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# Improved mungbean harvesting in Myanmar and Bangladesh

## SURVEY IDENTIFICATION INFORMATION QUESTIONNAIRE DESCRIPTION

### HOUSEHOLD IDENTIFICATION

No sub-sections, No rosters, Questions: 12, Static texts: 1.

### HOUSEHOLD ROSTER

No sub-sections, Rosters: 1, Questions: 10.

### MUNGBEAN PRODUCTION

Sub-sections: 3, Rosters: 11, Questions: 88, Static texts: 1, Variables: 18.

### MUNGBEAN VIEWS AND PRACTICES

Sub-sections: 3, No rosters, Questions: 62, Static texts: 3.

### GENERAL FARMING INFORMATION

Sub-sections: 1, Rosters: 3, Questions: 45, Static texts: 2, Variables: 3.

### LIVESTOCK AND FISH

No sub-sections, Rosters: 1, Questions: 12.

### OTHER ECONOMIC ACTIVITIES

No sub-sections, Rosters: 1, Questions: 7.

### WOMEN IN MUNGBEAN PRODUCTION

Sub-sections: 2, No rosters, Questions: 42, Static texts: 4.

### INTERVIEWER DEBRIEFING

No sub-sections, No rosters, Questions: 5.

### APPENDIX A — VALIDATION CONDITIONS AND MESSAGES

### APPENDIX B — OPTIONS

### APPENDIX C — VARIABLES

### LEGEND

# SURVEY IDENTIFICATION INFORMATION

## QUESTIONNAIRE DESCRIPTION

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### Basic information

*Title* Improved mungbean harvesting in Myanmar and Bangladesh  
*Version identifier* 13 June 2018

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### Survey data information

*Study type* Agricultural Survey  
*Kind of data* Sample survey data [ssd]  
*Mode of Data Collection* CAPI

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### Survey information

*Country* Myanmar  
*Year* 2018  
*Languages* English, Burmese  
*Unit of analysis* Household  
*Coverage* Major mungbean growing areas  
*Universe* Mungbean farmers (Growing mungbean in the past 12 months)  
*Primary Investigator* Lutz Depenbusch, Cathy Rozel Farnworth, Sayla Khondoker, Theingi Myint, Thuzar Myint, Abdur Rashid, Aye Moe San, Pepijn Schreinemachers  
*Funding* Australian Centre for International Agricultural Research (ACIAR)

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### Additional info

*Notes* This project is organized by the World Vegetable Center in Cooperation with Yezin Agricultural University and Bangladesh Agricultural Research Institute

# HOUSEHOLD IDENTIFICATION

Household ID	NUMERIC: INTEGER SCOPE: IDENTIFYING -----	hhid
For which organization do you work?	SINGLE-SELECT SCOPE: IDENTIFYING 01 <input type="radio"/> Bangladesh Agricultural Research Institute 02 <input type="radio"/> Yezin Agricultural University	inst
In which region is the household?	SINGLE-SELECT SCOPE: IDENTIFYING 01 <input type="radio"/> Magway 02 <input type="radio"/> Sagaing 03 <input type="radio"/> Bago 04 <input type="radio"/> Yangon	region
Date and time of the interview	DATE: CURRENT TIME -----	A2

STATIC TEXT

Good morning/afternoon. My name is [YOUR NAME] and I am from %inst%.

We are doing a study on mungbean production. We are particularly interested in the effect of improved varieties and agricultural practices on costs and returns in mungbean production as well as the effect of mechanization in mungbean production. Because both men and women are usually involved in mungbean production, and the effect of mechanization may be different for each person, we would like to ask some questions to you as well as to your spouse. Apart from mungbean-related questions, we will ask some general questions about you, your farm, and your household to understand the context of your farm operation.

This interview will use a list of standard questions and will take about 1 hour to complete. Your responses will help us to understand better how mungbean is produced in the country and the problems farmers face.

I would like to emphasize that this interview is for research only and your answers will always be kept strictly confidential and never be revealed to any other people. I would like you to answer the questions truthfully, in your best possible way, and to the best of your knowledge. If you don't know the answer to some of the questions, simply tell me. You can tell me at any time if you'd like a break or if you would like to discontinue the interview.

What is the name of the primary respondent?	TEXT -----	A9a
What is the name of the secondary respondent?  I The secondary respondent is the woman most involved in mungbean production. If the primary respondent is a woman, there is no secondary respondent.	TEXT -----	A9d
You did not enter a name for the secondary respondent. Is there no secondary respondent? Consider that this should only be the case if the primary respondent is a woman or there is no woman (or girl of sufficient age) in the household.  E //Enable if the name of the secondary respondent has less than 2 letters String.IsNullOrEmpty(A9d)	SINGLE-SELECT 00 <input type="radio"/> No, there is a secondary respondent 01 <input type="radio"/> Yes, there is no secondary respondent.	A9d_1
What is the name of the township?	TEXT SCOPE: IDENTIFYING -----	township

What is the name of the village?	TEXT SCOPE: IDENTIFYING	village
Do you consent to participate in this interview?	SINGLE-SELECT 00 <input type="radio"/> No 01 <input type="radio"/> Yes	consent1
If you consent to participate in this interview, would you kindly sign here? E consent1==1	PICTURE	signature1
What is the phone number of the respondent? E consent1==1	TEXT	A9c

## HOUSEHOLD ROSTER

I would like to start by asking you a few questions about the members of your household. Can you please <u>list the names of all people who regularly lived in your house and shared meals over the last 6 month</u> ? Please start with your self. Second, your spouse, if you are married and she/he lives with you.	LIST	B1names
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### HOUSEHOLD ROSTER

#### Roster: HOUSEHOLD ROSTER

generated by list question [B1names](#)

B1

What is the sex of %rostertitle%?	SINGLE-SELECT 00 <input type="radio"/> Male 01 <input type="radio"/> Female	B1a
Which relationship does %rostertitle% have to the household head? E1 /*----- validation to make sure only one person is reported to be the household head -----*/ B1b==1? /// Is this person the hou <a href="#">And 189 other symbols [1]</a> M1 There must be only one person in the household designated as head. E2 /* Check that head has different gender than spouse(s) * / // if head is current person, and does at least one spouse exist? B1b==1 && B1.Any(x=>x.B1b==2) ? // if so, check that there is no spouse <a href="#">And 136 other symbols [1]</a> M2 The head and his/her spouse typically have different genders. Please confirm. E3 /* Check that spouse has different gender than head * / / if head is current person, and does at least one spouse exist? B1b==2 && B1.Any(x=>x.B1b==1) ? // if so, check whether spouse has different <a href="#">And 109 other symbols [1]</a> M3 Spouse typically has a different genders than his/her spouse (the head of household). Please confirm. E4 /*Check that there are at most 2 parent*/ // if current person is father/mother? B1b==6? //check that there are no more than 2 (B1.Count(x=>x.B1b==6)<=2) //if not, no problem :true M4 Household head has at most 1 father and mother. E5 /* Checks if no household head was listed. Note: this runs at the end so it does not trigger errors constantly * / // Check that all information has been filled B1.All(x=>x.B1b!=null) ? // If <a href="#">And 103 other symbols [1]</a> M5 No household member was identified as the household head. Please confirm.	SINGLE-SELECT 01 <input type="radio"/> Household head 02 <input type="radio"/> Spouse 03 <input type="radio"/> Son/daughter 04 <input type="radio"/> Son in law/daughter in law 05 <input type="radio"/> Grandson/ganddaughter 06 <input type="radio"/> Parent 07 <input type="radio"/> Parent in law 08 <input type="radio"/> Brother/sister 09 <input type="radio"/> Brother in law/sister in law 10 <input type="radio"/> Nephew/niece 11 <input type="radio"/> Cousins 12 <input type="radio"/> Other family member 13 <input type="radio"/> Non-family member	B1b

Please specify the relation %rosteritle% has to the household head	TEXT <span style="float: right;">B1c</span>
E B1b==12    B1b==13	-----
How old is %rosteritle%	NUMERIC: INTEGER <span style="float: right;">B1d</span>
I Only enter completed years. Infants that are less than 12 month old are recorded as "0".	-----
E1 self.InRange(0,120)	
M1 Please enter a valid age.	
For how many years did %rosteritle% attend a school or another form of formal education?	NUMERIC: INTEGER <span style="float: right;">B1e</span>
E B1d>=6 && (@rowcode==1    @rowcode==2)	-----
E1 (B1d - B1e) > 4	
M1 Compared to the age these are too many years of education.	
What is the ethnicity you identify your household with?	SINGLE-SELECT <span style="float: right;">B3</span>
	01 <input type="radio"/> Burmese 02 <input type="radio"/> Kachin 03 <input type="radio"/> Kayin 04 <input type="radio"/> Kayar 05 <input type="radio"/> Chin 06 <input type="radio"/> Mon 07 <input type="radio"/> Rakhine 08 <input type="radio"/> Shan 09 <input type="radio"/> Other, specify
What is the name of the "other" ethnicity?	TEXT <span style="float: right;">B3b</span>
E B3==9	-----
What is the religion you identify your household with?	SINGLE-SELECT <span style="float: right;">B4</span>
	01 <input type="radio"/> Buddhist 02 <input type="radio"/> Christian 03 <input type="radio"/> Hindu 04 <input type="radio"/> Muslim 05 <input type="radio"/> Other 06 <input type="radio"/> None
What is the name of the "other" religion?	TEXT <span style="float: right;">B4b</span>
E B4==5	-----

## MUNGBEAN PRODUCTION

In total, what is the size of the land you own or hold a cultivation certificate for?	NUMERIC: DECIMAL <span style="float: right;">D0</span>
I Do not include land that is leased-in.	-----
Unit of land size	SINGLE-SELECT <span style="float: right;">D0_1</span>
	01 <input type="radio"/> acres 02 <input type="radio"/> square meters 03 <input type="radio"/> hectar 04 <input type="radio"/> square feet 05 <input type="radio"/> decimal/decimel

In total, how many %D0_1% did you lease in for farming during the last 12 months?	NUMERIC: DECIMAL -----	D0_2
How much rent did you pay for this (MMK per year)? E D0_2>0	NUMERIC: INTEGER -----	D0_3
VARIABLE (D0+D0_2)*(Areaconversion[(int)D0_1].conversion)	DOUBLE	D0_4
Who is the main person <u>making the decision which inputs to use</u> in mungbean production on your farm? F B1d >= 15	SINGLE-SELECT: LINKED	D1a
Who is the main person <u>making the decision when to plant</u> mungbean on your farm? F B1d>=15	SINGLE-SELECT: LINKED	D1b
Who is the main person <u>making the decision when and how to harvest</u> mungbean on your farm? F B1d>=15	SINGLE-SELECT: LINKED	D1c
Who is the main person <u>making the decision to whom to sell your mungbean and at which price ?</u> F B1d>=15	SINGLE-SELECT: LINKED	D1d

MUNGBEAN PRODUCTION  
Roster: MUNGBEAN ROSTER  
generated by fixed list

D2

- 01 Pre-monsoon
- 02 Winter
- 03 Monsoon

In %rostertitle% season, on how many acres did you grow mungbean? I Enter "0" if not grown in the season. E1 D2a<=D0_4 M1 The mungbean area is larger than the area owned and leased-in (%D0_4% acres).	NUMERIC: DECIMAL -----	D2a
Around which date did you plant mungbean in %rostertitle% season? E D2a>0	DATE .....	D2b
What crop(s) did you grow on this area before? E D2a>0	TEXT .....	D2c
How many days did it take after sowing mungbean until the first harvest? E D2a>0 W1 self.InRange(50, 110) M1 Please double check the answer. Mungbean usually takes between 55 and 110 days to mature.	NUMERIC: INTEGER -----	D2d

<p>How many times did you harvest in %rosteritle% season?</p> <p>E D2a&gt;0 W1 self.InRange(1, 5) M1 Please double check the answer. Usually mungbean is harvested up to three times? (The question is about the times harvested, not the total number of days spend on harvesting.)</p>	<p>NUMERIC: INTEGER <span style="float: right;">D2e</span></p> <p>-----</p>
<p>How many days did it take from the first harvest until you finished the last?</p> <p>I Include the days in which no harvesting did take place. E D2a&gt;0 W1 self&lt;30 M1 Please double check the value. The time span is very long.</p>	<p>NUMERIC: INTEGER <span style="float: right;">D2f</span></p> <p>-----</p>
<p>In which unit do you measure mungbean for harvest and selling?</p> <p>E D2a&gt;0</p>	<p>SINGLE-SELECT <span style="float: right;">D2g_0</span></p> <p>01 <input type="radio"/> kg 02 <input type="radio"/> tons 03 <input type="radio"/> pounds 04 <input type="radio"/> baskets 05 <input type="radio"/> Viss 06 <input type="radio"/> Other</p>
<p>Please define the unit</p> <p>E D2g_0==6</p>	<p>TEXT <span style="float: right;">D2g_0a</span></p> <p>-----</p>

MUNGBEAN PRODUCTION / MUNGBEAN ROSTER  
Roster: MUNGBEAN HARVESTS

generated by numeric question D2e

D2g

E D2e>=1

<p>What was total quantity of harvest No.%rosteritle%? (In %D2g_0%)</p> <p>I The unit must be the same as in the previous question!</p>	<p>NUMERIC: DECIMAL <span style="float: right;">D2g_1</span></p> <p>-----</p>
<p>How much of harvest No.%rosteritle% did you sell? (In %D2g_0%)</p> <p>E D2g_1&gt;0 E1 self&lt;=D2g_1 M1 The sold quantity cannot be larger than the harvested quantity.</p>	<p>NUMERIC: DECIMAL <span style="float: right;">D2g_2</span></p> <p>-----</p>
<p>What was the price you received per unit (%D2g_0%) after harvest No.%rosteritle% ? (In MMK)</p> <p>E D2g_2&gt;0</p>	<p>NUMERIC: INTEGER <span style="float: right;">D2g_3</span></p> <p>-----</p>
<p>VARIABLE D2g_2*D2g_3</p>	<p>DOUBLE <span style="float: right;">D2g_3a</span></p>
<p>In which form did you sell the mungbeans?</p> <p>E D2g.Sum(x=&gt;x.D2g_2)&gt;0</p>	<p>MULTI-SELECT <span style="float: right;">D2g_4</span></p> <p>01 <input type="checkbox"/> In pods 02 <input type="checkbox"/> Shelled 03 <input type="checkbox"/> Other</p>
<p>Please define the form the mungbeans were sold in.</p> <p>E D2g_4.Contains(3)</p>	<p>TEXT <span style="float: right;">D2g_5</span></p> <p>-----</p>

