input type="checkbox"/> No formal schooling <input type="checkbox"/> Primary school <input type="checkbox"/> Secondary school <input type="checkbox"/> Intermediate <input type="checkbox"/> University degree
106	Respondent's Religion	<input type="checkbox"/> Hindu <input type="checkbox"/> Christian <input type="checkbox"/> Muslim <input type="checkbox"/> Other (specify)
107	Respondent's Caste	<input type="checkbox"/> Scheduled Caste <input type="checkbox"/> Scheduled Tribe <input type="checkbox"/> Backward Caste <input type="checkbox"/> Other Caste <input type="checkbox"/> Others (specify)
108	Details of family members: Number of male adults in household _____ Number of female adults in household _____ Number of male children in household _____ Number of female children in household _____ Number of household members who earn income _____	
109	How many acres of the following land are owned by member(s) of your household? Rainfed land _____ Irrigated land _____	<input type="checkbox"/> Do not know <input type="checkbox"/> No response
110	What is the source of water for your irrigated land?	<input type="checkbox"/> Bore well <input type="checkbox"/> Canal <input type="checkbox"/> Tank <input type="checkbox"/> Pond <input type="checkbox"/> Stream <input type="checkbox"/> Well <input type="checkbox"/> Using neighbour's bore well <input type="checkbox"/> Do not know <input type="checkbox"/> No response
110a	If responded "bore well" to 110, please answer the following: How many bore wells total do you have? _____ How many bore wells function? _____	<input type="checkbox"/> Do not know <input type="checkbox"/> No response
111	How many acres of land are registered under the following names? Husband's name _____ Wife's name _____	

	Wife's and husband's names _____ Son's name _____ Daughter's name _____ Joint property _____ Other (specify) _____ <input type="checkbox"/> Do not know <input type="checkbox"/> No response
112	Which crops does your household grow during the following seasons? (List all answers)  Rabi season (season 1) Rainfed crops _____ Irrigated crops _____  Kharif season (season 2) Rainfed crops _____ Irrigated crops _____  Summer (season 3) Rainfed crops _____ Irrigated crops _____
113	How many of the following types of livestock does your household own? Cows _____ Female Buffaloes _____ Bullocks _____ Male Buffaloes _____ Goats _____ Sheep _____ Pigs _____ Other (specify) _____ <input type="checkbox"/> Do not know <input type="checkbox"/> No response

Section 2. Climate Variability and Seasonal Climate Conditions		
No.	Question	Response
201	Have you noticed any change in the weather from year to year in the past 30 years?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Do not know <input type="checkbox"/> No response
202	What is the change? {Multiple responses possible. Record all responses given.}	<input type="checkbox"/> Increased temperature <input type="checkbox"/> Severe winter <input type="checkbox"/> Mild winter <input type="checkbox"/> Increased unpredictability of weather <input type="checkbox"/> Reduced length of winter season <input type="checkbox"/> Increased length of summer season <input type="checkbox"/> Reduced amount of rainfall <input type="checkbox"/> Rains don't fall at expected time <input type="checkbox"/> Rains arrive late <input type="checkbox"/> Rains arrive early

