

Work plan for sub-grant agreement on data collection under the project Scaling up experiential learning tools for sustainable water governance in India

Background

The BMZ funded project on Scaling up experiential learning tools for sustainable water governance in India enhances sustainable water management at scale, contributing to the CGIAR System Level Outcomes (SLOs) Improved natural resources and ecosystems and Reduced poverty, as well as BMZ Outcome Targets 1 on Adoption of new technologies with secondary support to Outcome Target 3 on Sustainable land management practices. The purpose of the project is to improve the capacities of 1,500 rural communities covering 105,000 households directly and 2,000 communities covering 140,000 indirectly in six Indian states to manage water more sustainably. This will be achieved through experiential learning from collective action games, community debriefings, and participatory water planning tools that contribute to greater awareness and improved governance, inducing behavioral change toward more sustainable water management. We will achieve this through the following outputs: 1. Experiential learning tools for sustainable water management refined and readied for deployment (collective action games, community debriefings and water use planning tools for surface and groundwater governance); 2. Strengthened capacity of local village institutions, NGOs, and government programs to use experiential learning tools and incorporate lessons in community water management plans; 3. Scaled-up experiential learning through collective action games, community debriefings, and water use planning tools for surface and groundwater governance in 1,500 rural Indian communities, reaching 105,000 households directly (and 2,000 communities and 140,000 households indirectly); 4. Monitoring and evaluation (M&E) and assessment of experiential learning's impact on community rules and collective action for commons management, water users' behavior, sustainability of water use, and local livelihoods; 5. Lessons synthesized, disseminated, and fed into large-scale development initiatives in India and internationally. The experiential learning is expected to motivate communities to change behavior and adopt rules for collective water management, leading to sustainable water management.

The work subject to this sub-grant agreement

As part of the project's 4th outcome, the impact of experiential learning interventions will be assessed. The impact assessment will thereby be limited to the work in the three states of Andhra Pradesh (Chittoor and Anantapur districts), Karnataka (Chickballapur district) and Rajasthan (Bhilwara district). A stratified random sample of 472 was drawn. Consequently, in total, data need to be collected in 472 communities (please see details in Table 1)

For impact assessment the baseline data was collected from 472 communities from the three states (Andhra Pradesh, Karnataka, and Rajasthan) during November 2021 to February 2022. For the endline survey, data need to be collected on Key informant survey, Community water focus group discussion and individual survey. The postgame individual survey need to collect from the selected community members as per the baseline information (three men and three women) from which pregame individual survey data was collected in the baseline survey.

State	District	Mandal/Block	No. of Communities
Andhra Pradesh	Anantapur	Gandlapent	34
		N P Kunta	33
	Chittoor	Gurramkonda	26
		Peddamandyam	27
		Thambalapalle	44
Karnataka	Chikballapur	Bagepalli	82
		Siddlaghatta	70
Rajasthan	Bhilwara	Kotri	29
		Mandal	11
		Asind	116
		Total	472

At these sites, the following data need to be collected:

Table 2: Overview of data to be collected				
Type of data	Purpose	Number of data collection interactions	Envisioned data collection time	Data collection tool
Endline Community Water Focus Group	Identify changes from community water focus group for community level outcomes	Jointly 10-15 community from the village	Mid-Dec-2022 to March-2023	Annex 3
Endline community level key informant interviews	Identify changes from baseline for community level outcomes	jointly 6-7 key informants in 472 communities	Mid-Dec-2022 to March-2023	Annex 1
Endline individual player survey	Identify changes from baseline for Individual level outcomes	6 community members per community / total 472 communities (depend on the interventions and with how many group we are playing game) In total, 2832 interviews.	Mid-Dec-2022 to March-2023	Annex 2

Data collection period: Mid Dec-2022 to March 2023

We expect the survey to be conducted in the communities where we have baseline survey was completed. ICRISAT will provide habitation list and name of the respondent for conducting postgame individual survey.

The sub-contractor is expected to

- 1) identify suitable enumerators in all three regions,
- 2) train them appropriately in the survey tools,
- 3) organize data collection based on community sample lists provided by ICRISAT,
- 4) organize and cover transportation costs,
- 5) supervise, manage and control the quality of data collection
- 6) provide the data in agreed upon formats ensuring data safety.