<p>VARIABLE D2g.Sum(x=&gt;x.D2g_1) - D2g.Sum(x=&gt;x.D2g_2)</p>	<p>DOUBLE <span style="float:right">d2h_1</span></p>
<p>How many %D2g_0% did you reserve for own consumption, sharing with others, or usage as seed?</p> <p>I Use the same unit as for the harvest! E d2h_1&gt;0 E1 self&lt;=d2h_1 M1 The quantity cannot be more than the difference between what was harvested and what was sold (In this case: %D2h_1% %D2g_0%)</p>	<p>NUMERIC: DECIMAL <span style="float:right">d2h</span></p> <p>-----</p>
<p>How many %D2g_0% were spoiled before sale or consumption?</p> <p>E d2h_1&gt;0 E1 self&lt;=d2h_1 M1 The quantity cannot be more than the difference between what was harvested and what was sold (In this case: %D2h_1% %D2g_0%).</p>	<p>NUMERIC: DECIMAL <span style="float:right">d2i</span></p> <p>-----</p>
<p>VARIABLE d2h_1 - d2h - d2i</p>	<p>DOUBLE <span style="float:right">d2i_1</span></p>
<p>Mungbean harvested - Mungbean sold - Mungbean for consumption - Mungbean lost = %D2i_1% %D2g_0%. What happened with this difference? Or needs something to be corrected?</p> <p>I It is sufficient to explain or correct differences above 5% of the yield. E // only show the question where the difference is larger than 5 percent: d2i_1&gt;=(D2g.Sum(x=&gt;x.D2g_1)*0.05)</p>	<p>TEXT <span style="float:right">d2i_2</span></p> <p>-----</p>
<p>What kind of trader did you primarily sell to?</p> <p>E //only ask this question for one season D2.Count(x=&gt;x.D2a&gt;0)==1 &amp;&amp; D2a&gt;0</p>	<p>SINGLE-SELECT <span style="float:right">d2j</span></p> <p>01 <input type="radio"/> Trader that is only active in the same village (at farm gate) 02 <input type="radio"/> Trader that is only active in the same village (outside farm) 03 <input type="radio"/> Local trader (at farm gate) 04 <input type="radio"/> Local trader (outside farm) 05 <input type="radio"/> Regional trader (at farm gate) 06 <input type="radio"/> Regional trader (outside farm) 07 <input type="radio"/> Directly to exporter (at farm gate) 08 <input type="radio"/> Directly to exporter (outside farm) 09 <input type="radio"/> Other</p>
<p>Please define the trader</p> <p>E d2j==9</p>	<p>TEXT <span style="float:right">d2j_1</span></p> <p>-----</p>
<p>How many years have you been selling to this trader?</p> <p>I If the farmer sells to the trader for less than one year, enter "0". E //only ask this question for one season D2j&gt;0 W1 self&lt;40 M1 This is a very long time, please double check.</p>	<p>NUMERIC: INTEGER <span style="float:right">d2j_2</span></p> <p>-----</p>
<p>How much did you need to pay to transport the mungbean to the trader in %rosteritle% season? Please do not include cost for hired labor.</p> <p>E d2j.InList(2,4,6,8,9) W1 self&lt;(D2g.Sum(x=&gt;x.D2g_3a)*0.15) M1 The transport to the trader cost more than 15% of the crop income. Please double check.</p>	<p>NUMERIC: INTEGER <span style="float:right">d2j_3</span></p> <p>-----</p>

<p>Did you also sell to another kind of trader in the last 12 months?</p> <p>E d2j&gt;0</p>	<p>SINGLE-SELECT <span style="float: right;">d2k</span></p> <p>01 <input type="radio"/> Trader that is only active in the same village (at farm gate)</p> <p>02 <input type="radio"/> Trader that is only active in the same village (outside farm)</p> <p>03 <input type="radio"/> Local trader (at farm gate)</p> <p>04 <input type="radio"/> Local trader (outside farm)</p> <p>05 <input type="radio"/> Regional trader (at farm gate)</p> <p>06 <input type="radio"/> Regional trader (outside farm)</p> <p>07 <input type="radio"/> Directly to exporter (at farm gate)</p> <p>08 <input type="radio"/> Directly to exporter (outside farm)</p> <p>09 <input type="radio"/> Other</p>
<p>Please define the trader</p> <p>E d2k==5</p>	<p>TEXT <span style="float: right;">d2k_1</span></p> <p>.....</p>

MUNGBEAN PRODUCTION / MUNGBEAN ROSTER  
**USE OF MACHINES**

E d2a>0

<p>What did you use for land preparation?</p> <p>E1 !self.Contains(1)    self.Containsonly(1)</p> <p>M1 The harvest can either be fully manual or not.</p>	<p>MULTI-SELECT <span style="float: right;">d21</span></p> <p>01 <input type="checkbox"/> Only Manual</p> <p>02 <input type="checkbox"/> Bulls</p> <p>03 <input type="checkbox"/> Hand tractor</p> <p>04 <input type="checkbox"/> Tractor</p> <p>05 <input type="checkbox"/> Other</p>
<p>Please define the other tool or machine used for land preparation</p> <p>E d21.Contains(5)</p>	<p>TEXT <span style="float: right;">d21_1</span></p> <p>.....</p>
<p>How much did you pay to rent the tools/machinery/animals for land preparation?</p> <p>I If owned by the household, ask for the usual rate in the area.</p> <p>E d21.ContainsAny(2, 3, 4, 5)</p> <p>W1 self&lt;(D2g.Sum(x=&gt;x.D2g_3a)*0.2)</p> <p>M1 The rental cost is more than 20% of the crop income. Please double check.</p>	<p>NUMERIC: INTEGER <span style="float: right;">d21_2</span></p> <p>-----</p>
<p>Which <u>engine powered</u> machines did you use for harvest?</p> <p>I Do not include transport to the market, as we already captured this when asking about the trader. Do include transport from the field to the household.</p> <p>E d2g.Sum(x=&gt;x.D2g_1)&gt;0</p> <p>E1 self.Containsonly(1)    !self.Contains(1)</p> <p>M1 You cannot collect "None" and another value at the same time.</p>	<p>MULTI-SELECT <span style="float: right;">d2m</span></p> <p>01 <input type="checkbox"/> None</p> <p>02 <input type="checkbox"/> Thresher</p> <p>03 <input type="checkbox"/> Hand tractor</p> <p>04 <input type="checkbox"/> Truck</p> <p>05 <input type="checkbox"/> Combine</p> <p>06 <input type="checkbox"/> Other</p>
<p>Please define the other engine powered machine used for harvesting</p> <p>I Only include engine powered machinery under "Other", no hand tools, etc.</p> <p>E d2m.Contains(6)</p>	<p>TEXT <span style="float: right;">d2m_1</span></p> <p>.....</p>
<p>How much did you pay to rent the thresher?</p> <p>I If owned by household, ask for usual rental rate in the area.</p> <p>E d2m.Contains(2)</p> <p>W1 self&lt;(D2g.Sum(x=&gt;x.D2g_3a)*0.2)</p> <p>M1 The rent is more than 20% of the crop income. Please double check.</p>	<p>NUMERIC: INTEGER <span style="float: right;">d2m_2</span></p> <p>-----</p>

<p>How much did you pay to rent the hand tractor?</p> <p>I If owned by household, ask for usual rental rate in the area. E D2m.Contains(3) W1 <math>self &lt; (D2g.Sum(x=&gt;x.D2g_3a) * 0.1)</math> M1 The rent is more than 10% of the crop income. Please double check.</p>	<p>NUMERIC: INTEGER <span style="float: right;">D2m_3</span></p> <p>-----</p>
<p>How much did you pay to rent the truck?</p> <p>I If owned by household, ask for usual rental rate in the area. E D2m.Contains(4) W1 <math>self &lt; (D2g.Sum(x=&gt;x.D2g_3a) * 0.1)</math> M1 The rent is more than 10% of the crop income. Please double check.</p>	<p>NUMERIC: INTEGER <span style="float: right;">D2m_4</span></p> <p>-----</p>
<p>How much did you pay to rent the combine?</p> <p>I If owned by household, ask for usual rental rate in the area. E D2m.Contains(5) W1 <math>self &lt; (D2g.Sum(x=&gt;x.D2g_3a) * 0.25)</math> M1 The rent of the combine is more than 25% of the crop income. Please double check.</p>	<p>NUMERIC: INTEGER <span style="float: right;">D2m_5</span></p> <p>-----</p>
<p>At what time did you harvest with the combine harvester</p> <p>E D2m.Contains(5)</p>	<p>SINGLE-SELECT <span style="float: right;">D2m_5b</span></p> <p>01 <input type="radio"/> At the first harvest 02 <input type="radio"/> At the second harvest 03 <input type="radio"/> At the third harvest 04 <input type="radio"/> At 4th harvest or later</p>
<p>How much did you pay to rent the %D2m_1%?</p> <p>I If owned by household, ask for usual rental rate in the area. E D2m.Contains(6) W1 <math>self &lt; (D2g.Sum(x=&gt;x.D2g_3a) * 0.1)</math> M1 The cost to rent the %D2m_1% is more than 10% of the crop income. Please double check.</p>	<p>NUMERIC: INTEGER <span style="float: right;">D2m_6</span></p> <p>-----</p>
<p>Did you use any other engine powered machines in the production of your mungbean?</p> <p>I Do not include the transport from the farm to the trader as we have captured the cost of this before.</p>	<p>SINGLE-SELECT <span style="float: right;">D2n</span></p> <p>00 <input type="radio"/> No 01 <input type="radio"/> Yes</p>
<p>What was the machine and what did you use it for?</p> <p>E D2n==1</p>	<p>TEXT <span style="float: right;">D2n_1</span></p> <p>-----</p>
<p>How much did you pay for this service?</p> <p>I If owned by the household, ask for the usual rate in the area. E D2n==1 W1 <math>self &lt; (D2g.Sum(x=&gt;x.D2g_3a) * 0.1)</math> M1 The cost to rent this machine is more than 10% of the crop income. Please double check.</p>	<p>NUMERIC: INTEGER <span style="float: right;">D2n_2</span></p> <p>-----</p>
<p>VARIABLE (@rowcode==1)? D2g.Sum(x=&gt;x.D2g_3a): -99</p>	<p>DOUBLE <span style="float: right;">D2o_1</span></p>
<p>VARIABLE (@rowcode==2)? D2g.Sum(x=&gt;x.D2g_3a): -99</p>	<p>DOUBLE <span style="float: right;">D2o_2</span></p>
<p>VARIABLE (@rowcode==3)? D2g.Sum(x=&gt;x.D2g_3a): -99</p>	<p>DOUBLE <span style="float: right;">D2o_3</span></p>

VARIABLE D2g.Sum(x=>x.D2g_3a) - ((D2j_3>0)? D2j_3:0) - ((D2l_2>0)? D2l_2:0) - ((D2m_2>0)? D2m_2:0) - ((D2m_3>0)? D2m_3:0) - ((D2m_4>0)? D2m_4:0) - ((D2m_5>0)? D2m_5:0) - ((D2m_6>0)? D2m_6:0) - ((D2n_2>0)? D2n_2)	DOUBLE	D2o
--	--------	-----

[And 3 other symbols \[1\]](#)

STATIC TEXT

*(Total crop income from sales minus transport and machinery is %D2o%)*

VARIABLE D2.Max(x=>x.D2o_1)>0? D2.Max(x=>x.D2o_1):(D2.Max(x=>x.D2o_2)>0? D2.Max(x=>x.D2o_2):D2.Max(x=>x.D2o_3))	DOUBLE	D2_0
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VARIABLE D2.Max(x=>x.D2o_2)	DOUBLE	D2_0b
--------------------------------	--------	-------

VARIABLE D2.Max(x=>x.D2o_3)	DOUBLE	D2_0c
--------------------------------	--------	-------

VARIABLE (laborcost[@rowcode].costlimit)*100	DOUBLE	D2_0d
---	--------	-------

Do parts of the area where you grow mungbean have a steep slope?	SINGLE-SELECT 00 <input type="radio"/> No 01 <input type="radio"/> Yes	D3a
--	--	-----

How many acres of the planted area are steeply sloped?  E D3a==1 E1 self <= D2.Max(x=>x.D2a) M1 The acreage is larger than the largest area grown in any of the three seasons.	NUMERIC: DECIMAL  -----	D3b
--	-------------------------------	-----

Is the entire area accessible by a rice/mini combine or a tractor?	SINGLE-SELECT 00 <input type="radio"/> No 01 <input type="radio"/> Yes	D3c
--	--	-----

How many acres of the planted area are not accessible?  E D3c==0 E1 self <= D2.Max(x=>x.D2a) M1 The acreage is larger than the largest area grown in any of the three seasons.	NUMERIC: DECIMAL  -----	D3d
--	-------------------------------	-----

MUNGBEAN PRODUCTION  
Roster: MUNGBEAN INPUTS  
generated by fixed list

D4

- 01 Seed
- 02 Fertilizer
- 03 Pesticides
- 04 Herbicides
- 05 Other chemicals
- 06 Irrigation water
- 07 Direct Taxes and other fees (Inc. fees for water management etc.)
- 08 Fuel (Diesel, etc.)
- 09 Manure
- 10 Others

<p>In the last season you produced mungbean, <u>how much %rosteritle%</u> did you use?</p> <p>E @rowcode!=6 &amp;&amp; @rowcode!=7</p>	<p>NUMERIC: DECIMAL <span style="float: right;">D4a</span></p> <p>-----</p>
<p>Specify the unit</p> <p>E D4a&gt;0</p>	<p>SINGLE-SELECT <span style="float: right;">D4b</span></p> <p>01 <input type="radio"/> Basket</p> <p>02 <input type="radio"/> Bag 25kg</p> <p>03 <input type="radio"/> Bag 50kg</p> <p>04 <input type="radio"/> Gram</p> <p>05 <input type="radio"/> kg</p> <p>06 <input type="radio"/> Liter</p> <p>07 <input type="radio"/> cc</p> <p>08 <input type="radio"/> ml</p> <p>09 <input type="radio"/> Gallon</p> <p>10 <input type="radio"/> Pyi</p> <p>11 <input type="radio"/> Cart</p> <p>12 <input type="radio"/> Other</p>
<p>Please specify the unit</p> <p>E D4b==12</p>	<p>TEXT <span style="float: right;">D4b_1</span></p> <p>-----</p>
<p>Please define the other input</p> <p>E @rowcode==10 &amp;&amp; D4a&gt;0</p>	<p>TEXT <span style="float: right;">D4_1</span></p> <p>-----</p>
<p>What was the <u>price per unit</u>?</p> <p>E D4a&gt;0 &amp;&amp; !@rowcode.InRange(2, 8) //Do not ask for unit price for fertilizer, chemical inputs, water, and taxes</p> <p>W1 (D4a*self)&lt;(D2_0*0.2)</p> <p>M1 This cost is more than 20% of income from the mungbean sales in the season.</p>	<p>NUMERIC: INTEGER <span style="float: right;">D4c</span></p> <p>-----</p>
<p>How much did you <u>pay</u> for %rosteritle% <u>in total</u> during the last season to grow mungbean?</p> <p>E (@rowcode.InRange(2, 8)    @rowcode==10) &amp;&amp; !(@rowcode==2 &amp;&amp; D4a==0)</p> <p>W1 self&lt;(D2_0*0.2)</p> <p>M1 This cost is more than 20% of income from the mungbean sales in the season.</p>	<p>NUMERIC: INTEGER <span style="float: right;">D4d</span></p> <p>-----</p>
<p>Now I would like to ask about the labor you needed to grow mungbean the last season you produced it. Which of the following groups worked in any step of production?</p>	<p>MULTI-SELECT: YES/NO <span style="float: right;">D5_0</span></p> <p>01 <input type="checkbox"/> / <input type="checkbox"/> hired women</p> <p>02 <input type="checkbox"/> / <input type="checkbox"/> hired men</p> <p>03 <input type="checkbox"/> / <input type="checkbox"/> women of the family</p> <p>04 <input type="checkbox"/> / <input type="checkbox"/> men of the family</p> <p>05 <input type="checkbox"/> / <input type="checkbox"/> women of the community who helped</p> <p>06 <input type="checkbox"/> / <input type="checkbox"/> men of the community who helped</p> <p>07 <input type="checkbox"/> / <input type="checkbox"/> Girls (&lt;15 years old)</p> <p>08 <input type="checkbox"/> / <input type="checkbox"/> Boys (&lt;15 years old)</p>