		<input type="checkbox"/> More floods <input type="checkbox"/> Other (specify) <input type="checkbox"/> Do not know <input type="checkbox"/> No response
203	What are the reasons for the changes that you have seen? {Do NOT read the responses.}	<input type="checkbox"/> Deforestation <input type="checkbox"/> God's curse <input type="checkbox"/> God knows <input type="checkbox"/> Others (specify) <input type="checkbox"/> Do not know <input type="checkbox"/> No response
204	Which of the following changes do you see now compared to thirty years ago because of the changes in the weather? {Read list of responses and record all affirmative responses given.}	<input type="checkbox"/> Poorer yield <input type="checkbox"/> Using different crops <input type="checkbox"/> Reduced size of forest <input type="checkbox"/> Lower amount of fodder <input type="checkbox"/> Decrease in amount of livestock <input type="checkbox"/> Shortage of drinking water <input type="checkbox"/> Wells and ponds drying up <input type="checkbox"/> Health is affected <input type="checkbox"/> Household garden losses <input type="checkbox"/> Crops are drier <input type="checkbox"/> Shortage and scarcity of food due to low yield <input type="checkbox"/> Others (specify) <input type="checkbox"/> Do not know <input type="checkbox"/> No response
205	Who would you say has been most affected by the change in weather between now and 30 years ago?	<input type="checkbox"/> Men <input type="checkbox"/> Women <input type="checkbox"/> Children <input type="checkbox"/> Elderly <input type="checkbox"/> Entire family affected the same <input type="checkbox"/> Do not know <input type="checkbox"/> No response
205a	How are women's lives today different than 30 years ago because of the changes in the weather?	<input type="checkbox"/> Increased violence <input type="checkbox"/> Increased pressure to provide food for the family <input type="checkbox"/> Increased health problems <input type="checkbox"/> Increase in fights/arguments among the family members <input type="checkbox"/> Decreased quantity of food <input type="checkbox"/> Eating different kinds of food <input type="checkbox"/> Decreased quality of the food <input type="checkbox"/> Increased emotional stress/anxiety <input type="checkbox"/> Pressure to mobilize loans <input type="checkbox"/> Pressure to get labour and machines <input type="checkbox"/> Other (specify) <input type="checkbox"/> Do not know <input type="checkbox"/> No response
205b	How are men's lives today different than 30 years ago because of the changes in the weather?	<input type="checkbox"/> Increased violence <input type="checkbox"/> Increased pressure to provide food for the family <input type="checkbox"/> Increased health problems <input type="checkbox"/> Increase in fights/arguments among the family members <input type="checkbox"/> Decreased quantity of food <input type="checkbox"/> Eating different kinds of food <input type="checkbox"/> Decreased quality of the food

		<input type="checkbox"/> Increased emotional stress/anxiety <input type="checkbox"/> Pressure to mobilize loans <input type="checkbox"/> Pressure to get labour and machines <input type="checkbox"/> Other (specify) <input type="checkbox"/> Do not know <input type="checkbox"/> No response
205c	How are children's lives today different than 30 years ago because of the changes in the weather?	<input type="checkbox"/> Disruption in education to seek work <input type="checkbox"/> Marriages get delayed <input type="checkbox"/> Increased health problems <input type="checkbox"/> Decreased quantity of food <input type="checkbox"/> Eating different kinds of food <input type="checkbox"/> Decreased quality of food <input type="checkbox"/> Others (specify) <input type="checkbox"/> Do not know <input type="checkbox"/> No response
206	When did rainfall begin in the year 2008?	<input type="checkbox"/> Rains started early <input type="checkbox"/> Rains started late <input type="checkbox"/> Rains started at normal time <input type="checkbox"/> Other (specify) <input type="checkbox"/> Do not know <input type="checkbox"/> No response
207	What was the amount of rainfall like in 2008?	<input type="checkbox"/> More rains than usual <input type="checkbox"/> Less rains than usual <input type="checkbox"/> Normal, good amount of rain <input type="checkbox"/> Drought <input type="checkbox"/> Other (specify) <input type="checkbox"/> Do not know <input type="checkbox"/> No response
208	Did you do any of the following activities in response to rainfall in 2008?	<input type="checkbox"/> Change cropping pattern <input type="checkbox"/> Shift from crops to livestock <input type="checkbox"/> Change to more cash crops <input type="checkbox"/> Change to more crops we will eat <input type="checkbox"/> Grow more kinds of crops <input type="checkbox"/> Reduce amount of livestock <input type="checkbox"/> Grow low input crops <input type="checkbox"/> Grow crops which require less water <input type="checkbox"/> Cultivate some parts of land and leave rest fallow <input type="checkbox"/> Grow dry fodder crops <input type="checkbox"/> Leave all land fallow <input type="checkbox"/> No change, continued the same crops <input type="checkbox"/> Other (specify) <input type="checkbox"/> Do not know <input type="checkbox"/> No response
209	In a year with less rainfall than you had in 2008, do you make any of the following changes to your farming activities? {Read responses.}	<input type="checkbox"/> Change cropping pattern <input type="checkbox"/> Shift from crops to livestock <input type="checkbox"/> Change to more cash crops <input type="checkbox"/> Change to more crops we will eat <input type="checkbox"/> Grow more kinds of crops <input type="checkbox"/> Reduce amount of livestock <input type="checkbox"/> Grow low input crops <input type="checkbox"/> Grow crops which require less water



