

Survey for Farmers in the Mexicali Valley, Baja California, México

Purpose of Research: This research will evaluate a) Farmer adaptation strategies to water supply variability in the Mexicali Valley Irrigation District; b) What are the differences in adaptive strategies between those farmers still in operation and those who have ceased agricultural operations completely?

Survey number: _____ **Date:** _____ **Location of interview:** _____

I. General information, education, and family

In which module(s) are your parcels located? (*choose all that apply*)

1	2	3	4	5	6	7	8	9a	9b	10	11	12	14	15	16	17	18	19	20	21	22
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Are you an ejidatario? Yes No

a. *If answering yes:* What is the name of the ejido? _____

Where is your house located? (name of city, colonia, or ejido)

Gender and age:

a. Female

b. Male

Age: _____

Educational attainment:

(*Select one*)

Primary

Secondary

High School

College

II. Information on agricultural production

Land ownership and hectares cultivated:

What is the number of hectares for each of the following categories?

Hectares of private property or ejidal property		Of these, hectares cultivated in the last 12 months	
Hectares rented from other water users		Of these, hectares cultivated in the last 12 months	

Which are the crops that you grow on a regular basis?

a) Indicate the approximate number of hectares of each crop grown since October 2010.

b) How many years have you been growing each crop?

c) Are there any other crops you grow on a regular basis?

Crop	# of ha	Years	Crop	# of ha	Years	Crop	# of ha	Years
Alfalfa			Cilantro			Sudan grass		
Cotton			Asparagus			Wheat (forage)		
Garlic			Spinach			Wheat (grain)		
Oats (forage)			Lettuce					
Oats (grain)			Corn (forage)					
Bermuda			Corn (grain)					
Safflower			Oranges					
Barley (forage)			Radish					
Barley (grain)			Rye grass					
Onion			Sorghum (forage)					
Green Onion			Sorghum (grain)					

Have you changed the crops that you grow over the past 10 years? When? Which are the crops that you have changed?

1. Crop and year change was made:
2. Crop and year change was made:
3. Crop and year change was made:
4. Crop and year change was made:

If the specific crops grown have changed: Which were the primary reasons for the change in crops grown? Rank according to importance top two reasons.

1	2	a. Low crop prices, high input prices, or other issues related to markets
1	2	b. Lack of water / unreliable water supplies
1	2	c. Other reason: d.

Have you had employees working for you over the past 12 months? Yes No

Number of employees: _____

Number of family members you have working on your farm in a typical year: _____

Comments:

1. Do you have your own agricultural machinery? (*include only tractors and other auto-propelled machinery*) Yes No

a. Quantity of machinery owned: _____

b. What is the average amount of hours (or years) on your agricultural machinery? _____ hours / _____ years

2. Do you have machinery that is owned in a collective group? Yes No

a. How many people are in the collective? _____

b. Quantity of machinery owned by the collective: _____

c. What is the average amount of hours (or years) on the collective's agricultural machinery? _____ hours / _____ hours

Comments:

III. Information on irrigation

Do you irrigate with surface water? Yes No

Do you irrigate with well water? Yes No

What is your irrigation method(s)?

Flood	Furrow
Sprinkler	Drip

If answering yes to irrigating with well water:

a. Federal or private

b. How deep is your well? _____ meters

<i>If the farmer has access to both sources of water:</i> What is your primary source of irrigation water?	Surface water	
	Groundwater	
	I used both surface and groundwater roughly equally	

Think about which modules you had the most hectares planted in and what you planted, between October 2010 and October 2011 (<i>limit answer to 3 top modules</i>)	Module #	Approximate number of times you requested irrigation deliveries	Number of times less water arrived than ordered	Number of times lack of water resulted in water stress

Last year, what is the longest number of days you had to wait for irrigation deliveries? _____
 More or less, would you say that your crops suffered due to late arrival of water (*circle one*):
 1) Many times, 2) A few times, 3) Never or almost never

IV. Other income, organizations, and support

Do you have cattle? Yes no
If answering yes:
 a. How many heads of cattle? _____
 b. *Choose one:* dairy meat
 c. Other livestock and quantities: _____
 Comments:

Number of people currently living in the household (including yourself): _____

List any off-farm employment for any member of the household or any other income sources.

