

Pakistan Institute of Development Economics, Islamabad



Seasonal Climate Forecast and Farmer's Adaptation Behavior

Survey Questionnaire (2015)

Date of interview			2015
Questionnaire No.			

District	Jhang
Tehsil	Athara Hazari
Union Council	
Village	

Interviewer's Name	
Supervisor's Name	DR. REHANA SIDDIQUI

Seasonal Climate Forecast and Farmer's Adaptation Behavior

Survey Questionnaire

The survey is being conducted to help the Farmers to improve farm productivity while incorporating the information provided by Metrology department via agricultural extension workers. This questionnaire will be mainly focused on farmer's perception and willingness to pay about the extended role of extension worker and new technology of forecasting (Seasonal Climate Forecast). Please take a few minutes to

express your views to conserve environment in your community. Your cooperation is highly valuable for successful completion of this study. This information and identity of respondent will be kept confidential. The information will only be used for research and not for any other purpose.

1. Household Profile:

a) Name of respondent _____ S/o _____

b) Age of the respondent _____ c) Education _____

d) Relationship with the farm decision maker _____ (son=1; brother=2; nephew=3; cousin=4; farm manager=5; self=6; father=7; uncle=8; other specify _____)

e) Respondent gender _____ (male=1; female=2)

f) Name of farm decision maker _____ g) Age _____ (years)

h) Education _____ i) Farming experience _____ (years)

j) Total family size _____ (Number)

k) Children less than 1 year _____; 1 to 5 year _____; above 5 year _____ (Number)

l) How long have you been farming in this area? (Tick) Less than 30 years _____ over 30 years _____

m) Total monthly expenditure per month (Rs) _____ n) Total monthly savings (Rs) _____

2) Farm Profile:

a) Farm size:

Title to the operational area	Area	Rents and shares	Amount/percentage
1.Total area owned			
2.Area leased out		8.Rent obtained (Rs/acre)	
3.Area leased in		9.Rent paid (Rs/acre)	
4.Area shared out		10. Share in outputs (%)	
5.Area shared in		11. Share in inputs (%)	
6.Area not accounted above*			
7.Waste Area**			

*Common land etc. **land not suitable for cultivation.

b.) Tenancy status: (Owner=1; Owner-cum-tenant=2; Tenant=3) _____

c.) Did you hire seasonal labor in previous Kharif and Rabi? _____ (Yes=1; No=2)

If yes, than answer the following

1. Number of days hired: _____ 2. How many hours worked per day _____

2. Total cash payment: (Rs) _____

3. Food cost: (Rs/month) _____ 4. Other benefits (specify) _____

5. Value (Rs.) _____

d.) Operational area by irrigation source

Source	Area	Expenditure per acre by irrigated status (Rs)
1.Canal Irrigated		
2.Tube-well irrigated		
3.Canal + Tube-well irrigated		
4.Well irrigated		
5.Rain fed		
6.Other (specify)		

e.) Operational area by soil fertility (% of operational area)

1. Poor fertility: _____ % 2. Average fertility: _____ % 3. Good fertility: _____ %

4. Do you think land fertility has decreased during last 5 years _____ if yes than why _____

5 Do you think land fertility has decreased during last 10 years _____ if yes than why _____

6. Do you think land fertility has decreased during last 15 years _____ if yes than why _____

f.) Soil problems:

Soil problem	Area	Proportion of area severely affected (%)	Proportion of area moderately affected (%)
1. Water logging			
2. Salinity			
3. Erosion			

g.) Problems related to irrigation water availability:

1. No bad experience	
2. Water in wrong direction	
3. Less water	
4. Less than expected rainfall	
5. Problem with irrigation canal	
6. Water Problem related with Shortfall	

3. Major crops grown at your farm in Kharif and Rabi (% of area allocated to a certain crop out of total cropped area in the season)

Currently	10 years back	20 years back	30 years back	Reasons for change*
Crop name (% area)				
Kharif				
1.				
2.				
3.				
4.				
Rabi				
1.				
2.				
3.				
4.				

4. Farm mechanization status:

Machines	Machine owner=1 Otherwise=0	Use Yes=1; No=0	Machines	Machine owner=1 Otherwise=0	Use Yes=1; No=0
1.Tractors			11.Seed drill		
2.Trolly			12.Laser land leveler		
3.Combine Harvester			13.Chisel Plough		
4.Powere Sprayers			14.Disk Plough		
5.Zero-till drill			15.Cultivator		
6.Maize Sheller			16.Tractor mounted sprayer		
7.Reaper			17.Common land leveler		
8.Thresher			18.Other		
9.Ridger			19.Other		
10.Rotavator			20.Other		

5. Determinants of cropping pattern

Cropping Decision *	
1.No answer	
2.Water availability	
3.Price of product	
4.Suport prices	
5.Refer to other (neighboring) farmer	
6. Refer to government recommendation	
7. Water availability and price of output	
8. Water availability and recommendation	
9. Others	

Cropping Decision* relevant answer yes=1 in relevant cell Otherwise=0 in cell

6.

- a) During the last 30 years what is your observation about summer and winter season temperatures in this area?