MUNGBEAN PRODUCTION  
Roster: WORKING HOURS AND WAGES  
generated by fixed list

D5

- 01 Ploughing
- 02 Harrowing
- 03 Levelling
- 04 Sowing
- 05 Fertilizer application

- 06 Weeding
- 07 Pesticide application
- 08 Harvesting
- 09 Threshing
- 10 Drying
- 11 Transportation
- 12 Others

MUNGBEAN PRODUCTION / WORKING HOURS AND WAGES  
**Roster: LABOR BY PRODUCTION STEP**  
 generated by multi-select question [D5\\_0](#)

D5\_1

How many days worked %rosteritle% on %D5%?	NUMERIC: INTEGER	D5a
-----		
On average how many %rosteritle% worked on this each day?	NUMERIC: INTEGER	D5b
-----		
E D5a>=1		
How many hours did each %rosteritle% work per day (on average)?	NUMERIC: DECIMAL	D5c
-----		
E D5a>=1		
W1 self<12		
M1 You entered a daily working time above 12 hours. Please double check your answer.		
E2 self<18		
M2 The number of working hours per person is unreasonably high.		
How much were %rosteritle% payed per day for this activity?	NUMERIC: INTEGER	D5d
-----		
E (@rowcode==1    @rowcode==2) && D5a>=1		
W1 self<20000		
M1 Are you sure every person got that much for each day they worked?		
VARIABLE (@rowcode==1    @rowcode==2)? (D5a * D5b * D5d):0	DOUBLE	D5d_1
VARIABLE D5_1.Sum(x=>x.D5d_1)	DOUBLE	D5_2
DO NOT READ OUT: The labor cost is more than %D2_0d%% of the crop income. Did you probe the answers? (Laborcost is %D5_2% while mungbean income in the season was %D2_0%)	SINGLE-SELECT 00 <input type="radio"/> No 01 <input type="radio"/> Yes	D5_2b
E (D5_2 / D2_0) > (laborcost[@rowcode].costlimit)		

MUNGBEAN PRODUCTION  
**MUNGBEAN PRODUCTION IN WINTER SEASON**

E D2.Count(x=>x.@rowcode==2 && x.D2a>0)>0 && D2.Count(x=>x.@rowcode==1 && x.D2a>0)>0

In the last Winter season, did you buy different amounts of any input to grow mungbean?

- MULTI-SELECT: YES/NO d7\_1\_0
- 01  /  Seed
  - 02  /  Fertilizer
  - 03  /  Pesticides
  - 04  /  Herbicides
  - 05  /  Other chemicals
  - 06  /  Irrigation
  - 07  /  Direct Taxes and other fees
  - 08  /  Fuel (Diesel etc)
  - 09  /  Manure
  - 10  /  Others

MUNGBEAN PRODUCTION / MUNGBEAN PRODUCTION IN WINTER SEASON  
**Roster: MUNGBEAN INPUTS**

generated by multi-select question [d7\\_1\\_0](#)

d7\_1

E d7\_1\_0.Yes.Length>=1

<p>In the last Winter season, how much %rosteritle% did you use?</p> <p>E @rowcode!=6 &amp;&amp; @rowcode!=7</p>	<p>NUMERIC: DECIMAL <span style="float: right;">d7_1a</span></p> <p>-----</p>
<p>Specify the unit</p> <p>E d7_1a&gt;0</p>	<p>SINGLE-SELECT <span style="float: right;">d7_1b</span></p> <ul style="list-style-type: none"> <li>01 <input type="radio"/> Basket</li> <li>02 <input type="radio"/> Bag 25kg</li> <li>03 <input type="radio"/> Bag 50kg</li> <li>04 <input type="radio"/> Gram</li> <li>05 <input type="radio"/> kg</li> <li>06 <input type="radio"/> Liter</li> <li>07 <input type="radio"/> cc</li> <li>08 <input type="radio"/> ml</li> <li>09 <input type="radio"/> Gallon</li> <li>10 <input type="radio"/> Pyi</li> <li>11 <input type="radio"/> Cart</li> <li>12 <input type="radio"/> Other</li> </ul>
<p>Please specify the unit</p> <p>E d7_1b==12</p>	<p>TEXT <span style="float: right;">d7_1b_1</span></p> <p>-----</p>
<p>Please define the other input</p> <p>E @rowcode==10 &amp;&amp; d7_1a&gt;0</p>	<p>TEXT <span style="float: right;">d7_1_1</span></p> <p>-----</p>
<p>What was the price per unit?</p> <p>E d7_1a&gt;0 &amp;&amp; !@rowcode.InRange(2, 8) //Do not ask for unit price for chemical inputs, water, and taxes</p> <p>W1 (d7_1a*se1f)&lt;(d2_0b*0.2)</p> <p>M1 This cost is more than 20% of income from the mungbean sales in the season.</p>	<p>NUMERIC: INTEGER <span style="float: right;">d7_1c</span></p> <p>-----</p>
<p>How much did you pay for %rosteritle% in total during the last season to grow mungbean?</p> <p>E (@rowcode.InRange(2, 8)    @rowcode==10) &amp;&amp; !(@rowcode==2 &amp;&amp; d7_1a==0)</p> <p>W1 se1f&lt;(d2_0b*0.2)</p> <p>M1 This cost is more than 20% of income from the mungbean sales in the season.</p>	<p>NUMERIC: INTEGER <span style="float: right;">d7_1d</span></p> <p>-----</p>

<p>In the last Winter season, was any activity in mungbean production done with more or less workers from one of the groups?</p>	<p>MULTI-SELECT: YES/NO <span style="float: right;">d7_2_0</span></p> <p>01 <input type="checkbox"/> / <input type="checkbox"/> Ploughing</p> <p>02 <input type="checkbox"/> / <input type="checkbox"/> Harrowing</p> <p>03 <input type="checkbox"/> / <input type="checkbox"/> Levelling</p> <p>04 <input type="checkbox"/> / <input type="checkbox"/> Sowing</p> <p>05 <input type="checkbox"/> / <input type="checkbox"/> Fertilizer application</p> <p>06 <input type="checkbox"/> / <input type="checkbox"/> Weeding</p> <p>07 <input type="checkbox"/> / <input type="checkbox"/> Pesticide application</p> <p>08 <input type="checkbox"/> / <input type="checkbox"/> Harvesting</p> <p>09 <input type="checkbox"/> / <input type="checkbox"/> Threshing</p> <p>10 <input type="checkbox"/> / <input type="checkbox"/> Drying</p> <p>11 <input type="checkbox"/> / <input type="checkbox"/> Transportation</p> <p>12 <input type="checkbox"/> / <input type="checkbox"/> Others</p>
--	---

<p>Which of the following groups worked in these activities?</p> <p>E D7_2_0.Yes.Length&gt;=1</p>	<p>MULTI-SELECT <span style="float: right;">d7_2_0b</span></p> <p>01 <input type="checkbox"/> hired women</p> <p>02 <input type="checkbox"/> hired men</p> <p>03 <input type="checkbox"/> women of the family</p> <p>04 <input type="checkbox"/> men of the family</p> <p>05 <input type="checkbox"/> women of the community who helped</p> <p>06 <input type="checkbox"/> men of the community who helped</p> <p>07 <input type="checkbox"/> Girls (&lt;15 years old)</p> <p>08 <input type="checkbox"/> Boys (&lt;15 years old)</p>
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MUNGBEAN PRODUCTION / MUNGBEAN PRODUCTION IN WINTER SEASON

Roster: WORKING HOURS AND WAGES

generated by multi-select question [d7\\_2\\_0](#)

d7\_2

E D7\_2\_0.Yes.Length>=1

MUNGBEAN PRODUCTION / MUNGBEAN PRODUCTION IN WINTER SEASON / WORKING HOURS AND WAGES

Roster: LABOR BY PRODUCTION STEP

generated by multi-select question [d7\\_2\\_0b](#)

d7\_2\_1

<p>How many days worked %rosteritle% on %D7_2%?</p>	<p>NUMERIC: INTEGER <span style="float: right;">d7_2a</span></p> <p>-----</p>
<p>On average how many %rosteritle% worked on this each day?</p> <p>E D7_2a&gt;=1</p>	<p>NUMERIC: INTEGER <span style="float: right;">d7_2b</span></p> <p>-----</p>
<p>How many hours did each %rosteritle% work per day (on average)?</p> <p>E D7_2a&gt;=1</p> <p>W1 self&lt;12</p> <p>M1 You entered a daily working time above 12 hours. Please double check your answer.</p> <p>E2 self&lt;18</p> <p>M2 The number of working hours per person is unreasonably high.</p>	<p>NUMERIC: DECIMAL <span style="float: right;">d7_2c</span></p> <p>-----</p>
<p>How much were %rosteritle% paid per day for this activity?</p> <p>E (@rowcode==1    @rowcode==2) &amp;&amp; D7_2a&gt;=1</p> <p>W1 self&lt;20000</p> <p>M1 Are you sure every person got that much for each day they worked?</p>	<p>NUMERIC: INTEGER <span style="float: right;">d7_2d</span></p> <p>-----</p>

VARIABLE (@rowcode==1    @rowcode==2)? (D7_2a * D7_2b * D7_2d):0	DOUBLE	D7_2d_1
VARIABLE D7_2_1.Sum(x=>x.D7_2d_1)	DOUBLE	D7_2_2
DO NOT READ OUT: The labor cost is more than %D2_0d%% of the crop income. Did you probe the answers? (Laborcost is %D7_2_2% while mungbean income in the season was %D2_0b%) E (D7_2_2 / D2_0b) > (laborcost[@rowcode].costlimit)	SINGLE-SELECT 00 <input type="radio"/> No 01 <input type="radio"/> Yes	D7_2_2b

MUNGBEAN PRODUCTION  
MUNGBEAN PRODUCTION IN MONSOON SEASON

E D2.Count(x=>x.@rowcode==3 && x.D2a>0)>0 && (D2.Count(x=>x.@rowcode==1 && x.D2a>0)>0 || D2.Count(x=>x.@rowcode==2 && x.D2a>0)>0)

In the last monsoon season, did you buy different amounts of any input?	MULTI-SELECT: YES/NO 01 <input type="checkbox"/> / <input type="checkbox"/> Seed 02 <input type="checkbox"/> / <input type="checkbox"/> Fertilizer 03 <input type="checkbox"/> / <input type="checkbox"/> Pesticides 04 <input type="checkbox"/> / <input type="checkbox"/> Herbicides 05 <input type="checkbox"/> / <input type="checkbox"/> Other chemicals 06 <input type="checkbox"/> / <input type="checkbox"/> Irrigation 07 <input type="checkbox"/> / <input type="checkbox"/> Direct Taxes and other fees 08 <input type="checkbox"/> / <input type="checkbox"/> Fuel (Diesel etc) 09 <input type="checkbox"/> / <input type="checkbox"/> Manure 10 <input type="checkbox"/> / <input type="checkbox"/> Others	D8_1_0
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MUNGBEAN PRODUCTION / MUNGBEAN PRODUCTION IN MONSOON SEASON  
Roster: MUNGBEAN INPUTS

generated by multi-select question [D8\\_1\\_0](#)

D8\_1

E D8\_1\_0.Yes.Length>=1

In the last monsoon season you produced mungbean, how much %rosteritle% did you use? E @rowcode!=6 && @rowcode!=7	NUMERIC: DECIMAL -----	D8_1a
Specify the unit E D8_1a>0	SINGLE-SELECT 01 <input type="radio"/> Basket 02 <input type="radio"/> Bag 25kg 03 <input type="radio"/> Bag 50kg 04 <input type="radio"/> Gram 05 <input type="radio"/> kg 06 <input type="radio"/> Liter 07 <input type="radio"/> cc 08 <input type="radio"/> ml 09 <input type="radio"/> Gallon 10 <input type="radio"/> Pyi 11 <input type="radio"/> Cart 12 <input type="radio"/> Other	D8_1b
Please specify the unit E D8_1b==12	TEXT .....	D8_1b_1

<p>Please define the other input</p> <p>E @rowcode==10 &amp;&amp; D8_1a&gt;0</p>	<p>TEXT <span style="float: right;">D8_1_1</span></p> <p>-----</p>
<p>What was the price per unit?</p> <p>E D8_1a&gt;0 &amp;&amp; !@rowcode.InRange(2, 8) //Do not ask for unit price for chemical inputs, water, and taxes</p> <p>W1 (D8_1a*se1f)&lt;(D2_0c*0.2)</p> <p>M1 This cost is more than 20% of income from the mungbean sales in the season.</p>	<p>NUMERIC: INTEGER <span style="float: right;">D8_1c</span></p> <p>-----</p>
<p>How much did you pay for %rosteritle% in total during the last season to grow mungbean?</p> <p>E (@rowcode.InRange(2, 8)    @rowcode==10) &amp;&amp; !(@rowcode==2 &amp;&amp; D8_1a==0)</p> <p>W1 se1f&lt;(D2_0c*0.2)</p> <p>M1 This cost is more than 20% of income from the mungbean sales in the season.</p>	<p>NUMERIC: INTEGER <span style="float: right;">D8_1d</span></p> <p>-----</p>
<p>In the last monsoon season, was any activity in mungbean production done with more or less workers from one of the groups?</p>	<p>MULTI-SELECT: YES/NO <span style="float: right;">D8_2_0</span></p> <p>01 <input type="checkbox"/> / <input type="checkbox"/> Ploughing</p> <p>02 <input type="checkbox"/> / <input type="checkbox"/> Harrowing</p> <p>03 <input type="checkbox"/> / <input type="checkbox"/> Levelling</p> <p>04 <input type="checkbox"/> / <input type="checkbox"/> Sowing</p> <p>05 <input type="checkbox"/> / <input type="checkbox"/> Fertilizer application</p> <p>06 <input type="checkbox"/> / <input type="checkbox"/> Weeding</p> <p>07 <input type="checkbox"/> / <input type="checkbox"/> Pesticide application</p> <p>08 <input type="checkbox"/> / <input type="checkbox"/> Harvesting</p> <p>09 <input type="checkbox"/> / <input type="checkbox"/> Threshing</p> <p>10 <input type="checkbox"/> / <input type="checkbox"/> Drying</p> <p>11 <input type="checkbox"/> / <input type="checkbox"/> Transportation</p> <p>12 <input type="checkbox"/> / <input type="checkbox"/> Others</p>
<p>Which of the following groups worked in these activities?</p> <p>E D8_2_0.Yes.Length&gt;=1</p>	<p>MULTI-SELECT <span style="float: right;">D8_2_0b</span></p> <p>01 <input type="checkbox"/> hired women</p> <p>02 <input type="checkbox"/> hired men</p> <p>03 <input type="checkbox"/> women of the family</p> <p>04 <input type="checkbox"/> men of the family</p> <p>05 <input type="checkbox"/> women of the community who helped</p> <p>06 <input type="checkbox"/> men of the community who helped</p> <p>07 <input type="checkbox"/> Girls (&lt;15 years old)</p> <p>08 <input type="checkbox"/> Boys (&lt;15 years old)</p>

