

Household questionnaire: Snowmelt dependent systems in The United States and Kenya

This survey is being conducted by Indiana University, Princeton University, and the University of Nairobi, under the direction of Dr. Tom Evans in the Department of Geography at Indiana University (Email address: cipec@indiana.edu). The focus of this project is on the ability of farmers to adapt to changes in the availability of water in this area. Every precaution will be taken to maintain the complete confidentiality of your responses and personal information. If you choose to participate, you may refuse to answer certain questions, or you may stop participating at any time. Your decision whether or not to participate will not affect your current or future relations with the researchers, Indiana University, or local water associations. Your responses will be summed together with those of roughly 500 other households in Kenya and only general averages from the analysis will be reported. You will not be identified in any published results from this project. This survey should take approximately one hour to complete. Respondents will not receive payment for participating. You indicate your voluntary consent by participating in this interview. If you have questions about your rights as a research participant or have concerns about the study, you may contact the Indiana University Human Subjects Office at irb@iu.edu.

1. Province:	PROV	<input type="text"/>
2. District:	DIST	<input type="text"/>
3. Location:	LOC	<input type="text"/>
4. Sub-location:	SLOC	<input type="text"/>
5. Ranch:	RNCH	<input type="text"/>
6. Group ranch:	GRNCH	<input type="text"/>
7. Village/Locality:	VILL	<input type="text"/>
8. Household Serial Number:	HHNa	<input type="text"/>
2012 HH Serial Number:	HHNb	<input type="text"/>
9. Please list your tribe	TRIBE	<input type="text"/>
10. How many household members currently reside at this residence?	HSIZ	<input type="text"/>
11. Name of enumerator:	ENUM	<input type="text"/>
12. Date of interview	SDATE	Day <input type="text"/> Month <input type="text"/> Year <input type="text"/>
13. Start and end time:	STIME / ETIME	Start time <input type="text"/> End time <input type="text"/>
14. Name of supervisor:	SUPER	<input type="text"/>
15. Date supervisor checked	SUPCH	Day <input type="text"/> Month <input type="text"/> Year <input type="text"/>
16. Name of data entry staff	DENTRY	<input type="text"/>
17. Date of data entry	DENTERED	Day <input type="text"/> Month <input type="text"/> Year <input type="text"/>

18. Are you a member of a water project/scheme? **WTRPROJ**

- Yes No No response

19. Please describe the water/irrigation community/systems to which you belong:

Name	Initial cost of membership	Monthly maintenance fee	Years of membership

20. Indicate which of the following rules govern membership to your primary water project/scheme (check all that apply): **MBRULE**

- Pay initial membership fee
 - Pay monthly maintainance fee
 - Attend meetings
 - Contribute labor to maintain the water project
 - Must be a member of a specific tribe or ethnicity
 - Other Specify:
-

21. Indicate which of the following rules govern access to irrigated land in your primary water project/scheme (check all that apply): **IRRLNDRUL**

- Must own land
 - Permission to access land must be given by chief, local authority, elders, community, or others
 - Must be a member of a specific tribe or ethnicity
 - Other Specify:
-

22. Indicate which of the following rules govern access to water from rivers, streams, or pipes (check all that apply): **WTRRUL**

- Pipes must not have leaks, must be maintained
 - Must have a permit to pump water
 - Must comply with water rationing schedules during shortages
 - Must avoid pumping water when the river is low
 - Other Specify:
-

23. Indicate which of the following rules govern access to water from wells and boreholes (check all that apply) (section 4):

GWTRRUL

- Water from wells and boreholes must not be used for irrigation purposes, only domestic consumption
 - Borehole/well must not be damaged when fetching water; pumping equipment must not be damaged
 - Must be a member of the community to access water from the borehole or well
 - Other Specify:
-

If “yes” to question 18, please ask questions 24 and 25, if “no”, skip to question 26.

24. Did a member of your household vote the last time your community held an election for community board members **VOTE?**

- Yes No No response

25. Do you contribute labor to maintain the infrastructure of your irrigation network/water project **LBRINF?**

- Yes No No response

26. In the last year, how many times have you attended community meetings on water issues **ATTNWTR?**

- Never Once 2-5 times 6 or more times

27. Have you ever reported cases of illegal or incorrect water usage **REPILL?**

- Yes No No response

28. If yes, to whom did you report the illegal or incorrect water usage **REPILLWHO?** (check all that apply)

- The governing board of your water project WRUA WRMA Chief
- Other Specify:

29. If yes to question 27, please explain what happened after reporting the illegal or incorrect water usage **REPILLEX:**

30. Are you satisfied with how much water you receive given how much you pay to be a member of the water project/scheme **SATWTR?**

- Very satisfied Somewhat satisfied Neutral Somewhat dissatisfied Very dissatisfied