Type of employment and location of employment OR other income sources

Thinking of your household consumption, would you say that you depend on agricultural production for more than half or less than half of household expenses? A. More than half B. Less than half

Are you a member of an organization, collective, cooperative or association? Yes No

a. **Optional:** What are the names of the organizations?

b. Do you have a position in the board of directors for the irrigation module? Yes No

1. Do you participate in Procampo? Yes No

a. Approximately, how many hectares are listed as being eligible to receive support through Procampo? _____

2. Have you received governmental support in the last five years to purchase farm machinery or equipment? Yes No

a. **Optional:** What you have purchased?

3. Do you receive any other type of government support or participate in any other government programs?

V. Risk, water supply reliability, and adaptation

1. List the reasons for negative impacts on the profitability of your farm production over the past 5 years, considering both revenues and costs. (Circle all applicable, a-j)

Loss of yields due to:

- a. Extreme heat or frost
- b. Pests or plant disease
- c. Lack of water
- d. Saline water or saline soil

Most severe impacts?

2. Note the 3 most important impacts on profitability of farm operations.

Other factors leading to low profitability:

- e. Low market price
- f. Increasing cost of inputs
- g. Poor quality harvest
- h. Labor market shortage or other labor problems
- i. April 2010 Earthquake
- j. Other:

Comments:

<p>Being a farmer in a region where water supplies may be unreliable at times, how have you responded to water shortages? That is, how have you changed your agricultural production and how do you adapt within the household? (Choose all that apply.)</p> <p>Comments:</p>	1. Change to a different seed type or grow a different crop that consumes less water. <i>If yes, type of new crop:</i>	
	2. Choose to not plant a second crop or to not plant additional hectares	
	3. Seek technical assistance From who:	
	4. Leveling of land	
	5. Change irrigation technology <i>What type of technology and in which year:</i>	
	6. Improve soil quality with organic matter <i>Examples, such as hay, wheat, or manure:</i>	
	7. Work more hours or more intensely	
	8. Purchase or lease more water	
	9. Purchase or lease more land / increase hectares planted	
	10. Find work on another farm	
	11. Find off-farm work	
	12. Reduce the quantity of inputs used (for instance, by reducing quantity of fertilizers used)	
	13. Reduce input costs	
	14. Seek support from the government or another organization	
	15. Lease out a portion of your water rights	
	16. I have not had problems with unreliable water supplies or water shortages	
Other:		

VI. Water Use: Hunting and Fishing

<p>In a typical year, do you go fishing in this region? Yes No</p> <p><i>If answering yes, which types of fish?</i></p>	<p>a. Where you go to fish in this region _____</p> <p>b. Number of times you go fishing in this region each year _____</p> <p>c. Typically, how many people go with you:</p>
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<p>In a typical year, do you go hunting in this region? Yes No</p> <p><i>If answering yes, which types of animals?</i></p>	<p>a. Where you go to hunt in the region _____</p> <p>b. Number of times you go hunting in this region each year _____</p> <p>c. Typically, how many people go with you:</p>
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VII. Water Rights

The following questions are optional.

Do you currently lease a portion of your water rights to other people?
If answering yes:

1. Approximately how many hectares of your rights do you lease out? _____
2. In which year did you begin leasing your water rights? _____
3. Do you lease...
 - a. Only your water rights
 - b. Or do you also rent your land?
4. Who do you currently lease to?
 - a. Other farmers
 - i. Which type of producer: _____
 - b. Cities/municipalities
 - c. Environmental groups
 - d. Others:

Comments:

VIII. Farmers that have ceased agricultural operations

<p>Have you completely ceased agricultural production? Yes No</p>	<p><i>If yes, In which year? _____</i></p>
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Why did you exit from agricultural production?

IX. Conclusion

Are there any questions remaining that you have regarding this survey?

In the last 10 years, international attention has been focused on the loss of biodiversity in the Colorado River Delta, which depends upon water for its survival. If you knew that half of water users in your module would support in some way, would you also help with one of these options?

Contributing some water (200m³/hectare) each year for the environment

Working 20 hours each year as a volunteer planting trees in the region

Making a monetary donation to a non-profit dedicated to the protection of the environment. If yes, how many pesos each year?

No interested