MUNGBEAN PRODUCTION / MUNGBEAN PRODUCTION IN MONSOON SEASON

Roster: WORKING HOURS AND WAGES

generated by multi-select question [D8\\_2\\_0](#)

D8\_2

E D8\_2\_0.Yes.Length>=1

MUNGBEAN PRODUCTION / MUNGBEAN PRODUCTION IN MONSOON SEASON / WORKING HOURS AND WAGES

Roster: LABOR BY PRODUCTION STEP

generated by multi-select question [D8\\_2\\_0b](#)

D8\_2\_1

<p>How many days worked %rosteritle% on %D8_2%?</p>	<p>NUMERIC: INTEGER <span style="float: right;">D8_2a</span></p> <p>-----</p>
---	---

<p>On average how many %rosteritle% worked on this each day?</p> <p>E D8_2a&gt;=1</p>	<p>NUMERIC: INTEGER</p> <p>d8_2b</p> <p>-----</p>
<p>How many hours did each %rosteritle% work per day (on average)?</p> <p>E D8_2a&gt;=1</p> <p>W1 self&lt;12</p> <p>M1 You entered a daily working time above 12 hours. Please double check your answer.</p> <p>E2 self&lt;18</p> <p>M2 The number of working hours per person is unreasonably high.</p>	<p>NUMERIC: DECIMAL</p> <p>d8_2c</p> <p>-----</p>
<p>How much were %rosteritle% payed per day for this activity?</p> <p>E (@rowcode==1    @rowcode==2) &amp;&amp; D8_2a&gt;=1</p> <p>W1 self&lt;20000</p> <p>M1 Are you sure every person got that much for each day they worked?</p>	<p>NUMERIC: INTEGER</p> <p>d8_2d</p> <p>-----</p>
<p>VARIABLE</p> <p>(@rowcode==1    @rowcode==2)? (D8_2a * D8_2b * D8_2d):0</p>	<p>DOUBLE</p> <p>d8_2d_1</p>
<p>VARIABLE</p> <p>D8_2_1.Sum(x=&gt;x.D8_2d_1)</p>	<p>DOUBLE</p> <p>d8_2_2</p>
<p>DO NOT READ OUT: The labor cost is more than %D2_0d%% of the crop income. Did you probe the answers? (Laborcost is %D8_2_2% while mungbean income in the season was %D2_0c%)</p> <p>E (D8_2_2 / D2_0c) &gt; (laborcost[@rowcode].costlimit)</p>	<p>SINGLE-SELECT</p> <p>d8_2_2b</p> <p>00 <input type="radio"/> No</p> <p>01 <input type="radio"/> Yes</p>

## MUNGBEAN VIEWS AND PRACTICES

### MUNGBEAN VIEWS AND PRACTICES VIEWS ON MUNGBEAN HARVESTING

STATIC TEXT

*Please tell me on a scale from 1, meaning you strongly disagree, to 5, meaning you fully agree, howstrongly you agree with the following statements.*

<p>Manual harvesting of mungbean requires little effort.</p>	<p>SINGLE-SELECT</p> <p>d9_1_5a</p> <p>01 <input type="radio"/> Strongly disagree</p> <p>02 <input type="radio"/> Disagree</p> <p>03 <input type="radio"/> Neutral</p> <p>04 <input type="radio"/> Agree</p> <p>05 <input type="radio"/> Strongly agree</p>
<p>Manual harvesting of mungbean takes a lot of time from women.</p>	<p>SINGLE-SELECT</p> <p>d9_1_5b</p> <p>01 <input type="radio"/> Strongly disagree</p> <p>02 <input type="radio"/> Disagree</p> <p>03 <input type="radio"/> Neutral</p> <p>04 <input type="radio"/> Agree</p> <p>05 <input type="radio"/> Strongly agree</p>

<p>Manual harvesting of mungbean takes a lot of time from men.</p>	<p>SINGLE-SELECT <span style="float: right;">D9_1_5c</span></p> <p>01 <input type="radio"/> Strongly disagree</p> <p>02 <input type="radio"/> Disagree</p> <p>03 <input type="radio"/> Neutral</p> <p>04 <input type="radio"/> Agree</p> <p>05 <input type="radio"/> Strongly agree</p>
<p>If mungbean could be harvested by machine it would benefit our entire village community.</p>	<p>SINGLE-SELECT <span style="float: right;">D9_1_5d</span></p> <p>01 <input type="radio"/> Strongly disagree</p> <p>02 <input type="radio"/> Disagree</p> <p>03 <input type="radio"/> Neutral</p> <p>04 <input type="radio"/> Agree</p> <p>05 <input type="radio"/> Strongly agree</p>
<p>Our family enjoys working together in the field harvesting mungbean.</p>	<p>SINGLE-SELECT <span style="float: right;">D9_1_5e</span></p> <p>01 <input type="radio"/> Strongly disagree</p> <p>02 <input type="radio"/> Disagree</p> <p>03 <input type="radio"/> Neutral</p> <p>04 <input type="radio"/> Agree</p> <p>05 <input type="radio"/> Strongly agree</p>
<p>Machine mungbean harvesting would exclude women from the harvesting process.</p>	<p>SINGLE-SELECT <span style="float: right;">D9_1_5f</span></p> <p>01 <input type="radio"/> Strongly disagree</p> <p>02 <input type="radio"/> Disagree</p> <p>03 <input type="radio"/> Neutral</p> <p>04 <input type="radio"/> Agree</p> <p>05 <input type="radio"/> Strongly agree</p>
<p>Women can operate farm machinery equally well as men.</p>	<p>SINGLE-SELECT <span style="float: right;">D9_1_5g</span></p> <p>01 <input type="radio"/> Strongly disagree</p> <p>02 <input type="radio"/> Disagree</p> <p>03 <input type="radio"/> Neutral</p> <p>04 <input type="radio"/> Agree</p> <p>05 <input type="radio"/> Strongly agree</p>
<p>Manual harvesting of mungbean is among the most arduous types of work on the farm</p>	<p>SINGLE-SELECT <span style="float: right;">D9_1_5h</span></p> <p>01 <input type="radio"/> Strongly disagree</p> <p>02 <input type="radio"/> Disagree</p> <p>03 <input type="radio"/> Neutral</p> <p>04 <input type="radio"/> Agree</p> <p>05 <input type="radio"/> Strongly agree</p>
<p>The problem with mechanization is that it reduces work and income for landless people.</p>	<p>SINGLE-SELECT <span style="float: right;">D9_1_5i</span></p> <p>01 <input type="radio"/> Strongly disagree</p> <p>02 <input type="radio"/> Disagree</p> <p>03 <input type="radio"/> Neutral</p> <p>04 <input type="radio"/> Agree</p> <p>05 <input type="radio"/> Strongly agree</p>

MUNGBEAN VIEWS AND PRACTICES  
**MUNGBEAN CULTIVATION PRACTICE**

STATIC TEXT

*Now I would like to ask you about the techniques you use when growing mungbean*

From where did you obtain mungbean seed for your most recent cultivation?	<p>SINGLE-SELECT <span style="float: right;">D9_2</span></p> <p>01 <input type="radio"/> Saved from my previous harvest</p> <p>02 <input type="radio"/> Bought it from the grain/open market</p> <p>03 <input type="radio"/> Bought it from a seed dealer/company</p> <p>04 <input type="radio"/> Received it from a research station</p> <p>05 <input type="radio"/> Received from extension</p> <p>06 <input type="radio"/> Received from fellow female farmer</p> <p>07 <input type="radio"/> Received from fellow male farmer</p> <p>08 <input type="radio"/> Other (Specify)</p>
Please define the source of mungbean seed	<p>TEXT <span style="float: right;">D_9_2a</span></p> <p>.....</p>
E D9_2==8	
Did you grow an improved mungbean variety?	<p>SINGLE-SELECT <span style="float: right;">D9_2_1</span></p> <p>00 <input type="radio"/> No, grew a local variety</p> <p>01 <input type="radio"/> Yes, grew an improved variety</p>
Which mungbean variety did you grow primarily?	<p>SINGLE-SELECT <span style="float: right;">D9_2_2</span></p> <p>-98 <input type="radio"/> Don't know</p> <p>01 <input type="radio"/> Yezin 11</p> <p>02 <input type="radio"/> Yezin 14</p> <p>03 <input type="radio"/> Yezin 1</p> <p>04 <input type="radio"/> Yezin 9</p> <p>05 <input type="radio"/> MAS 1</p> <p>06 <input type="radio"/> Mya Kyae Mon</p> <p>07 <input type="radio"/> Other</p>
E D9_2_1==1	
Please name the other mungbean variety	<p>TEXT <span style="float: right;">D9_2_2b</span></p> <p>.....</p>
E D9_2_2==7	
For how many years are you growing this variety already?	<p>NUMERIC: INTEGER <span style="float: right;">D3_2_3</span></p> <p>-----</p>
E D9_2_1==1	
W1 self<=20	
M1 Make sure the person really grows the variety for more than 20 years	
Which mungbean variety did you use before?	<p>SINGLE-SELECT <span style="float: right;">D9_2_4</span></p> <p>-98 <input type="radio"/> Don't know</p> <p>00 <input type="radio"/> Unimproved variety</p> <p>01 <input type="radio"/> Yezin 11</p> <p>02 <input type="radio"/> Yezin 14</p> <p>03 <input type="radio"/> Yezin 1</p> <p>04 <input type="radio"/> Yezin 9</p> <p>05 <input type="radio"/> MAS 1</p> <p>06 <input type="radio"/> Mya Kyae Mon</p> <p>07 <input type="radio"/> Other</p>
E D9_2_1==1	
Please name the other mungbean variety	<p>TEXT <span style="float: right;">D9_2_4b</span></p> <p>.....</p>
E D9_2_4==7	
For how many cropping cycles have you reused seed from your own production?	<p>NUMERIC: INTEGER <span style="float: right;">D9_2_5</span></p> <p>-----</p>
E D9_2==1	
W1 self<=20	
M1 This is a very long time. Please double-check.	

<p>Did you grow another variety at the same time as the primary variety you just named?</p> <p>E D9_2_1==1</p>	<p>SINGLE-SELECT <span style="float: right;">D9_2_6</span></p> <p>00 <input type="radio"/> No</p> <p>01 <input type="radio"/> Yes</p>
<p>Which mungbean variety did you grow the second most?</p> <p>E D9_2_6==1</p>	<p>SINGLE-SELECT <span style="float: right;">D9_2_7</span></p> <p>-98 <input type="radio"/> Don't know</p> <p>01 <input type="radio"/> Yezin 11</p> <p>02 <input type="radio"/> Yezin 14</p> <p>03 <input type="radio"/> Yezin 1</p> <p>04 <input type="radio"/> Yezin 9</p> <p>05 <input type="radio"/> MAS 1</p> <p>06 <input type="radio"/> Mya Kya Mon</p> <p>07 <input type="radio"/> Other</p>
<p>Please name the other mungbean variety</p> <p>E D9_2_7==7</p>	<p>TEXT <span style="float: right;">D9_2_7b</span></p> <p>.....</p>
<p>On which share of your mung area did you grow the secondary variety?</p> <p>E D9_2_6==1</p> <p>E1 self.InRange(0,100)</p> <p>M1 The share must be between 0 and 100 percent.</p>	<p>NUMERIC: INTEGER <span style="float: right;">D9_2_8</span></p> <p>-----</p>
<p>Did you face difficulties finding payed and unpaid workers to harvest mungbean?</p> <p>I Do not read out the options!</p> <p>E1 !self.Contains(0)    self.Containsonly(0)</p> <p>M1 You cannot select "No" and another option at the same time.</p>	<p>MULTI-SELECT <span style="float: right;">D9_3</span></p> <p>00 <input type="checkbox"/> No</p> <p>01 <input type="checkbox"/> Yes, less unpaid family members were available than last year</p> <p>02 <input type="checkbox"/> Yes, less unpaid community members were available than last year</p> <p>03 <input type="checkbox"/> Yes, I had to postpone the harvest until unpaid helper were available</p> <p>04 <input type="checkbox"/> Yes, I had to pay hired workers higher wages than last year (increase more than 5 percent)</p> <p>05 <input type="checkbox"/> Yes, I had to postpone the harvest until hired workers were available</p> <p>06 <input type="checkbox"/> Yes, I had to work with fewer hired laborers than planned</p> <p>07 <input type="checkbox"/> Other</p>
<p>Please define the problem with finding payed and unpaid workers.</p> <p>E D9_3.Contains(7)</p>	<p>TEXT <span style="float: right;">D_9_3_1</span></p> <p>.....</p>
<p>Did you provide the hired workers with anything else, besides their wage?</p> <p>I Do not read out the answers!</p> <p>E1 !self.Contains(0)    self.Containsonly(0)</p> <p>M1 You cannot select "No" and another option at the same time.</p>	<p>MULTI-SELECT <span style="float: right;">D9_4</span></p> <p>00 <input type="checkbox"/> No</p> <p>01 <input type="checkbox"/> Food</p> <p>02 <input type="checkbox"/> Water</p> <p>03 <input type="checkbox"/> A place to sleep</p> <p>04 <input type="checkbox"/> Transport</p> <p>05 <input type="checkbox"/> Mungbean</p> <p>06 <input type="checkbox"/> Straw/crop residues</p> <p>07 <input type="checkbox"/> Other</p>
<p>Please define the in-kind payment you made to workers.</p> <p>E D9_4.Contains(7)</p>	<p>TEXT <span style="float: right;">D_9_4_1</span></p> <p>.....</p>