31. Has the amount of water you receive from your connection changed over the last 5 years **CONXCHG?**

- “Yes,” it has increased “Yes,” it has decreased “No,” it has stayed the same

32. Please explain **CONXCHGEX:**

Section 2: Agricultural activities

33. How has the amount of land you irrigate changed in the last 5 years? **IRRCHNG**

- Greatly increased Slightly increased No change Slightly decreased Greatly decreased

34. If there has been a change, what is the main reason for this change? **IRRCHNGEX**

35. What part of your income comes from crops that you irrigate? **IRRINCM**

- All Most Half Little None

36. How much of the water that you use for irrigation comes from the following sources?

	All	Most	Half	Some	None
Rivers/Streams WfromRiv					
Boreholes WfromBore					
Scheme hookup WfromSch					
Harvested rainfall WfromR					

37. Check if the respondent has one or both of the following:

Tank	TANK:
Dam or Pond	DAMPND:

38. If yes, how big are they? . . . **TANKLTR** . . . **DAMPNDSZE**

If yes, what do you use the storage water for?

- TANKUSE** Irrigation Livestock Domestic Other
- DAMPNDUSE** Irrigation Livestock Domestic Other

40. During the following months of the past year, for how many days was water **available** on your farm (1) through the water project/scheme? **DAYWTRX**

	2012								2013				
	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Through wat. p./sc													

41. During the following months of the past year: (1) for how many days did you irrigate your fields, and (2) Put an "X" for the months in which you needed to irrigate, but you didn't have enough water. If instead rainfall was relied upon as the primary means of watering crops, put an "X" in the bottom row. **DAYIRR**

	2012								2013				
	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Days Irrigat-ed													
Not enough water to irrigate													
Relied on rainfall													

42. Has the amount of water that your household or farm actually uses changed over the last 5 years? **WTRUSECH**

- "Yes," it has increased "Yes," it has decreased "No," it has stayed the same

43. Please explain: **WTRUSECHEX**

44. Given your choice of crops planted and crop rotation strategies, please characterize your reliance on external inputs (example: pesticides, fertilizers): **EXTINP**

- High reliance Moderate reliance Low reliance

45. What do you believe are the two greatest natural challenges posed by the physical environment to your agricultural system (choose two)? **GRTCHLG**

- Drought Soil quality Erosion Temperatures
 Floods Other Specify:

46. Given your answer in question 45 please describe the strategies that you use on your farm to mitigate this challenge: **GRTCHLGEX**

47. Are there crops that you're considering growing in the future that you haven't already had experience growing? Why are you considering growing these crops? **CROPCON**

Crop that will be grown in the future (use code below)	Why are you considering growing this crop?

48. Have you been faced with a water shortage that forced you to change your farming practices? **CHAFARM**
 Yes No No response

49. If yes to question 48, please describe how your farming practices changed. (Please choose from the following options) **CHAFARMOP**: Planted different crops Relied on off-farm income/employment Changed crop rotation patterns/timing of harvests Other.

50. Check any of the following sources of food if it is important for household consumption: **FOODCONS**

Source	Check if important
Irrigated crops grown on the farming unit	
Non-irrigated crops grown on the farming unit	
Food items purchased at market(s)	

51. Has any of the following in the last ten years changed in your farm:

a. New Irrigation methods, such as drip irrigation **IRRICH**: Yes No No response

b. Using advanced/hybrid seeds, or drought tolerant cultivars **SEEDCH**: Yes No No response

c. Agricultural equipment you use **EQUICH**: Yes No No response

d. Where you obtain the majority of your water from **WACHA**: Yes No No response

e. Amount of time you spend for cultivation activities **TIMECUL**: Yes No No response

52. If you knew that next year you would receive 50% less water through the network compared to last year, how would you change your crop choice or land use? **LESS50WAT**

Change crop type (please explain) Reduce area under cultivation Other __

53. In the last 3 years, was there a time when you didn't have enough water for domestic water use **WTRDMAVL**?

Yes No No response

54. If yes, please explain **WTRDMAVLEX**:

55. How much of the water that your household uses is for domestic purposes (such as livestock purposes, consumption, bathing, washing clothes) versus irrigation **WTRDOM**?

- All domestic
 Mostly domestic
 Equal
 Mostly irrigation
 All irrigation

56. On a quarter (1/4) acre of land planted in maize on your farm, what would you expect to harvest (1) in a bad year? (2) in a typical year (most common harvest amount during the previous 5 years)? and (3) in a good year?

. . . . Bad year MZBDYR		<input type="checkbox"/> units (code below)
. . . . Typical year MZTYR		<input type="checkbox"/> units (code below)
. . . . Good year MZGDYR		<input type="checkbox"/> units (code below)

57. How much of the harvest you intended to sell last year were you unable to sell because of road (rain) conditions **RDHVST**?

- 1/4
 1/2
 3/4
 All
 N/A

Unit of harvest:	
1 = 5kg paper bag	8 = count/number
2 = 10 kg paper bag	9 = pickup loads
3 = 50kg sack	10 = 20 kg buckets
4 = 90kg sack	11 = debes
5 = kg (weight)	12 = lorries
6 = stacks (hay)	
7 = crates	

61. Place a check next to any important information source from which you receive information about agriculture (e.g., new planting techniques, new tools, new fertilizers, new chemicals, new crops, new hybrids, new marketing options, new crops storage, new credit options, new loan options, creation of new group or society, new learning opportunities...)