Annexure 1: Community Key Informant survey baseline for “Scaling up experiential learning tools for sustainable water governance in India” project
(Pre-game for groups in treatment villages and control villages)

Informed consent

My name is _____ and I am part of a research team from International Food Policy Research Institute (IFPRI), International Crop Research Institute for the Semi-Arid Tropics (ICRISAT), Foundation for Ecological Security (FES), and National Institute of Agricultural Extension Management (MANAGE). We are working on the project “**Scaling up experiential learning tools for sustainable water governance in India**”. The survey includes questions about the management (rules for maintenance, benefit allocation) of water resources (both common and individual) in your community. This discussion will last for approximately 45 minutes.

Your participation in this study is completely voluntary, and you may leave the discussion at any time. The questions are not personal or sensitive, they are about the community in general. Nevertheless, you are free to refuse to answer any questions if you feel uncomfortable. You are free to leave at any time, but your assistance in answering all our questions will help us greatly and is very appreciated. You may ask us any questions about the study before agreeing to participate, or at any point during the discussion.

This discussion is for research purposes only, and all the information obtained will be kept safe in our files. You will not be identified in any presentation of the study reports. Only our study team IFPRI, ICRISAT, FES and MANAGE will have access to the data, and all personally identifiable information will be erased after publication. With your permission, we would like to audio record the group discussion, so that we can check our notes and be sure to accurately document your views and experiences.

Don't worry about trying to think about a “right” or “best” answer. We are very interested in your knowledge and experiences, as we do not know much about this area. Please just share with us any of your thoughts or ideas.

Do you have any questions?

[Check whether participants have understood the question and the informed consent.]

If you have any concerns about this study, you may contact:

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Do you agree to participate in this study?

[If YES, indicate below that the oral informed consent has been obtained. Then proceed with the question below regarding audio recording. If they refuse, thank them for their time and dismiss them.]

Oral informed consent received

Do you agree to be audio recorded?

[If YES, indicate below. If any of the participants responds "NO", proceed with the focus group without recording.]

Consent to audio record interview received

With the spread of Coronavirus, there is a health risk of COVID-19 through gatherings. Therefore, we ask everyone to maintain a 1.5-meter distance to minimize transmission. We will provide you with face masks, hand gloves, and hand sanitizers and ask you to please keep your mask on for your safety and the safety of others.. If participants do not respect the safety precautions, the discussion will be stopped.

Signature of interviewer: _____ Date: ____/____/____

Identification (Facilitator please fill out)

Community Identification	Response
Village name and code	<input type="text"/>
Date of the key informant survey (DD/MM/YY)	____/____/____
Start time of the key informant survey	:
End time of the key informant survey	:

State	
District	
Block	
Panchayat	
Village	
Habitation/Ward	
No. of Households	

Key informant roster (Facilitator please fill out)

Particular	1	2	3	4	5
Names of respondents					
Sex of respondents					
Role/position/ designation (e.g. sarpanch, teacher)					
Phone numbers or other contact of respondents					

Water resources

1. Water resources available in the village

Water type / source	Number	Uses (check all that apply—make separate columns for:	Share of HHs using this source for any use (0= none, 1=1-25%, 2= 26-50%, 3= 51-75%; 4= 76-100%)
		<ul style="list-style-type: none"> • Domestic use • Irrigation • Livestock • Fishing • Crafts, other livelihood uses 	

Groundwater open wells

Groundwater—tube wells

River

Spring

Lake

Pond

Tank

Rainwater harvesting (e.g. rooftop, on-farm)

Weir (Stop dam, check dam, anicut, etc.)

Other

Drinking water for (human) domestic use

2. Drinking water sources for (human) domestic use

Drinking water for human	Open Wells (number)	Functional:	Defunct:
	Tube wells (number)	Functional:	Defunct:
	Piped water supply (yes/No)	Functional:	Defunct:
	Water purchase (tankers)(yes/No)		

Note: Functional means it has water for at least a few months every year. Defunct means permanently dry.'