<p>Over the last 12 month, how much did all the in-kind payments cost you?</p> <p>E !D9_4.Contains(0)</p> <p>W1 se1f&lt;(((D2_0&gt;0)? D2_0:0) + ((D2_0b&gt;0)? D2_0b:0) + ((D2_0c&gt;0)? D2_0c:0))*0.1)</p> <p>M1 The value you entered is more than 10% of the mungbean income from the last 12 month. Please double check.</p>	<p>NUMERIC: INTEGER <span style="float: right;">D9_4_2</span></p> <p>-----</p>
<p>Which pests and diseases brought economic damage to your mungbean crop over the last 12 month? Please start with the pest or disease that dealt the largest damage to you.</p>	<p>MULTI-SELECT: ORDERED <span style="float: right;">D9_5</span></p> <p>01 <input type="checkbox"/> Anthracnose</p> <p>02 <input type="checkbox"/> Black legume aphid</p> <p>03 <input type="checkbox"/> Bacterial blight</p> <p>04 <input type="checkbox"/> Bean common mosaic virus</p> <p>05 <input type="checkbox"/> Bean fly</p> <p>06 <input type="checkbox"/> Urd bean leaf crinkle virus</p> <p>07 <input type="checkbox"/> Bihar hairy caterpillar</p> <p>08 <input type="checkbox"/> Bollworm, fruit borer, pod borer</p> <p>09 <input type="checkbox"/> Bruchids, pea and bean weevils</p> <p>10 <input type="checkbox"/> Mirid</p> <p>11 <input type="checkbox"/> Leafhopper, jassids</p> <p>12 <input type="checkbox"/> Cercospora leaf spot</p> <p>13 <input type="checkbox"/> Lycaenid borer</p> <p>14 <input type="checkbox"/> Macrophomina blight</p> <p>15 <input type="checkbox"/> Bean pod borer</p> <p>16 <input type="checkbox"/> Powdery mildew</p> <p><a href="#">And 8 other symbols [1]</a></p>
<p>What is the name of the unspecified pest or disease?</p> <p>E D9_5.Contains(24)</p>	<p>TEXT <span style="float: right;">D9_5a</span></p> <p>-----</p>
<p>How did you sow the mungbean last season?</p>	<p>SINGLE-SELECT <span style="float: right;">D9_6</span></p> <p>01 <input type="radio"/> Broadcast seed in clean field (mungbean alone)</p> <p>02 <input type="radio"/> Broadcast seed in standing other crops (e.g. broadcast in rice field before rice is harvested)</p> <p>03 <input type="radio"/> Manual Line sowing (mung bean alone)</p> <p>04 <input type="radio"/> Manual Line sowing (intercropping with others)</p> <p>05 <input type="radio"/> Manual Line sowing (mixed cropping with others)</p> <p>06 <input type="radio"/> Mechanized seeder</p> <p>07 <input type="radio"/> Other</p>
<p>Please specify the sowing method</p> <p>E D9_6==7</p>	<p>TEXT <span style="float: right;">D9_6a</span></p> <p>-----</p>
<p>Do you know about the use of rhizobial inoculants as a way to help with mungbean growth?</p>	<p>SINGLE-SELECT <span style="float: right;">D9_6_1</span></p> <p>00 <input type="radio"/> I do not know it</p> <p>01 <input type="radio"/> I know rhizobia</p>
<p>Did you use it in the last 12 months' mungbean production?</p> <p>E D9_6_1==1</p>	<p>SINGLE-SELECT <span style="float: right;">D9_6_2</span></p> <p>00 <input type="radio"/> No</p> <p>01 <input type="radio"/> Yes</p>
<p>Why did you not use Rhizobia?</p> <p>E D9_6_2==0</p>	<p>TEXT <span style="float: right;">D9_6_2a</span></p> <p>-----</p>

<p>In which form did you apply the rhizobia (e.g. coating mungbeans, spraying, etc.)?</p> <p>E D9_6_2==1</p>	<p>TEXT <span style="float: right;">D9_6_2b</span></p> <p>.....</p>
<p>Do you know about the use of desiccants or herbicides to speed up the drying-up of the plant?</p>	<p>SINGLE-SELECT <span style="float: right;">D9_6_3</span></p> <p>00 <input type="radio"/> I do not know about it</p> <p>01 <input type="radio"/> I know desiccants</p>
<p>Did you use desiccants in the last 12 months?</p> <p>E D9_6_3==1</p>	<p>SINGLE-SELECT <span style="float: right;">D9_6_4</span></p> <p>00 <input type="radio"/> No</p> <p>01 <input type="radio"/> I used desiccants</p>
<p>Why did you not use any desiccants?</p> <p>E D9_6_4==0</p>	<p>TEXT <span style="float: right;">D9_6_4a</span></p> <p>.....</p>
<p>Which desiccants did you use and for which plants?</p> <p>E D9_6_4==1</p>	<p>LIST <span style="float: right;">D9_6_4b</span></p> <p>.....</p>
<p>Did you irrigate your mungbean fields in the last 12 months?</p> <p>E1 self.ContainsOnly(0)    !self.Contains(0)</p> <p>M1 You cannot select "No" and another answer.</p>	<p>MULTI-SELECT <span style="float: right;">D9_7</span></p> <p>00 <input type="checkbox"/> No</p> <p>01 <input type="checkbox"/> Yes, during premonsoon season</p> <p>02 <input type="checkbox"/> Yes, during winter season</p> <p>03 <input type="checkbox"/> Yes, during monsoon season</p>
<p>Have you tried to control storage pests like bruchids?</p> <p>E1 !self.ContainsAny(-9, 0)    self.ContainsOnly(0)    self.ContainsOnly(-9)</p> <p>M1 You cannot select "No" or "N/A" and any other thing.</p>	<p>MULTI-SELECT <span style="float: right;">D9_8</span></p> <p>-09 <input type="checkbox"/> Sold directly after harvest/Not applicable</p> <p>00 <input type="checkbox"/> No</p> <p>01 <input type="checkbox"/> Use resistant variety</p> <p>02 <input type="checkbox"/> Use clean storage containers and do not mix old and new beans</p> <p>03 <input type="checkbox"/> Inspect regularly</p> <p>04 <input type="checkbox"/> Fumigate using phosphine tablets</p> <p>05 <input type="checkbox"/> Use natural pest repellents (e.g. neem oil)</p> <p>06 <input type="checkbox"/> Cooling aeration</p> <p>07 <input type="checkbox"/> Hermetic storage bags</p> <p>08 <input type="checkbox"/> Used ash</p> <p>09 <input type="checkbox"/> Other</p>
<p>Please specify the other storage pest control method.</p> <p>E D9_8.Contains(9)</p>	<p>TEXT <span style="float: right;">D9_8a</span></p> <p>.....</p>
<p>For how many months do you usually store your mungbean?</p> <p>I Enter 0 if stored for less than one month.</p> <p>E D9_8.ContainsAny(0,1,2,3,4,5,6,7,8,9)</p>	<p>NUMERIC: INTEGER <span style="float: right;">D9_8b</span></p> <p>-----</p>
<p>Did you collect the mungbean straw?</p>	<p>SINGLE-SELECT <span style="float: right;">D9_9</span></p> <p>00 <input type="radio"/> No</p> <p>01 <input type="radio"/> Yes</p>
<p>What did you use the mungbean straw for?</p> <p>E D9_9==1</p>	<p>MULTI-SELECT <span style="float: right;">D9_9_1</span></p> <p>01 <input type="checkbox"/> Fodder</p> <p>02 <input type="checkbox"/> Cooking fuel</p> <p>03 <input type="checkbox"/> Sold it</p> <p>04 <input type="checkbox"/> Other</p>

<p>Please specify the other usage of the mungbean straw.</p> <p>E D9_9_1.Contains(4)</p>	<p>TEXT <span style="float: right;">D9_9_1a</span></p> <p>.....</p>
<p>What are your two most important sources of production information on mungbean? Please start with the most important one.</p>	<p>MULTI-SELECT: ORDERED <span style="float: right;">D9_10</span></p> <p>00 <input type="checkbox"/> None</p> <p>01 <input type="checkbox"/> Female farmers</p> <p>02 <input type="checkbox"/> Male farmers</p> <p>03 <input type="checkbox"/> Input dealer</p> <p>04 <input type="checkbox"/> Buyer/middleman</p> <p>05 <input type="checkbox"/> Extension officer</p> <p>06 <input type="checkbox"/> Group meetings (e.g. farmer group, cooperative)</p> <p>07 <input type="checkbox"/> Farmer Field days/School/training</p> <p>08 <input type="checkbox"/> Other</p>
<p>Please define the other information source.</p> <p>E D9_10.Contains(8)</p>	<p>TEXT <span style="float: right;">D9_10a</span></p> <p>.....</p>
<p>How many month ago did you meet the primary information source for the last time?</p> <p>I If they met in the same month, enter 0.</p> <p>E D9_10.Length&gt;0</p> <p>W1 self&lt;=12</p> <p>M1 Are you sure it is more than a year ago?</p>	<p>NUMERIC: INTEGER <span style="float: right;">D9_10_1b</span></p> <p>-----</p>
<p>How many month ago did you meet the secondary information source for the last time?</p> <p>I If they met in the same month, enter 0.</p> <p>E D9_10.Length==2</p> <p>W1 self&lt;=12</p> <p>M1 Are you sure it is more than a year ago?</p>	<p>NUMERIC: INTEGER <span style="float: right;">D9_10_1c</span></p> <p>-----</p>
<p>Was the extension officer/group meeting/field day/field school organized by a private company, the government, or a NGO?</p> <p>E D9_10.ContainsAny(5,6,7)</p>	<p>SINGLE-SELECT <span style="float: right;">D9_10d</span></p> <p>01 <input type="radio"/> Private company</p> <p>02 <input type="radio"/> Government</p> <p>03 <input type="radio"/> NGO</p>
<p>For you, what are the three most important constraints to mungbean production? Please start with the main problem.</p>	<p>MULTI-SELECT: ORDERED <span style="float: right;">D9_11</span></p> <p>01 <input type="checkbox"/> Land is too saline</p> <p>02 <input type="checkbox"/> Not enough water</p> <p>03 <input type="checkbox"/> Soil fertility is too low</p> <p>04 <input type="checkbox"/> It is too hot (flowers drop)</p> <p>05 <input type="checkbox"/> Rain damage during ripening</p> <p>06 <input type="checkbox"/> Seed is unavailable</p> <p>07 <input type="checkbox"/> Seed quality is low</p> <p>08 <input type="checkbox"/> Growing period too short (cannot plant rice on time)</p> <p>09 <input type="checkbox"/> Insect pests</p> <p>10 <input type="checkbox"/> Plant diseases</p> <p>11 <input type="checkbox"/> Input costs are too high</p> <p>12 <input type="checkbox"/> Too low selling prices</p> <p>13 <input type="checkbox"/> Yields are too low</p> <p>14 <input type="checkbox"/> Lack of market demand</p> <p>15 <input type="checkbox"/> High storage losses</p> <p>16 <input type="checkbox"/> Other crops a better</p> <p><a href="#">And 5 other symbols [2]</a></p>

MUNGBEAN VIEWS AND PRACTICES  
**HYPOTHETICAL AREA EXPANSION**

STATIC TEXT

*What will you do if the production cost especially labor cost is lower than at the current wage? If you would expand the mungbean area due to less labor cost, by how many acres would you expand the area at each wage? The hours worked and the effort of the workers would be the same at every wage.*

<p>Labor cost is decreased by 10%</p>	<p>SINGLE-SELECT <span style="float: right;">D9_14a</span></p> <p>01 <input type="radio"/> expand area          02 <input type="radio"/> stay the same          03 <input type="radio"/> no idea</p>
<p>By how many acres would you expand the mungbean area?</p> <p>E D9_14a==1</p>	<p>NUMERIC: DECIMAL <span style="float: right;">D9_14b</span></p> <p>-----</p>
<p>Labor cost is decreased by 20%</p> <p>W1 self&lt;=D9_14a          M1 Please double check. Based on the reaction to the lower wage decrease this is unexpected.</p>	<p>SINGLE-SELECT <span style="float: right;">D9_14c</span></p> <p>01 <input type="radio"/> expand area          02 <input type="radio"/> stay the same          03 <input type="radio"/> no idea</p>
<p>By how many acres would you expand the mungbean area?</p> <p>E D9_14c==1          W1 (D9_14b&gt;0)? self&gt;=D9_14b:true          M1 The area expansion is less than at higher labor cost. Please double check!</p>	<p>NUMERIC: DECIMAL <span style="float: right;">D9_14d</span></p> <p>-----</p>
<p>Labor cost is decreased by 30%</p> <p>W1 self&lt;=D9_14c          M1 Please double check. Based on the reaction to the lower wage decrease this is unexpected.</p>	<p>SINGLE-SELECT <span style="float: right;">D9_14e</span></p> <p>01 <input type="radio"/> expand area          02 <input type="radio"/> stay the same          03 <input type="radio"/> no idea</p>
<p>By how many acres would you expand the mungbean area?</p> <p>E D9_14e==1          W1 (D9_14d&gt;0)? self&gt;=D9_14d:true          M1 The area expansion is less than at higher labor cost. Please double check!</p>	<p>NUMERIC: DECIMAL <span style="float: right;">D9_14f</span></p> <p>-----</p>
<p>Labor cost is decreased by 40%</p> <p>W1 self&lt;=D9_14e          M1 Please double check. Based on the reaction to the lower wage decrease this is unexpected.</p>	<p>SINGLE-SELECT <span style="float: right;">D9_14g</span></p> <p>01 <input type="radio"/> expand area          02 <input type="radio"/> stay the same          03 <input type="radio"/> no idea</p>
<p>By how many acres would you expand the mungbean area?</p> <p>E D9_14g==1          W1 (D9_14f&gt;0)? self&gt;=D9_14f:true          M1 The area expansion is less than at higher labor cost. Please double check!</p>	<p>NUMERIC: DECIMAL <span style="float: right;">D9_14h</span></p> <p>-----</p>
<p>Labor cost is decreased by 50%</p> <p>W1 self&lt;=D9_14h          M1 Please double check. Based on the reaction to the lower wage decrease this is unexpected.</p>	<p>SINGLE-SELECT <span style="float: right;">D9_14i</span></p> <p>01 <input type="radio"/> expand area          02 <input type="radio"/> stay the same          03 <input type="radio"/> no idea</p>

By how many acres would you expand the mungbean area?	NUMERIC: DECIMAL	d9_14j
E d9_14i==1		
W1 (d9_14h>0)? self=>d9_14h:true		
M1 The area expansion is less than at higher labor cost. Please double check!		