		<input type="checkbox"/> Cultivate some parts of land and leave rest fallow <input type="checkbox"/> Grow dry fodder crops <input type="checkbox"/> Leave all land fallow <input type="checkbox"/> Do not know <input type="checkbox"/> No response
210	In a year with more rainfall than you had in 2008, do you make any of the following changes to your farming activities? {Read responses.}	<input type="checkbox"/> Change cropping pattern <input type="checkbox"/> Shift from crops to livestock <input type="checkbox"/> Change to more cash crops <input type="checkbox"/> Change to more crops we will eat <input type="checkbox"/> Grow more kinds of crops <input type="checkbox"/> Reduce amount of livestock <input type="checkbox"/> Grow low input crops <input type="checkbox"/> Grow crops which require less water <input type="checkbox"/> Cultivate some parts of land and leave rest fallow <input type="checkbox"/> Grow dry fodder crops <input type="checkbox"/> Left all land fallow <input type="checkbox"/> Do not know <input type="checkbox"/> No response
211	Who decides to grow different crops or to change cropping patterns?	<input type="checkbox"/> Husband <input type="checkbox"/> Wife <input type="checkbox"/> Husband and Wife <input type="checkbox"/> Grown up children <input type="checkbox"/> Elders in house <input type="checkbox"/> As per government advice <input type="checkbox"/> Others specify _____ <input type="checkbox"/> Do not know <input type="checkbox"/> No response
212	What factors influence the decision to grow different crops or to change cropping patterns?	<input type="checkbox"/> Rainfall <input type="checkbox"/> Investments <input type="checkbox"/> Water availability <input type="checkbox"/> Land fertility <input type="checkbox"/> Market demand <input type="checkbox"/> Availability and access to seeds and fertilizers <input type="checkbox"/> Suitability of crops which give high yields <input type="checkbox"/> Suggestions from agriculture department <input type="checkbox"/> On time supply of power <input type="checkbox"/> Others specify _____ <input type="checkbox"/> Do not know <input type="checkbox"/> No response
213	If there is not enough rain for a few years in a row, do you have to make different decisions than if it lasts for one year?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Do not know <input type="checkbox"/> No response
213a	If yes to 213, what types of decisions do you make?	<input type="checkbox"/> We migrate <input type="checkbox"/> Go for wage labour work <input type="checkbox"/> Go to neighboring villages for labour work <input type="checkbox"/> Do other kinds of work <input type="checkbox"/> Take loans <input type="checkbox"/> Do not know <input type="checkbox"/> No response
214	If the weather is not predictable from year	<input type="checkbox"/> We migrate

	to year, what do you do?	<input type="checkbox"/> Go for wage labour work <input type="checkbox"/> Go to neighbouring villages for labour work <input type="checkbox"/> Do other kinds of work <input type="checkbox"/> Take loans <input type="checkbox"/> Others specify _____ <input type="checkbox"/> Do not know <input type="checkbox"/> No response
215	Even with making changes in your agricultural activities, do low rainfall levels result in impacts on your livelihood and food security?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Do not know <input type="checkbox"/> No response
215a	If yes to 215, what are typical impacts on your agriculture activities in a year with a low amount of rainfall	<input type="checkbox"/> Crop loss <input type="checkbox"/> Low yields <input type="checkbox"/> Food shortage <input type="checkbox"/> Debts increase <input type="checkbox"/> Unable to repay loans <input type="checkbox"/> Others specify _____ <input type="checkbox"/> Do not know <input type="checkbox"/> No response
216	If you suffer from crop loss, what do you do?	<input type="checkbox"/> Migrate <input type="checkbox"/> Go for wage labour work <input type="checkbox"/> Go to neighbouring villages for labour work <input type="checkbox"/> Do other kinds of work <input type="checkbox"/> Take loans <input type="checkbox"/> Others, specify _____ <input type="checkbox"/> Do not know <input type="checkbox"/> No response
217	If there were a drought, what would you do?	<input type="checkbox"/> We migrate <input type="checkbox"/> Go for wage labour work <input type="checkbox"/> Go to neighbouring villages for labour work <input type="checkbox"/> Do other kinds of work <input type="checkbox"/> Take loans <input type="checkbox"/> Take support from relatives / other family members <input type="checkbox"/> Others, specify _____ <input type="checkbox"/> Do not know <input type="checkbox"/> No response