3. Availability of water within the village for drinking, domestic and livestock uses (in number of months)

- How many months there is sufficient water for the whole village?
- How many months there is water available but in reduced quantity?
- How many months there is no water in the village?
- How many months there are issues with water quality?

4. Quality of water within the village (tick all that are applicable)

- Clean water available throughout the year
- Water is muddy during monsoon
- Water has high fluoride content
- Water has high arsenic content
- Water is saline (High TDS)
- Water has bad odour
- Others (Please specify)

5. Drinking water sources for livestock

Drinking water for livestock	Wells	Functional:	
	Ponds/tanks	Functional:	Dry:
	Tube wells	Functional:	Dry:
	Streams	Perennial:	Seasonal

Water for agriculture

6. Water sources for agriculture

Water for agriculture	Wells	Functional:	Defunct:
	Ponds/tanks	Functional:	Defunct:
	Tube wells	Functional:	Defunct:
	Canals	Functional:	Defunct:

7. Availability of water for irrigation from ponds/tanks/streams/canals (number of months in a year)

1 2 3 4 5 6 7 8 9 10 11 12

8. Availability of water for irrigation from open wells and bore wells (number of months in a year)

1 2 3 4 5 6 7 8 9 10 11 12

9. What % of households in the village grow crops in each season?

Kharif

10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
-----	-----	-----	-----	-----	-----	-----	-----	-----	------

Rabi

10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
-----	-----	-----	-----	-----	-----	-----	-----	-----	------

Zaid

10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
-----	-----	-----	-----	-----	-----	-----	-----	-----	------

10. What % of households in the village have access to surface irrigation in different seasons?

Kharif

10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
-----	-----	-----	-----	-----	-----	-----	-----	-----	------

Rabi

10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
-----	-----	-----	-----	-----	-----	-----	-----	-----	------

Zaid

10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
-----	-----	-----	-----	-----	-----	-----	-----	-----	------

11. What % of households in the village have access to groundwater irrigation in different seasons?

Kharif

10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
-----	-----	-----	-----	-----	-----	-----	-----	-----	------

Rabi

10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
-----	-----	-----	-----	-----	-----	-----	-----	-----	------

Zaid

10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
-----	-----	-----	-----	-----	-----	-----	-----	-----	------

Crops

12. Cropping pattern and changes in crops over the last 10 years

Instruction: ask columns A and B, through the whole list, then ask column C, and whenever there is a difference, as column D

	A.	B	C	D
Season	Major crop grown in last three years (sort by share of cultivated land of community)	Area cultivated (Acres)	Major crops grown in the past (app. 10 years ago; sort by share of cultivated land of community)	Reasons influencing change of crop
Kharif	1.			
	2.			
	3.			
	4.			
	5.			

Rabi

- 1.
- 2.
- 3.
- 4.
- 5.

Summer

- 1.
- 2.
- 3.
- 4.
- 5.

Permanent crops

- 1.
- 2.
- 3.
- 4.
- 5.

Rules

13. Are there any village committees or other community organizations which deals with the management of groundwater or surface water resources?

Yes

No

If yes, please name them: _____

Groundwater

14. Are there any rules about who can dig or deepen wells to use groundwater under their land in this community, or what kind of pumps they can use?

- Yes No

If yes, what are the rule(s)? (If they report state regulations, list those and ask if there are any additional rules set by the community)

15. Are there any rules about what crops they can grow under groundwater irrigation in any season?

- Yes No

If yes, what are the rule(s)?

Are these rules enforced?

- Yes No

If so, how? (Give examples)

16. Do any well owners share or sell water to other farmers?

- Yes No

If so, how many sell or share water?

17. Do you think people should consult others in the community in making their personal choices about how to use groundwater?

- Yes No

Why/ why not?

Surface water

(To be asked only for those that have surface water for irrigation)

Does your community have any surface water irrigation sources?

- Yes No*

*with a skip if no

18. Are there any arrangements or rules in the community related to individual farmer's crop choices from surface irrigation?

- Yes No

If yes which: _____

Are these rules enforced?