## GENERAL FARMING INFORMATION

Besides mungbean, which crops did you grow over the last 12 months to sell them?	LIST	c1_1
-----		

### GENERAL FARMING INFORMATION

#### Roster: OTHER CROPS INCOME

generated by list question [c1\\_1](#)

c2

What was your gross income from %rosteritle%? (In MMK)	NUMERIC: INTEGER	c2a
-----		

What was your total production cost for %rosteritle%, including all inputs, hired labor, and rental cost for machines?	NUMERIC: INTEGER	c2b
-----		

VARIABLE c2a-c2b	DOUBLE	c2c
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Who is the main person <u>making the decision which inputs to use</u> in production of these crops?	SINGLE-SELECT: LINKED	c3_1
F B1d >= 15		

Who is the main person <u>making the decision when to plant</u> these crops?	SINGLE-SELECT: LINKED	c3_2
F B1d >= 15		

Who is the main person <u>making the decision when and how to harvest</u> these crops?	SINGLE-SELECT: LINKED	c3_3
F B1d >= 15		

Who is the main person <u>making the decision to whom to sell the yield from these crops and at which price?</u>	SINGLE-SELECT: LINKED	c3_4
F B1d >= 15		

### GENERAL FARMING INFORMATION

#### MECHANISATION OF AGRICULTURAL ACTIVITIES

When growing these crops, other than mungbean, do you use any engine powered machinery?	SINGLE-SELECT	c4_1
00 <input type="radio"/> No		
01 <input type="radio"/> Yes		

<p>In which step of production did you use engine powered machinery?</p> <p>E c4_1==1</p>	<p>MULTI-SELECT <span style="float: right;">c4_2</span></p> <p>01 <input type="checkbox"/> Land preparation</p> <p>02 <input type="checkbox"/> Sowing</p> <p>03 <input type="checkbox"/> Weeding</p> <p>04 <input type="checkbox"/> Harvesting</p> <p>05 <input type="checkbox"/> Threshing</p> <p>06 <input type="checkbox"/> Transport to the market</p>
<p>Which engine powered agricultural machines does your household own?</p> <p>E1 self.ContainsOnly(0)    !self.Contains(0)</p> <p>M1 You cannot select "none" and another option.</p>	<p>MULTI-SELECT <span style="float: right;">c4_3</span></p> <p>00 <input type="checkbox"/> None</p> <p>01 <input type="checkbox"/> Water pump</p> <p>02 <input type="checkbox"/> Power tiller</p> <p>03 <input type="checkbox"/> Tractor</p> <p>04 <input type="checkbox"/> Motor sprayer</p> <p>05 <input type="checkbox"/> Mini harvester</p> <p>06 <input type="checkbox"/> Combine harvester</p> <p>07 <input type="checkbox"/> Thresher</p> <p>08 <input type="checkbox"/> Seed cleaner</p> <p>09 <input type="checkbox"/> Pick-up truck</p> <p>10 <input type="checkbox"/> Truck</p> <p>11 <input type="checkbox"/> Other (to be listed)</p>
<p>In the last 12 months, how many Kyat did you spend on repairs for the agricultural machinery you own? Please consider machinery used for all the crops and also the livestock you own.</p> <p>E !c4_3.Contains(0)</p> <p>W1 self&lt;(C2.Sum(x=&gt;x.C2c)*0.5)</p> <p>M1 The cost for the machinery is more than half of the sum of crop incomes, excluding mungbean.</p>	<p>NUMERIC: INTEGER <span style="float: right;">c4_4</span></p> <p>-----</p>
<p>Please list the other machinery the household owns.</p> <p>E c4_3.Contains(11)</p>	<p>LIST <span style="float: right;">c4_5</span></p> <p>-----</p>
<p>DO NOT READ OUT: In which seasons was the farmer growing rice?</p>	<p>MULTI-SELECT <span style="float: right;">c5_1_0</span></p> <p>00 <input type="checkbox"/> None</p> <p>01 <input type="checkbox"/> Summer rice</p> <p>02 <input type="checkbox"/> Monsoon rice</p>
<p>Which machine did you use for the rice harvest in monsoon season?</p> <p>I This is just for harvesting, not for transport to the market.</p> <p>E c4_2.Contains(4) &amp;&amp; c5_1_0.Contains(2)</p> <p>E1 self.ContainsOnly(-99)    !self.Contains(-99)</p> <p>M1 If the question is not applicable you cannot select another item.</p>	<p>MULTI-SELECT <span style="float: right;">c5_1</span></p> <p>-99 <input type="checkbox"/> None/Not applicable</p> <p>01 <input type="checkbox"/> Combine harvester</p> <p>02 <input type="checkbox"/> Hand tractor</p> <p>03 <input type="checkbox"/> Other</p>
<p>Please define the other machine used for rice harvest</p> <p>E c5_1.Contains(3)</p>	<p>TEXT <span style="float: right;">c5_1a</span></p> <p>-----</p>
<p>How much did you pay for this service in the monsoon season?</p> <p>I If machine is owned by the farmer, ask for the usual rate to rent the machine.</p> <p>E !c5_1.Contains(-99) &amp;&amp; c5_1_0.Contains(2)</p>	<p>NUMERIC: INTEGER <span style="float: right;">c5_1_1</span></p> <p>-----</p>
<p>How many acres did you harvest with the machine?</p> <p>E !c5_1.Contains(-99) &amp;&amp; c5_1_0.Contains(2)</p>	<p>NUMERIC: DECIMAL <span style="float: right;">c5_1_2</span></p> <p>-----</p>

<p>And how many acres did you not harvest with the machine?</p>	<p>NUMERIC: DECIMAL <span style="float: right;">c5_1_3</span></p>
<p>E !c5_1.Contains(-99) &amp;&amp; c5_1_0.Contains(2)</p>	<p>-----</p>
<p>Why did you not harvest all the rice with the machine?</p>	<p>TEXT <span style="float: right;">c5_1_4</span></p>
<p>E c5_1_2&gt;=0 &amp;&amp; c5_1_3&gt;0</p>	<p>.....</p>
<p>Which machine did you use for the rice harvest in summer season?</p>	<p>MULTI-SELECT <span style="float: right;">c5_1_5</span></p>
<p>I This is just for harvesting, not for transport to the market.  E c4_2.Contains(4) &amp;&amp; c5_1_0.Contains(1)  E1 self.ContainsOnly(-99)    !self.Contains(-99)  M1 If the question is not applicable you cannot select another item.</p>	<p>-99 <input type="checkbox"/> None/Not applicable  01 <input type="checkbox"/> Combine harvester  02 <input type="checkbox"/> Hand tractor  03 <input type="checkbox"/> Other</p>
<p>How much did you pay for this service in the summer season?</p>	<p>NUMERIC: INTEGER <span style="float: right;">c5_1_6</span></p>
<p>I If machine is owned by the farmer, ask for the usual rate to rent the machine.  E !c5_1_5.Contains(-99) &amp;&amp; c5_1_0.Contains(1)</p>	<p>-----</p>
<p>How many acres did you harvest with the machine?</p>	<p>NUMERIC: DECIMAL <span style="float: right;">c5_1_7</span></p>
<p>E !c5_1_5.Contains(-99) &amp;&amp; c5_1_0.Contains(1)</p>	<p>-----</p>
<p>And how many acres did you not harvest with the machine?</p>	<p>NUMERIC: DECIMAL <span style="float: right;">c5_1_8</span></p>
<p>E !c5_1_5.Contains(-99) &amp;&amp; c5_1_0.Contains(1)</p>	<p>-----</p>
<p>In which year did you start using engine powered machinery to harvest rice?</p>	<p>TEXT <span style="float: right;">c5_2</span></p>
<p>E !c5_1.Contains(-99)  E1 self.Contains("19")    self.Contains("20")  M1 Answer must be in format YYYY and adoption can only be in 19th or 20th century (e.g. 1998 or 2015).</p>	<p>.....</p>
<p>Please tell me on scale from 1 (strongly disagree) to 5 (fully agree) how strongly you agree with the following statements?   "The mechanization of the rice harvest saved men a lot of time."</p>	<p>SINGLE-SELECT <span style="float: right;">c5_2_1a</span>  01 <input type="radio"/> Strongly disagree  02 <input type="radio"/> Disagree  03 <input type="radio"/> Neutral  04 <input type="radio"/> Agree  05 <input type="radio"/> Strongly agree</p>
<p>Please tell me on scale from 1 (strongly disagree) to 5 (fully agree) how strongly you agree with the following statements?   "The mechanization of the rice harvest saved women a lot of time."</p>	<p>SINGLE-SELECT <span style="float: right;">c5_2_1b</span>  01 <input type="radio"/> Strongly disagree  02 <input type="radio"/> Disagree  03 <input type="radio"/> Neutral  04 <input type="radio"/> Agree  05 <input type="radio"/> Strongly agree</p>
<p>Please tell me on scale from 1 (strongly disagree) to 5 (fully agree) how strongly you agree with the following statements?   "I preferred the rice harvest before combine harvesters became available."</p>	<p>SINGLE-SELECT <span style="float: right;">c5_2_1c</span>  01 <input type="radio"/> Strongly disagree  02 <input type="radio"/> Disagree  03 <input type="radio"/> Neutral  04 <input type="radio"/> Agree  05 <input type="radio"/> Strongly agree</p>

<p>Please tell me on scale from 1 (strongly disagree) to 5 (fully agree) how strongly you agree with the following statements?</p> <p>"Women have a smaller role in rice harvest, since combine harvesters became common."</p>	<p>SINGLE-SELECT <span style="float: right;">c5_2_1d</span></p> <p>01 <input type="radio"/> Strongly disagree  02 <input type="radio"/> Disagree  03 <input type="radio"/> Neutral  04 <input type="radio"/> Agree  05 <input type="radio"/> Strongly agree</p>
<p>Please tell me on scale from 1 (strongly disagree) to 5 (fully agree) how strongly you agree with the following statements?</p> <p>"Women have the same opportunity to find a job in mechanical rice harvesting as men do."</p>	<p>SINGLE-SELECT <span style="float: right;">c5_2_1e</span></p> <p>01 <input type="radio"/> Strongly disagree  02 <input type="radio"/> Disagree  03 <input type="radio"/> Neutral  04 <input type="radio"/> Agree  05 <input type="radio"/> Strongly agree</p>
<p>Please tell me on scale from 1 (strongly disagree) to 5 (fully agree) how strongly you agree with the following statements?</p> <p>"It is good for my entire family that mechanical harvest is possible today."</p>	<p>SINGLE-SELECT <span style="float: right;">c5_2_1f</span></p> <p>01 <input type="radio"/> Strongly disagree  02 <input type="radio"/> Disagree  03 <input type="radio"/> Neutral  04 <input type="radio"/> Agree  05 <input type="radio"/> Strongly agree</p>
<p>Please tell me on scale from 1 (strongly disagree) to 5 (fully agree) how strongly you agree with the following statements?</p> <p>"The mechanization of harvesting is bad for the poor and landless."</p>	<p>SINGLE-SELECT <span style="float: right;">c5_2_1g</span></p> <p>01 <input type="radio"/> Strongly disagree  02 <input type="radio"/> Disagree  03 <input type="radio"/> Neutral  04 <input type="radio"/> Agree  05 <input type="radio"/> Strongly agree</p>
<p>What are the biggest advantages of using machines in rice harvesting? Please start with the most important one first.</p> <p>I Do not read out. Collect up to three. The order is automatically recorded.  E1 self.ContainsOnly(-98)    self.ContainsOnly(0)    !self.ContainsAny(-98, 0)  M1 You cannot select "Don't know" or "None" and other items.</p>	<p>MULTI-SELECT: ORDERED <span style="float: right;">c5_3</span></p> <p>-98 <input type="checkbox"/> I don't know  00 <input type="checkbox"/> None, (It does not have advantages)  01 <input type="checkbox"/> Higher yield  02 <input type="checkbox"/> Better quality of the produce  03 <input type="checkbox"/> Lower cost  04 <input type="checkbox"/> More time to do other things  05 <input type="checkbox"/> Faster harvest  06 <input type="checkbox"/> Not dependent on finding workers  07 <input type="checkbox"/> Other</p>
<p>Please define the other advantage(s) of the mechanized rice harvest</p> <p>E c5_3.Contains(7)</p>	<p>LIST <span style="float: right;">c5_3a</span></p> <p>.....</p>
<p>What are the most important disadvantages of using machines in rice harvesting instead of doing it manually? Please start with the most important one.</p> <p>I Do not read out. Collect up to three. The order is automatically recorded.  E1 self.ContainsOnly(-98)    self.ContainsOnly(0)    !self.ContainsAny(-98, 0)  M1 You cannot select "Don't know" or "None" and other items.</p>	<p>MULTI-SELECT: ORDERED <span style="float: right;">c5_4</span></p> <p>-98 <input type="checkbox"/> I don't know  00 <input type="checkbox"/> None, (It does not have advantages)  01 <input type="checkbox"/> Lower yield  02 <input type="checkbox"/> Worse quality of the produce  03 <input type="checkbox"/> Higher cost  04 <input type="checkbox"/> Dangerous to work with the machines  05 <input type="checkbox"/> Hired workers loose income source  06 <input type="checkbox"/> Dependency on owners of machines  07 <input type="checkbox"/> Bad for the environment  08 <input type="checkbox"/> Cannot use rice straw (for fodder etc.)  09 <input type="checkbox"/> Other</p>

<p>Please define the other disadvantage(s) of the mechanized rice harvest</p> <p>E C5_4.Contains(9)</p>	<p>LIST <span style="float: right;">C5_4a</span></p> <p>.....</p>
<p>Now I would like to ask about the labor you needed to harvest rice in the last winter season. Which of the following groups worked in the harvest?</p> <p>I Please include all work from the beginning of the harvest until it is ready to be sold.</p> <p>E C5_1_0.Contains(2)</p>	<p>MULTI-SELECT: YES/NO <span style="float: right;">C5_5_0</span></p> <p>01 <input type="checkbox"/> / <input type="checkbox"/> hired women</p> <p>02 <input type="checkbox"/> / <input type="checkbox"/> hired men</p> <p>03 <input type="checkbox"/> / <input type="checkbox"/> women of the family</p> <p>04 <input type="checkbox"/> / <input type="checkbox"/> men of the family</p> <p>05 <input type="checkbox"/> / <input type="checkbox"/> women of the community who helped</p> <p>06 <input type="checkbox"/> / <input type="checkbox"/> men of the community who helped</p> <p>07 <input type="checkbox"/> / <input type="checkbox"/> Girls ( under 15 years old)</p> <p>08 <input type="checkbox"/> / <input type="checkbox"/> Boys (under 15 years old)</p>

GENERAL FARMING INFORMATION / MECHANISATION OF AGRICULTURAL ACTIVITIES

Roster: RICE HARVEST LABOR DEMAND

generated by multi-select question C5\_5\_0

C5\_5

E C5\_1\_0.Contains(2)

<p>On how many days did %roster% work in the winter rice harvest?</p> <p>I Enter "0" if no person from this group worked in the harvest.</p> <p>W1 self&lt;14</p> <p>M1 You entered a large number of days. Please make sure: 1) The number is only for the one harvest; 2) It is the days on which people from the group worked (not labour-days/men-days).</p>	<p>NUMERIC: INTEGER <span style="float: right;">C5_5a</span></p> <p>-----</p>
<p>On average, how many %roster% worked each day?</p> <p>E C5_5a&gt;=1</p>	<p>NUMERIC: INTEGER <span style="float: right;">C5_5b</span></p> <p>-----</p>
<p>On average, how many hours per day did %roster% work?</p> <p>E C5_5a&gt;=1</p> <p>W1 self&lt;12</p> <p>M1 You entered an extremely large number of working hours. Please make sure that this is the average number of hours worked by each person.</p> <p>E2 self&lt;20</p> <p>M2 The value is too high. You entered that each person worked 20 hours or more every day.</p>	<p>NUMERIC: INTEGER <span style="float: right;">C5_5c</span></p> <p>-----</p>
<p>On average, how much did you pay %roster% per day?</p> <p>E C5_5a&gt;=1 &amp;&amp; (@rowcode==5    @rowcode==6)</p> <p>W1 self&lt;20000</p> <p>M1 You entered a very high wage. Please make sure it is per person, per day.</p>	<p>NUMERIC: INTEGER <span style="float: right;">C5_5d</span></p> <p>-----</p>
<p>VARIABLE</p> <p>C5_5.Sum(x=&gt;x.C5_5a)*C5_5.Sum(x=&gt;x.C5_5b)*C5_5.Sum(x=&gt;x.C5_5c)</p>	<p>DOUBLE <span style="float: right;">C5_5_1</span></p>

STATIC TEXT

E C5\_1\_0.Contains(2) && !C5\_1.Contains(-99)

*You said before that you used machinery to help with the rice harvest. How much time and labor would you have needed for the winter harvest without machines?*

Which of the following groups would have worked in the harvest?