Section 3. Food Security

No.	Question	Response
301	What are your sources of food?	<input type="checkbox"/> Production <input type="checkbox"/> Livestock <input type="checkbox"/> Purchase from open market <input type="checkbox"/> Ration supplied thru PDS <input type="checkbox"/> Wild food <input type="checkbox"/> Food aid <input type="checkbox"/> Other, specify _____ <input type="checkbox"/> Do not know <input type="checkbox"/> No response
302	Was the year 2008 an average year in terms of the amount of food <i>you</i> had to eat?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Do not know <input type="checkbox"/> No response
303	How would you describe the amount of food <i>your family as a whole</i> had to eat during the year of 2008?  {Read responses.}	<input type="checkbox"/> Often not enough to eat <input type="checkbox"/> Sometimes not enough to eat <input type="checkbox"/> Enough but not always the kinds of food we want to eat <input type="checkbox"/> Enough of the food we want to eat <input type="checkbox"/> Was not enough to store due to crop loss <input type="checkbox"/> Do not know <input type="checkbox"/> No response
304	How nutritious do you think the food you and your family consumed this past year was?	<input type="checkbox"/> Very nutritious <input type="checkbox"/> Somewhat nutritious <input type="checkbox"/> Not at all nutritious <input type="checkbox"/> Do not know <input type="checkbox"/> No response
305	Whom do you think gets sufficient food in the family {Do NOT read the responses.} {Multiple responses possible. Record all responses given.}	<input type="checkbox"/> Husband <input type="checkbox"/> Wife <input type="checkbox"/> Both wife and husband <input type="checkbox"/> Grown children <input type="checkbox"/> Elders in family <input type="checkbox"/> All the family members <input type="checkbox"/> Any other, specify _____ <input type="checkbox"/> Do not know <input type="checkbox"/> No response
306	What are the different means through which you acquire food during a year with very little rainfall for year long consumption? {Do NOT read the responses.} {Multiple responses possible. Record all responses given.}	<input type="checkbox"/> Stored produce <input type="checkbox"/> Public distribution system (PDS) <input type="checkbox"/> Buy from open market <input type="checkbox"/> From wife's maternal house <input type="checkbox"/> Wage labour <input type="checkbox"/> Any other (specify) _____ <input type="checkbox"/> Do not know <input type="checkbox"/> No response
307	Are you able to buy sufficient and desired food for the entire family?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Do not know <input type="checkbox"/> No response
308	If there is not sufficient food, how is the food divided among the family members?	<input type="checkbox"/> We all eat less <input type="checkbox"/> The women eat less <input type="checkbox"/> The elders get priority <input type="checkbox"/> Children get priority <input type="checkbox"/> Others, specify _____ <input type="checkbox"/> Do not know <input type="checkbox"/> No response

Section 4. Income and Loans

No.	Question	Response
401	What are the household's main sources of income?	<input type="checkbox"/> Selling products from farm <input type="checkbox"/> Wage labour <input type="checkbox"/> Labour in city <input type="checkbox"/> Selling of milk <input type="checkbox"/> Supported by children / family <input type="checkbox"/> Others, specify _____ <input type="checkbox"/> Do not know <input type="checkbox"/> No response
402	Does the amount of income from selling what you produce on your farm vary from year to year?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Do not know <input type="checkbox"/> No response
402a	If yes to 402, what effects income?	<input type="checkbox"/> Prices <input type="checkbox"/> Weather <input type="checkbox"/> Labour availability
		<input type="checkbox"/> Yield <input type="checkbox"/> Availability of power supply <input type="checkbox"/> Others, specify _____ <input type="checkbox"/> Do not know <input type="checkbox"/> No response
403	Did you or a member of your family take a loan in 2008? {Multiple responses possible. Record all responses given.}	<input type="checkbox"/> Yes, I did <input type="checkbox"/> Yes, my spouse did <input type="checkbox"/> Yes, I took a joint loan with my spouse <input type="checkbox"/> No, we did not take loans <input type="checkbox"/> Other, specify _____ <input type="checkbox"/> Do not know <input type="checkbox"/> No response
403a	If yes to 403a, please provide the following details about the loan(s) taken in 2008.  Purpose Source (e.g. bank) Amount	<hr/> <hr/> <hr/> <input type="checkbox"/> Do not know <input type="checkbox"/> No response
404	How do you repay the loans?	<input type="checkbox"/> By selling land <input type="checkbox"/> By selling crop <input type="checkbox"/> By selling valuables <input type="checkbox"/> With help from wife's maternal family <input type="checkbox"/> By sending children to work <input type="checkbox"/> By selling the milk <input type="checkbox"/> With the income generated from the wages <input type="checkbox"/> With the support from children earning wages in cities or towns <input type="checkbox"/> By taking loans from SHGs <input type="checkbox"/> Others, specify _____ <input type="checkbox"/> Do not know <input type="checkbox"/> No response
405	Did you sell any assets during the year 2008?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Do not know <input type="checkbox"/> No response