- Yes No

If so, how? (Give examples)

19. Are there any arrangements or rules in the community related to allocating irrigation water from surface water sources to different farmers?

- Yes No

If yes, which: _____

20. In cases of water shortage (e.g. drought years or dry spells), are there discussions in the community on individual farmer's crop choices?

- Yes No

If yes which: _____

21. Have water harvesting structures (tank, stop dam, or check dam) in your community received any maintenance within the last 12 months?

- Yes No

If yes, please state briefly what kinds of activities have taken place?

- | | |
|---|--|
| <input type="checkbox"/> Removing silt | <input type="checkbox"/> Repairing the earth walls of the dams |
| <input type="checkbox"/> Removing vegetation | <input type="checkbox"/> Repairing the main wall of the dam |
| <input type="checkbox"/> Repairing sluice gates | <input type="checkbox"/> Other (specify)----- |

22. Within the last 12 months, which groups or organizations contributed to the maintenance of water harvesting structures?

- | | |
|---|--|
| <input type="checkbox"/> Local Government | <input type="checkbox"/> NGO |
| <input type="checkbox"/> Individual community members | <input type="checkbox"/> Central or state government |
| <input type="checkbox"/> Community based organization | <input type="checkbox"/> Other (Specify) |

23. Within the last five years, which groups or organizations contributed to the maintenance of the largest water harvesting structure?

- | | |
|---|--|
| <input type="checkbox"/> Local Governance | <input type="checkbox"/> NGO |
| <input type="checkbox"/> Community | <input type="checkbox"/> Government |
| <input type="checkbox"/> Community based Organization | <input type="checkbox"/> Other (Specify) |

24. Are there any rules in the community related to operation or maintenance of the water harvesting structures?

- Yes No

If yes which rules?

Are these rules enforced?

- Yes No

If so, how? (Give examples)

25. How strongly are women involved in deciding about crop choices in

1. Only men decide
2. Mainly men decide
3. Both decide together
4. Mainly women decide
5. Only women decide

26. How strongly are women involved in deciding about the maintenance of water infrastructure in your community?

1. Only men decide
2. Mainly men decide
3. Both decide together
4. Mainly women decide
5. Only women decide

Water conflict and management

27. How frequent are conflicts related to water in your habitation?

1. Very rare
2. Occasional/some conflicts, e.g. several times per season
3. Very frequent, e.g. every few days

28. How frequent are conflicts in the community related to use of ground water amongst individual farmers (e.g. during times of water shortage)?

1. Very rare
2. Occasional/some conflicts, e.g. several times per season
3. Very frequent, e.g. every few days

Can you please provide examples?

How are they resolved? Note to interviewer: do not read out this list but try to classify the answer in one of these

1. There is no system of managing conflicts
2. Traditional leadership manages conflicts
3. Habitation institution (e.g. formal or informal water user group) manages conflicts
4. Panchayati raj institutions manage conflicts
5. External government agencies manage conflicts
6. People actively manage or defuse conflicts themselves
7. Other (please specify):__

29. How frequent are conflicts in the community related to the allocation of water amongst individual farmers (e.g. during times of water shortage)?

1. Very rare
2. Occasional/some conflicts, e.g. several times per season
3. Very frequent, e.g. every few days

Can you please provide examples?

How are they resolved? Note to interviewer: do not read out this list but try to classify the answer in one of these

1. There is no system of managing conflicts
2. Traditional leadership manages conflicts
3. Habitation institution (e.g. formal or informal water user group) manages conflicts
4. Panchayati raj institutions manage conflicts
5. External government agencies manage conflicts
6. People actively manage or defuse conflicts themselves
7. Other (please specify):_____

30. How frequent are conflicts in the community related to the maintenance of water harvesting structures?

1. Very rare
2. Occasional/some conflicts, e.g. several times per season
3. Very frequent, e.g. every few days

Can you please provide examples?