MULTI-SELECT: YES/NO

c5\_6\_0

I Please include all work from the beginning of the harvest until it is ready to be sold.

E C5\_1\_0.Contains(2) && !C5\_1.Contains(-99)

- 01  /  hired women
- 02  /  hired men
- 03  /  women of the family
- 04  /  men of the family
- 05  /  women of the community who helped
- 06  /  men of the community who helped
- 07  /  Girls ( under 15 years old)
- 08  /  Boys (under 15 years old)

GENERAL FARMING INFORMATION / MECHANISATION OF AGRICULTURAL ACTIVITIES

Roster: RICE HARVEST LABOR DEMAND WITHOUT MACHINERY

generated by multi-select question c5\_6\_0

c5\_6

E C5\_1\_0.Contains(2) && !C5\_1.Contains(-99)

On how many days did %rosteritle% work in the winter rice harvest?

NUMERIC: INTEGER

c5\_6a

I Enter "0" if no person from this group worked in the harvest.

W1 se1f<14

M1 You entered a large number of days. Please make sure: 1) The number is only for the one harvest; 2) It is the days on which people from the group worked (not labour-days/men-days).

-----

On average, how many %rosteritle% worked each day?

NUMERIC: INTEGER

c5\_6b

E C5\_6a>=1

-----

On average, how many hours per day did %rosteritle% work?

NUMERIC: INTEGER

c5\_6c

E C5\_6a>=1

W1 se1f<12

M1 You entered an extremely large number of working hours. Please make sure that this is the average number of hours worked by each person.

E2 se1f<20

M2 The value is too high. You entered that each person worked 20 hours or more every day.

-----

On average, how much did you pay %rosteritle% per day?

NUMERIC: INTEGER

c5\_6d

E C5\_6a>=1 && (@rowcode==5 || @rowcode==6)

W1 se1f<20000

M1 You entered a very high wage. Please make sure it is per person, per day.

-----

VARIABLE

C5\_6.Sum(x=>x.C5\_6a)\*C5\_6.Sum(x=>x.C5\_6b)\*C5\_6.Sum(x=>x.C5\_6c)

DOUBLE

c5\_6\_1

STATIC TEXT

E C5\_6\_1<C5\_5\_1

*The labor hours without the help of machinery (first roster) is larger than without machinery (second roster). Please look for the mistake!*

## LIVESTOCK AND FISH

Which livestock did you own over the last 12 months?	MULTI-SELECT <span style="float: right;">E1a</span> 01 <input type="checkbox"/> Dairy cow 02 <input type="checkbox"/> Draft cattle 03 <input type="checkbox"/> Beef cattle 04 <input type="checkbox"/> Goat 05 <input type="checkbox"/> Sheep 06 <input type="checkbox"/> Poultry 07 <input type="checkbox"/> Pigs 08 <input type="checkbox"/> Prawn 09 <input type="checkbox"/> Fish 10 <input type="checkbox"/> Other livestock (1) 11 <input type="checkbox"/> Other livestock (2) 12 <input type="checkbox"/> Other livestock (3)
Please define Other livestock (1). E E1a.Contains(10)	TEXT <span style="float: right;">E1a_1</span> .....
Please define Other livestock (2). E E1a.Contains(11)	TEXT <span style="float: right;">E1a_2</span> .....
Please define Other livestock (3). E E1a.Contains(12)	TEXT <span style="float: right;">E1a_3</span> .....

LIVESTOCK AND FISH  
Roster: LIVESTOCK ROSTER  
generated by multi-select question [E1a](#)

E1

In which unit do you sell %rosteritle%? E @rowcode>=8	TEXT <span style="float: right;">E1b</span> .....
How many %rosteritle% are owned by your household now? I Enter in specified unit for prawn and fish.	NUMERIC: INTEGER <span style="float: right;">E1c</span> -----
How many %rosteritle% did you sell, consume, or gift to others over the last 12 months? I Enter in specified unit for prawn and fish.	NUMERIC: INTEGER <span style="float: right;">E1d</span> -----
What is the price of one (unit) %rosteritle%? I Enter unit price in case of prawn and fish. E E1d>0	NUMERIC: INTEGER <span style="float: right;">E1e</span> -----
Over the last 12 month, how much money did you make from selling %rosteritle%'s products (e.g. milk, eggs) or services (e.g. as draft animal)? E @rowcode!= 8 && @rowcode!= 9	NUMERIC: INTEGER <span style="float: right;">E1f</span> -----
In total, how much did you spend on buying new %rosteritle% over the last 12 months?	NUMERIC: INTEGER <span style="float: right;">E1g</span> -----
In total, how much did you spend to keep your %rosteritle% over the last 12 months (fodder, veterinary costs, etc.)?	NUMERIC: INTEGER <span style="float: right;">E1h</span> -----

Who in your household is responsible of feeding/taking care of the %rosteritle%?

SINGLE-SELECT: LINKED

E1i

## OTHER ECONOMIC ACTIVITIES

OTHER ECONOMIC ACTIVITIES

### Roster: OFF-FARM INCOME

generated by list question B1names

F1

E //As we might not expect children under 9 to work for income, we exclude them: B1d>=9

Did %rosteritle% follow any economic activity other than working on your farm in the last 12 months?

SINGLE-SELECT

F1a

00  No

01  Yes

What were the off-farm activities of %rosteritle% in the last 12 months? If more than one, please start with the one that brought most income.

MULTI-SELECT: ORDERED

F1b

01  Work on other farm

02  Other employment with private company/person

03  Employment with public institution

04  Own business

05  Other

E F1a==1

Please specify the other off-farm activity.

TEXT

F1b1

E F1a==1 && F1b.Contains(5)

How many of the last 12 months did %rosteritle% work in the primary off-farm job?

NUMERIC: INTEGER

F1c

E F1a==1

E1 self<=12

M1 The maximum value is 12.

What was the average monthly income of %rosteritle% from all the off-farm activities during the last 12 months?

NUMERIC: INTEGER

F1d

E F1a==1

Did you or any other member of your household receive any remittances during the last 12 months?

SINGLE-SELECT

F2

00  No

01  Yes

I Please exclude any income which was already entered elsewhere.

On average, which share of your monthly income came from these remittances during the last 12 months? (Expressed in percent)

NUMERIC: INTEGER

F2\_1

I Include in-kind remittances with their estimated value, do not include income mentioned elsewhere; If respondent cannot answer, ask if it was half, a quarter, three quarters, etc..

E F2==1

E1 self<=100

M1 The value cannot be more than 100 percent.

## WOMEN IN MUNGBEAN PRODUCTION

STATIC TEXT

E A9d\_1!=1

**READ ONLY IF SECONDARY RESPONDENT WAS NOT PRESENT IN BEGINNING**

*If possible, try that no man can overhear the interview.*

*Good morning/afternoon. My name is [YOUR NAME] and I am from %inst%.*

*We are doing a study on mungbean production. We are particularly interested in the effect of improved varieties and agricultural practices on costs and returns in mungbean production as well as the effect of mechanization in mungbean production. Because both men and women are usually involved in mungbean production, and the effect of mechanization may be different for each person, we would like to ask some questions to you as well as to your spouse. Apart from mungbean-related questions, we will ask some general questions about you, your farm, and your household to understand the context of your farm operation.*

*This interview will use a list of standard questions and will take about 1 hour to complete. Your responses will help us to understand better how mungbean is produced in the country and the problems farmers face.*

*I would like to emphasize that this interview is for research only and your answers will always be kept strictly confidential and never be revealed to any other people. I would like you to answer the questions truthfully, in your best possible way, and to the best of your knowledge. If you don't know the answer to some of the questions, simply tell me. You can tell me at any time if you'd like a break or if you would like to discontinue the interview.*

<p>Do you consent to participate in this interview?</p> <p>E A9d_1!=1</p>	<p>SINGLE-SELECT consent2</p> <p>00 <input type="radio"/> No</p> <p>01 <input type="radio"/> Yes</p>
<p>If you consent to participate in this interview, would you kindly sign here?</p> <p>E consent2==1</p>	<p>PICTURE signature2</p>
<p>Did your household consume mungbean or a mungbean product like sprouts or Vermicelli in the last 30 days?</p>	<p>SINGLE-SELECT G1</p> <p>00 <input type="radio"/> No</p> <p>01 <input type="radio"/> Yes</p>
<p>In which forms did you consume the mungbean?</p> <p>E G1==1</p>	<p>MULTI-SELECT G1_1</p> <p>01 <input type="checkbox"/> Grain (e.g. in soup)</p> <p>02 <input type="checkbox"/> Sprouts</p> <p>03 <input type="checkbox"/> Processed (e.g. mungbean vermicelli, fired mungbean snack, etc.)</p>
<p>How often did you eat mungbean?</p> <p>E G1==1</p>	<p>SINGLE-SELECT G1_2</p> <p>01 <input type="radio"/> Less than once a week</p> <p>02 <input type="radio"/> Once a week</p> <p>03 <input type="radio"/> Twice a week</p> <p>04 <input type="radio"/> More than twice a week</p>

**WOMEN IN MUNGBEAN PRODUCTION  
VIEWS ON MUNGBEAN HARVESTING**

E A9d\_1!=1

<p>How many female family members worked in the last mungbean harvest?</p>	<p>NUMERIC: INTEGER G2a</p> <p>-----</p>
<p>On average, on how many days did each female family member work?</p> <p>E G2a&gt;=1</p>	<p>NUMERIC: INTEGER G2b</p> <p>-----</p>
<p>On average, for how many hours did each female family member work?</p> <p>E G2a&gt;=1</p>	<p>NUMERIC: INTEGER G2c</p> <p>-----</p>

How many male family members worked in the last mungbean harvest?	NUMERIC: INTEGER -----	G2d
On average, on how many days did each male family member work? E G2d>=1	NUMERIC: INTEGER -----	G2e
On average, for how many hours did each male family member work? E G2d>=1	NUMERIC: INTEGER -----	G2f

STATIC TEXT

*Please tell me on a scale from 1, meaning you strongly disagree, to 5, meaning you fully agree, how strongly you agree with the following statements.*

Manual harvesting of mungbean requires little effort.	SINGLE-SELECT 01 <input type="radio"/> Strongly disagree 02 <input type="radio"/> Disagree 03 <input type="radio"/> Neutral 04 <input type="radio"/> Agree 05 <input type="radio"/> Strongly agree	G2_1a
Manual harvesting of mungbean takes a lot of time from women.	SINGLE-SELECT 01 <input type="radio"/> Strongly disagree 02 <input type="radio"/> Disagree 03 <input type="radio"/> Neutral 04 <input type="radio"/> Agree 05 <input type="radio"/> Strongly agree	G2_1b
Manual harvesting of mungbean takes a lot of time from men.	SINGLE-SELECT 01 <input type="radio"/> Strongly disagree 02 <input type="radio"/> Disagree 03 <input type="radio"/> Neutral 04 <input type="radio"/> Agree 05 <input type="radio"/> Strongly agree	G2_1c
If mungbean could be harvested by machine it would benefit our entire village community.	SINGLE-SELECT 01 <input type="radio"/> Strongly disagree 02 <input type="radio"/> Disagree 03 <input type="radio"/> Neutral 04 <input type="radio"/> Agree 05 <input type="radio"/> Strongly agree	G2_1d
Our family enjoys working together in the field harvesting mungbean.	SINGLE-SELECT 01 <input type="radio"/> Strongly disagree 02 <input type="radio"/> Disagree 03 <input type="radio"/> Neutral 04 <input type="radio"/> Agree 05 <input type="radio"/> Strongly agree	G2_1e
Machine mungbean harvesting would exclude women from the harvesting process.	SINGLE-SELECT 01 <input type="radio"/> Strongly disagree 02 <input type="radio"/> Disagree 03 <input type="radio"/> Neutral 04 <input type="radio"/> Agree 05 <input type="radio"/> Strongly agree	G2_1f

Women can operate farm machinery equally well as men.	SINGLE-SELECT 01 <input type="radio"/> Strongly disagree 02 <input type="radio"/> Disagree 03 <input type="radio"/> Neutral 04 <input type="radio"/> Agree 05 <input type="radio"/> Strongly agree	G2_1g
Manual harvesting of mungbean is among the most arduous types of work on the farm	SINGLE-SELECT 01 <input type="radio"/> Strongly disagree 02 <input type="radio"/> Disagree 03 <input type="radio"/> Neutral 04 <input type="radio"/> Agree 05 <input type="radio"/> Strongly agree	G2_1h
The problem with mechanization is that it reduces work and income for landless people.	SINGLE-SELECT 01 <input type="radio"/> Strongly disagree 02 <input type="radio"/> Disagree 03 <input type="radio"/> Neutral 04 <input type="radio"/> Agree 05 <input type="radio"/> Strongly agree	G2_1i

STATIC TEXT

*In the production of rice, mechanical harvesting already became popular over the last years. Therefore I would like to ask you a few questions about the rice harvest as well.*