Source	Variable	Place a check in this column if the source is important
		SO01
Radio	RADIO	RADIOSO01:
Television	TV	
Newspaper	NWPRP	
Public barazas	BARA	
Local groups	LOCAL	
Informal discussions	INFORM	
Observing other farmers	OBSERV	

62. From whom do you usually receive information about agriculture?

Source	Variable	Place a check in this column if the source is important
		AG01
KARI	KARI	KARIAG01:
CETRAD	CETR	
WRMA	WRMA	
Ministry of agriculture or Ministry of livestock	MINAGLV	
National irrigation board	NIB	
Other NGOs	NGO	
Local chief	CHIEF	
Family members	FAM	
Friends	FRND	
Private sector	PRVT	
WRUA	WRUA	
Other:	OTHR	

63. How many times in the past year have you attended meetings or workshops held by an agricultural extension officer from the government?

..... **EXTSN**

64. If you have met with an agricultural extension officer, how has this affected your activities? **EXTCHNG**

65. Here is a list of actions that people sometimes take as citizens. For each of these, please tell me whether you, personally, have done any of these things during the past year.

Activity	Variable	Done activity: Yes = 1, No = 0
		ACT01
Attended a community meeting	MT	
Contacted a local government counciler	GOV	
Contacted a chief or subchief	CHF	
Contacted a member of parliament	PAR	
Aired grievances	GRVN	
Other	OTHR	

Section 3: Land and livestock assets

66. How long have you lived here? **STAY** Years

67. In what year did you start farming here? **YRFM**

68. How has the total area of land you cultivate changed in the last 5 years? **LNDCHNG**

Increased by _____ No change Decreased by _____

69. If there has been a change, what is the main reason for this change? **LNDCHNGEX**

70. How did you originally obtain the rights to the land you use? **LNDRGHT**

Purchased it Inherited it Rented it Caretaker Communal

Rights granted by: Chief or local authority Elders Community Neighbors Relatives

Others Specify:

71. Do you know of people in your community having a dispute over their land? **LNDCON**

- Yes No No response

72. Please explain your answer to the previous question: **LNDCONEX**

73. Please describe the livestock owned by members of your household/compound:

Animal	Variable	Number owned	Number sold this year	Total price
		LV01	LV02	LV03
Cattle	CATT	CATTLV01:		
Goats	GOAT			
Sheep	SHP			
Chicken	CHK			
Donkey	DNK			
Other:	OTHR			

74. How has your reliance/dependence on livestock changed in the last 5 years? **LVCHNG**

- Greatly increased Slightly increased No change Slightly decreased Greatly decreased

75. If there has been a change, what is the main reason for this change? **LVCHNGEX**

76. Currently, how important are livestock to the direct support of your livelihood? **LVINCM**

- Very Important Somewhat Important Not Important

77. Currently, what part of your household income comes from livestock products? **LVPROD**

- None Some but less than half Half Most All

78. Currently, what part of your household income comes from livestock sales? **LVSALE**

- None Some but less than half Half Most All

81. Please provide the following information on all children who are of the age to attend school. Also indicate whether the child “does not go to school”, “goes to school and lives at home”, or “goes to boarding school” by placing a check in the appropriate box.

Age CHIAGE	Sex CHISEX	Doesn't go to school NOSCHL	Goes to school AND lives at home SCHLHOM	Goes to boarding school BRDSCHL	Goes to college/university COLLEGE	Annual cost of education per child CSTSCHL

82. In the last 12 months, has someone in your household been seriously ill? **ILLSER**

Yes No No response

83. If yes, how long was this person seriously ill? **ILLSERDUR**

.....

84. During the past 12 months, did your household ever experience 1 full day with no food to eat? **NOFD**

Never Once a week Once a month A few times a week A few times a month
 Every day I don't know

85. What type of toilet facility does your household usually use? **TOILET**

Pit latrine Flush toilet Other:

86. What is the primary construction material of the housing unit roof and exterior wall? **HSRFWL**

Corrugated iron (mabati) Straw Other:

87. If your household wanted to borrow money from a bank or other financial service provider, would it be easy to do so? **BRWMNY**

Yes No No response

88. If no, please explain why it would not be easy: **BRWMNYEX**

89. In the past, did your household ever have debt? **HSDEBT**

Yes No No response

90. If yes, please specify to whom the majority of the debt was owed. **DBTOWD**

91. Please indicate if you agree or disagree with the following statement: "My family has fewer educational and economic opportunities than other families because of our religion and/or ethnic group." **EDUCECOPP**

Strongly disagree Disagree Neutral Agree Strongly agree

92. Is your dwelling connected to the electric grid? **GRID** Yes No

93. Does your household have solar panels? **SOL** Yes No