405a	If yes to 405, please provide the following details about the sale of assets. Type of asset _____ Why sold _____	<input type="checkbox"/> Do not know <input type="checkbox"/> No response
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Section 5. Institutional Support		
No.	Question	Response
501	What are the benefits you are getting from the government and other agencies?	<input type="checkbox"/> PDS ration card <input type="checkbox"/> Housing <input type="checkbox"/> Old age pension <input type="checkbox"/> Widow pension <input type="checkbox"/> Disabled pension <input type="checkbox"/> NREG Card <input type="checkbox"/> Thrift and credit through Self-help groups <input type="checkbox"/> Rythu mitra (farmers group) <input type="checkbox"/> Arogya Sree (medical insurance) <input type="checkbox"/> Support from NGOs, specify _____ <input type="checkbox"/> Others, specify _____ <input type="checkbox"/> Do not know <input type="checkbox"/> No response
502	Which are the government departments from which you get support for farming activities?	<input type="checkbox"/> Agricultural department <input type="checkbox"/> Bank <input type="checkbox"/> Cooperative bank <input type="checkbox"/> Mandal /Block office <input type="checkbox"/> Meteorological department <input type="checkbox"/> Irrigation department <input type="checkbox"/> Fisheries department <input type="checkbox"/> Horticulture department <input type="checkbox"/> DRDA <input type="checkbox"/> District water management agency (DWMA) <input type="checkbox"/> Ground water department <input type="checkbox"/> NREGA <input type="checkbox"/> Animal Husbandry <input type="checkbox"/> Health department <input type="checkbox"/> Others, specify _____ <input type="checkbox"/> Do not know <input type="checkbox"/> No response
503	What is the support you get from these departments?	<input type="checkbox"/> Information and suggestions regarding agricultural practices <input type="checkbox"/> Subsidy for fertilizers, seeds and other farming inputs <input type="checkbox"/> Crop loans from bank <input type="checkbox"/> Cattle loans from bank <input type="checkbox"/> Agriculture implements loans from banks <input type="checkbox"/> Crop loans from cooperative society <input type="checkbox"/> Cattle loans from cooperative society <input type="checkbox"/> Agriculture implements loans from cooperative society <input type="checkbox"/> Purchase of our farm produce

504	Did you or a family member go for NREG work during the year 2008?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Do not know <input type="checkbox"/> No response
505	As a farmer what kind of support do you want or expect from government?	<input type="checkbox"/> Timely (on time) information and suggestions regarding agricultural practices <input type="checkbox"/> Timely subsidy for fertilizers, seeds and other farming inputs <input type="checkbox"/> Timely loans commercial banks and cooperative society <input type="checkbox"/> Timely purchase of our farm produce through market yards with minimum support price <input type="checkbox"/> Timely compensation for crop damage <input type="checkbox"/> Subsidized sprinklers and drip irrigation equipment <input type="checkbox"/> Strengthening and repair of ponds/tanks <input type="checkbox"/> Permanent source of irrigation <input type="checkbox"/> Financial assistance for bore wells <input type="checkbox"/> Lift irrigation schemes <input type="checkbox"/> Sufficient 9 hours power supply <input type="checkbox"/> Others, specify _____ <input type="checkbox"/> Do not know <input type="checkbox"/> No response
506	As a farmer do you get any information on cropping patterns/agronomic practices?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Do not know <input type="checkbox"/> No response
506a	If yes to 506, who has access to information on cropping patterns/agronomic practices?	<input type="checkbox"/> Big farmers <input type="checkbox"/> Marginal farmers <input type="checkbox"/> Small farmers <input type="checkbox"/> Women farmers <input type="checkbox"/> All of the above <input type="checkbox"/> Others, specify _____ <input type="checkbox"/> Do not know <input type="checkbox"/> No response
507	Where do you learn about what the weather will be like?	<input type="checkbox"/> Radio <input type="checkbox"/> Newspaper <input type="checkbox"/> Television <input type="checkbox"/> Neighbor <input type="checkbox"/> Family member <input type="checkbox"/> Don't pay attention to the weather predictions <input type="checkbox"/> Based on traditional knowledge <input type="checkbox"/> Through agriculture department <input type="checkbox"/> Others, specify _____ <input type="checkbox"/> Do not know <input type="checkbox"/> No response

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