Please tell me on scale from 1 (strongly disagree) to 5 (fully agree) how strongly you agree with the following statements?  "The mechanization of the rice harvest saved men a lot of time."	SINGLE-SELECT 01 <input type="radio"/> Strongly disagree 02 <input type="radio"/> Disagree 03 <input type="radio"/> Neutral 04 <input type="radio"/> Agree 05 <input type="radio"/> Strongly agree	G2_2a
Please tell me on scale from 1 (strongly disagree) to 5 (fully agree) how strongly you agree with the following statements?  "The mechanization of the rice harvest saved women a lot of time."	SINGLE-SELECT 01 <input type="radio"/> Strongly disagree 02 <input type="radio"/> Disagree 03 <input type="radio"/> Neutral 04 <input type="radio"/> Agree 05 <input type="radio"/> Strongly agree	G2_2b
Please tell me on scale from 1 (strongly disagree) to 5 (fully agree) how strongly you agree with the following statements?  "I preferred the rice harvest before combine harvesters became available."	SINGLE-SELECT 01 <input type="radio"/> Strongly disagree 02 <input type="radio"/> Disagree 03 <input type="radio"/> Neutral 04 <input type="radio"/> Agree 05 <input type="radio"/> Strongly agree	G2_2c
Please tell me on scale from 1 (strongly disagree) to 5 (fully agree) how strongly you agree with the following statements?  "Women have a smaller role in rice harvest, since combine harvesters became common."	SINGLE-SELECT 01 <input type="radio"/> Strongly disagree 02 <input type="radio"/> Disagree 03 <input type="radio"/> Neutral 04 <input type="radio"/> Agree 05 <input type="radio"/> Strongly agree	G2_2d
Please tell me on scale from 1 (strongly disagree) to 5 (fully agree) how strongly you agree with the following statements?  "Women have the same opportunity to find a job in mechanical rice harvesting as men do."	SINGLE-SELECT 01 <input type="radio"/> Strongly disagree 02 <input type="radio"/> Disagree 03 <input type="radio"/> Neutral 04 <input type="radio"/> Agree 05 <input type="radio"/> Strongly agree	G2_2e

<p>Please tell me on scale from 1 (strongly disagree) to 5 (fully agree) how strongly you agree with the following statements?</p> <p>"It is good for my entire family that mechanical harvest is possible today."</p>	<p>SINGLE-SELECT <span style="float: right;">G2_2f</span></p> <p>01 <input type="radio"/> Strongly disagree  02 <input type="radio"/> Disagree  03 <input type="radio"/> Neutral  04 <input type="radio"/> Agree  05 <input type="radio"/> Strongly agree</p>
<p>Please tell me on scale from 1 (strongly disagree) to 5 (fully agree) how strongly you agree with the following statements?</p> <p>"The mechanization of harvesting is bad for the poor and landless."</p>	<p>SINGLE-SELECT <span style="float: right;">G2_2g</span></p> <p>01 <input type="radio"/> Strongly disagree  02 <input type="radio"/> Disagree  03 <input type="radio"/> Neutral  04 <input type="radio"/> Agree  05 <input type="radio"/> Strongly agree</p>
<p>What are the biggest advantages of using machines in rice harvesting? Please start with the most important one first.</p> <p>I Do not read out. Collect up to three. The order is automatically recorded.  E1 self.ContainsOnly(-98)    self.ContainsOnly(0)    !self.ContainsAny(-98, 0)  M1 You cannot select "Don't know" or "None" and other items.</p>	<p>MULTI-SELECT: ORDERED <span style="float: right;">G3</span></p> <p>-98 <input type="checkbox"/> I don't know  00 <input type="checkbox"/> None, (It does not have advantages)  01 <input type="checkbox"/> Higher yield  02 <input type="checkbox"/> Better quality of the produce  03 <input type="checkbox"/> Lower cost  04 <input type="checkbox"/> More time to do other things  05 <input type="checkbox"/> Faster harvest  06 <input type="checkbox"/> Not dependent on finding workers  07 <input type="checkbox"/> Other</p>
<p>Please define the other advantage(s) of the mechanized rice harvest</p> <p>E C5_3.Contains(7)</p>	<p>LIST <span style="float: right;">G3_1</span></p> <p>.....</p>
<p>What are the most important disadvantages of using machines in rice harvesting instead of doing it manually? Please start with the most important one.</p> <p>I Do not read out. Collect up to three. The order is automatically recorded.  E1 self.ContainsOnly(-98)    self.ContainsOnly(0)    !self.ContainsAny(-98, 0)  M1 You cannot select "Don't know" or "None" and other items.</p>	<p>MULTI-SELECT: ORDERED <span style="float: right;">G4</span></p> <p>-98 <input type="checkbox"/> I don't know  00 <input type="checkbox"/> None, (It does not have advantages)  01 <input type="checkbox"/> Lower yield  02 <input type="checkbox"/> Worse quality of the produce  03 <input type="checkbox"/> Higher cost  04 <input type="checkbox"/> Dangerous to work with the machines  05 <input type="checkbox"/> Hired workers loose income source  06 <input type="checkbox"/> Dependency on owners of machines  07 <input type="checkbox"/> Bad for the environment  08 <input type="checkbox"/> Other</p>
<p>Please define the other disadvantage(s) of the mechanized rice harvest</p> <p>E C5_3.Contains(8)</p>	<p>LIST <span style="float: right;">G4_1</span></p> <p>.....</p>

WOMEN IN MUNGBEAN PRODUCTION  
**FEMALE DECISION MAKING**

E A9d\_1!=1 || (B1.Count(x=>x.@rowcode==1 && x.B1a==1)>0)

STATIC TEXT

*I am going to read out 10 statements about your ability to make decisions independently. Please indicate how strongly you can identify yourself with these statements on a scale from strongly agree, agree, neutral, disagree or strongly disagree.*

<p>I can decide on my own whether to take a loan, if I want to.</p>	<p>SINGLE-SELECT <span style="float: right;">g5a</span>  01 <input type="radio"/> Agree  02 <input type="radio"/> Neutral  03 <input type="radio"/> Disagree</p>
<p>I can decide on my own how to spend the household income.</p>	<p>SINGLE-SELECT <span style="float: right;">g5b</span>  01 <input type="radio"/> Agree  02 <input type="radio"/> Neutral  03 <input type="radio"/> Disagree</p>
<p>I can decide on my own to visit a health facility for myself or my child, if I want to.</p>	<p>SINGLE-SELECT <span style="float: right;">g5c</span>  01 <input type="radio"/> Agree  02 <input type="radio"/> Neutral  03 <input type="radio"/> Disagree</p>
<p>I can decide on my own what food to eat or to prepare.</p>	<p>SINGLE-SELECT <span style="float: right;">g5d</span>  01 <input type="radio"/> Agree  02 <input type="radio"/> Neutral  03 <input type="radio"/> Disagree</p>
<p>If I disagree with the running of my community, I can publicly say so</p>	<p>SINGLE-SELECT <span style="float: right;">g5e</span>  01 <input type="radio"/> Agree  02 <input type="radio"/> Neutral  03 <input type="radio"/> Disagree</p>
<p>I regularly participate in any public events in my community.</p>	<p>SINGLE-SELECT <span style="float: right;">g5f</span>  01 <input type="radio"/> Agree  02 <input type="radio"/> Neutral  03 <input type="radio"/> Disagree</p>
<p>If there are meetings about agriculture, then I can participate in them.</p>	<p>SINGLE-SELECT <span style="float: right;">g5g</span>  01 <input type="radio"/> Agree  02 <input type="radio"/> Neutral  03 <input type="radio"/> Disagree</p>
<p>I do not have enough time to take care of myself.</p>	<p>SINGLE-SELECT <span style="float: right;">g5h</span>  01 <input type="radio"/> Agree  02 <input type="radio"/> Neutral  03 <input type="radio"/> Disagree</p>
<p>If I don't feel well, I can take a day off from my regular chores.</p>	<p>SINGLE-SELECT <span style="float: right;">g5i</span>  01 <input type="radio"/> Agree  02 <input type="radio"/> Neutral  03 <input type="radio"/> Disagree</p>
<p>I do not have enough time for leisure activities.</p>	<p>SINGLE-SELECT <span style="float: right;">g5j</span>  01 <input type="radio"/> Agree  02 <input type="radio"/> Neutral  03 <input type="radio"/> Disagree</p>
<p>Please go back to the beginning of the questionnaire and enter the name of the secondary respondent!</p> <p>E A9d.Length&lt;2 &amp;&amp; A9d_1==0</p>	<p>TEXT <span style="float: right;">G_0</span>  .....</p>

## INTERVIEWER DEBRIEFING

Please record the location of the homestead.	GPS I0 N ..... W ..... A .....
How do you judge the quality of the response based on the ability of the respondent to recall information and stay focused during the interview?	SINGLE-SELECT I1 01 <input type="radio"/> Very good 02 <input type="radio"/> Good 03 <input type="radio"/> Moderate 04 <input type="radio"/> Poor quality 05 <input type="radio"/> Very poor quality
While interviewing the secondary respondent, was any man present that could hear the answers?	SINGLE-SELECT I1_1 00 <input type="radio"/> No 01 <input type="radio"/> Yes
Can you make any observations about the household or the interview that might be relevant for interpreting the data?	TEXT I2 .....
When did you end the interview?	DATE: CURRENT TIME I4 .....

## APPENDIX A — VALIDATION CONDITIONS AND MESSAGES

### [1] B1b: Which relationship does %rosteritle% have to the household head?

Validation Condition:

```
/*-----  
Validation to make sure only one person is  
reported to be the household head  
-----*/  
B1b==1? /// Is this person the household head?  
/// If household head, check that there has  
/// not been another household head reported  
(B1.Count(x=>x.B1b==1)==1)  
/// If not a household head, then no error  
:true
```

Validation Message: There must be only one person in the household designated as head.

Validation Condition:

```
/* Check that head has different gender than spouse(s) */  
  
// if head is current person, and does at least one spouse exist?  
B1b==1 && B1.Any(x=>x.B1b==2) ?  
  
// if so, check that there is no spouse with a gender different than that of the head  
!( B1.Any(a=>a.B1b==2 && a.B1a!=null && a.B1a==B1a) ) :  
  
// if not, no problem  
true
```

Validation Message: The head and his/her spouse typically have different genders. Please confirm.

Validation Condition:

```
/* Check that spouse has different gender than head */  
  
// if head is current person, and does at least one spouse exist?  
B1b==2 && B1.Any(x=>x.B1b==1) ?  
  
// if so, check whether spouse has different gender than head  
!( B1.Any(b=>b.B1b==1 && b.B1a!=null && b.B1a==B1a) ) :  
  
// if not, no problem  
true
```

Validation Message: Spouse typically has a different genders than his/her spouse (the head of household). Please confirm.

Validation Condition:

```
/*Check that there are at most 2 parent*/  
  
// if current person is father/mother?  
B1b==6?  
  
//Check that there are no more than 2  
(B1.Count(x=>x.B1b==6)<=2)  
  
//if not, no problem  
:true
```

Validation Message: Household head has at most 1 father and mother.

Validation Condition:

```
/* Checks if no household head was listed.  
Note: this runs at the end so it does not trigger errors constantly */  
  
// Check that all information has been filled  
B1.All(x=>x.B1b!=null) ?  
// If all information has been filled out, check for a head was listed  
!(B1.Count(x=>x.B1b==1)==0) :  
true
```

Validation Message: No household member was identified as the household head. Please confirm.

## APPENDIX B — OPTIONS

- [1] [D9\\_5: Which pests and diseases brought economic damage to your mungbean crop over the last 12 month? Please start with the pest or disease that dealt the largest damage to you.](#)

Options: 1: Anthracnose, 2: Black legume aphid, 3: Bacterial blight, 4: Bean common mosaic virus, 5: Bean fly, 6: Urd bean leaf crinkle virus, 7: Bihar hairy caterpillar, 8: Bollworm, fruit borer, pod borer, 9: Bruchids, pea and bean weevils, 10: Mirid, 11: Leafhopper, jassids, 12: Cercospora leaf spot, 13: Lycaenid borer, 14: Macrophomina blight, 15: Bean pod borer, 16: Powdery mildew, 17: Red hairy caterpillar, 18: Tobacco caterpillar, 19: Shield bugs, 20: Thrips, 21: White fly, 22: Mungbean yellow mosaic virus, 23: Galerucid beetle, 24: Other

- [2] [D9\\_11: For you, what are the three most important constraints to mungbean production? Please start with the main problem.](#)

Options: 1: Land is too saline, 2: Not enough water, 3: Soil fertility is too low, 4: It is too hot (flowers drop), 5: Rain damage during ripening, 6: Seed is unavailable, 7: Seed quality is low, 8: Growing period too short (cannot plant rice on time), 9: Insect pests, 10: Plant diseases, 11: Input costs are too high, 12: Too low selling prices, 13: Yields are too low, 14: Lack of market demand, 15: High storage losses, 16: Other crops are better, 17: Not enough land, 18: Not enough labor, 19: Not enough cash (credit), 20: Don't like to eat it, 21: Other

## APPENDIX C — VARIABLES

[1] D2o:

$D2g.Sum(x \Rightarrow x.D2g\_3a) - ((D2j\_3 > 0) ? D2j\_3:0) - ((D2l\_2 > 0) ? D2l\_2:0) - ((D2m\_2 > 0) ? D2m\_2:0) - ((D2m\_3 > 0) ? D2m\_3:0) - ((D2m\_4 > 0) ? D2m\_4:0) - ((D2m\_5 > 0) ? D2m\_5:0) - ((D2m\_6 > 0) ? D2m\_6:0) - ((D2n\_2 > 0) ? D2n\_2:0)$

# LEGEND

Legend and structure of information in this file

Name of section	Enabling condition for this section	Type of question, scope	Variable name
SECTION 5: OTHER INCOME SOURCES	E s4_other_sources_which.Contains(98)	Answer options	
Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur?	<p>I This refers to family relations E s3_time_other &gt; 0 V1 s4_re1_leaders_which.Contains(98) M1 Can not be itself V2 (s3_time_other_breeding_advice &lt;= (50 - s3_time_art_insem_advice))   s3_time_other_breeding_advice == 0 M2 This person is not in the list F optioncode != s5_ignored_option_code</p>	<p>MULTI-SELECT SCOPE: PREFILLED</p> <p>01 <input type="checkbox"/> Community animal health workers 02 <input type="checkbox"/> Private 03 <input type="checkbox"/> Government 04 <input type="checkbox"/> Livestock keepers association 05 <input type="checkbox"/> NGO</p> <p>And 5 other [13]</p>	s4_re1_leaders_other
Additional information: "I" – Question instruction "E" – Enabling condition "V1" – Validation condition N°1 "M1" – Message for validation N°1 "F" – Filter in Categorical questions		Link to full set in appendix	

## Breadcrumbs

Type or roster	Roster Title
CHAPTER 3 IDENTIFICATION / Roster:	LEADER RELATION DETAILS generated by fixed list:
01	Ward Livestock Officer
02	Village Livestock Officer
99	Other (specify)
List items	