Summer temperature now as compared to that it used to be 20-30 years ago	More hot=1; Less hot=2; Same=3	Winter temperature now as compared to that it used to be 20-30 years ago	More cool=1; Less cool=2; Same=3
i)Summer season is		i)Winter season is	
ii)Summer days are		ii)Winter days are	
iii)Summer nights are		iii)Winter nights are	

- b) If compared now with the situation 30 years ago, what do you think about the followings?

Comparison	Increased=1; Decreased=2; No change=3
i)Number of extremely hot days in summer has	
ii)Number of hot nights in summer has	
iii)Number of extremely cool days in winter has	
iv) Number of extremely cool nights in winter has	

- c) Experience shows that seasons have changed. What do you think about the followings?

Summer/winter season	Early=1; Late=2; No change=3	No of days (0, 1, 2...)	Summer/winter season	Yes=1; No=0	No of days (0, 1, 2...)
i)Summer starts			i)Has Summer prolonged		
ii)Summer ends			ii)Has summer shortened		
iii)Winter starts			iii)Has winter prolonged		
iv)Winter ends			iv)Has winter shortened		

d) Rainfall pattern has changed due to climate change. What do you think about the followings?

Summer/monsoon rains:	Early=1; Late=2; No change=3	No of days (0, 1, 2...)	Winter rains:	Early=1; Late=2; No change=3	No of days (0, 1, 2...)
Monsoon rain's season starts			Winter rains season starts		
Monsoon rain's season ends			Winter rain season ends		
	Yes=1; No=0			Yes=1; No=0	
Longer monsoon seasons			Longer winter rain seasons		
Shorter season and low rainfall			Shorter season and low rainfall		
Shorter season but heavy rainfall			Shorter season but heavy rainfall		
Heavy rainfall at once			Heavy rainfall at once		
Unusual and untimely rainfalls			Unusual and untimely rainfall		

e) What trend did you observe in other climate change indicators and hazards in this area during the last 30 years?

Sr. No.	Hazards	Frequency: Same=0; Increased=1; Decreased=2	Intensity: Same=0; Increased=1; Decreased=2	Number of consecutive days: Same=0; Increased=1; Decreased=2	Which of the following were frequently (Rank high to low)	How much was your household affected: (Rank high to low)
1	Droughts					
2	Floods					
3	Too much rains					
4	Early rains					
5	Late rains					
6	Extreme cold					
7	Extreme heat					
8	Wind storm in winter					
9	Wind storm in summer					
10	Fog					
11	Frost					
12	Hailstorms					

No. of rainy days in a seasons: _____

i) What are the reasons for not adopting any strategy to reduce the impact of climate change:

- i) Lack of money _____ (Yes=1; No=0)
- ii) Lack of information _____ (Yes=1; No=0)
- iii) Shortage of labor _____ (Yes=1; No=0)
- iv) Other [specify] _____ (Yes=1; No=0)

j) Who gets the information and benefits from support information?

Land holdings	Yes=1; No=0	Types	Yes=1; No=0
i)Big farmers		v)Owner of land	
ii)Average farmers		vi)All the farmers	
iii)Small farmers		vii)Other specify	
iv)Women farmers		viii)No response	

k) Where do you get weather information? (Could be multiple choices)

Source	Yes=1; No=0	Source	Yes=1; No=0
i)Radio		vi)based on traditional knowledge	
ii)Newspaper		vii)Department of agricultural	
iii)TV		viii)Don't care about weather predictions	
iv)Neighbor		ix)Other specify	
v)Family members		x)No response	

l) Which way extension worker should inform you about Seasonal climate forecast:

5. For Yes=1; No=0

a) Farmers' knowledge of climate forecast methods.

i) No answer	
ii) Have knowledge	
iii) Do not have knowledge	

b) Farmers' opinions about traditional weather forecasting.

i) No answer	
ii) Always correct	
iii) Sometimes correct	
iv) Often correct	
v) Often incorrect	
vi) Always incorrect	

c) Farmers' response to new methods of climate forecasting.

i) No answer	
ii) Learn new method first and then try it	
iii) Refuse new method because a farmer's way is better	
iv) Others	

d) Influence of extension worker on type of crop

i) No answer	
ii) Influenced by extension workers	
iii) Not influenced by extension workers	

e) What sort of information farmer needs from extension worker?

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f) How many visits of extension worker is required by the farmer?

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g) Expected increase in income due to seasonal climate forecast?

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6. Willingness to pay

If agricultural Extension workers can provide information regarding Seasonal Climate Forecast (forecasting for a seasons about precipitation, temperature, wind speed and direction) and new agricultural techniques, verities and news regarding new innovations to the farmers at least twice a month for further incorporation into their farming practices, what will be their willingness to pay per month for acquiring such services at their village level?

- a) **Would you be willing to pay Rs 50 /month on provision of SCF (Seasonal climate forecast) information through agricultural Extension worker (will also provide other new techniques and ideas)?**

Yes __ (Go to Question b) No__ (Go to Question c)

b) **If yes, would you then pay Rs 100/month? _____**

c) **If not, then would you pay Rs 25/month? _____**

d) **If not then how much would you be willing to pay?**

Rs...../ month

e) **What is your maximum willingness to pay?**

Rs...../ month

f) **If you are not willing to pay anything, explain why not?**

Thank you for your cooperation