How are they resolved? Note to interviewer: do not read out this list but try to classify the answer in one of these

1. There is no system of managing conflicts
2. Traditional leadership manages conflicts
3. Habitation institution (e.g. formal or informal water user group) manages conflicts
4. Panchayati raj institutions manage conflicts
5. External government agencies manage conflicts
6. People actively manage or defuse conflicts themselves
7. Other (please specify): _____

Context

31. Your community is connected by what type of road:

1. Tarred road in good condition
2. Tarred road in poor condition
3. Dirt road in good condition
4. Dirt road in poor condition
5. Other

32. How far away is the nearest market?

_____ km

33. Are the farmers in your community able to find buyers for water efficient crops?

Yes

No

If yes, please elaborate: _____

34. What do you think is the most profitable water efficient crop?

Crop _____ : _____ Rps

How much income does this crop give on an average compared to water intensive crops?
? _____ Rs/acre (note: convert from local units)

35. Are other NGOs but FES implementing activities related to water management and agriculture in your community?

Yes

No

If yes, please name the NGOs (list all): _____

Interviewer inspect the largest community water harvesting structure and rate it according to the following criteria. Please do not ask these questions to the respondent.

Capacity reduced due to siltation Not very little little much very much

Capacity reduced due to overgrowing vegetation Not very little little much very much

State of the earth walls very good good fair poor very poor

State of the main wall very good good fair poor very poor

State of the sluice gates very good good fair poor very poor Not there

State of the feeder channels very good good fair poor very poor Not there

This was our final question. Thank you very much for speaking with us today and for your time. Your views and experiences will be very important for the study.

Annexure 2: Pre-Game Individual survey for game players *in treatment villages for “Scaling up experiential learning tools for sustainable water governance in India” project*

Informed consent

My name is _____ and I am part of a research team from International Food Policy Research Institute (IFPRI), International Crop Research Institute for the Semi-Arid Tropics (ICRISAT), Foundation for Ecological Security (FES), and National Institute of Agricultural Extension Management (MANAGE). We are working on the project **“Scaling up experiential learning tools for sustainable water governance in India”**. The survey includes questions about the management (rules for maintenance, benefit allocation) of water resources (both common and individual) in your community. **This interview will last for approximately 15 minutes.**

Your participation in this study is completely voluntary, and you may leave the discussion at any time. The questions are not personal or sensitive, they are about the community in general. Nevertheless, you are free to refuse to answer any questions if you feel uncomfortable. You are free to leave at any time, but your assistance in answering all our questions will help us greatly and is very appreciated. You may ask us any questions about the study before agreeing to participate, or at any point during the discussion.

This discussion is for research purposes only, and all the information obtained will be kept safe in our files. You will not be identified in any presentation of the study reports. Only our study team IFPRI, ICRISAT, FES and MANAGE will have access to the data, and all personally identifiable information will be erased after publication. With your permission, we would like to audio record the group discussion, so that we can check our notes and be sure to accurately document your views and experiences.

Your participation in this survey and game will be completely voluntary. This survey include the current interview (approximately 15 minutes), tomorrow’s a group game (60-90 minutes), followed immediately by an approximately 10-minute interview similar to but shorter than this one, and your subsequent participation in a community-wide debriefing meeting (60-90 minutes).

Your participation is completely voluntary. You may leave the interview at any time and are free to refuse to answer any questions if you feel uncomfortable. However, your full participation will help us greatly and is very appreciated. You may ask us any questions about the study before agreeing to participate, or at any point during the discussion.

Do you have any questions?

If you have any concerns about this study, you may contact:

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Do you agree to participate in this study?

[If YES, indicate below that the oral informed consent has been obtained. Then proceed with the question below regarding audio recording. If they refuse, thank them for their time and dismiss them.]

Oral informed consent received

With the spread of Coronavirus, there is a health risk of COVID-19 through gatherings. Therefore, we ask everyone to maintain a 1.5-meter distance to minimize transmission. We will provide you with face masks, hand gloves, and hand sanitizers and ask you to please keep your mask on for your safety and the safety of others. If participants do not respect the safety precautions, the discussion will be stopped.

Signature of interviewer: _____ Date: ____/____/____

A. Identification (enumerator please fill out)

Q. No.	Participant Identification	Response
A01.	Date of the interview (DD/MM/YY)	____/____/____
A02.	Start time of the interview	1. ____:____
A03.	End time of Interview	2. ____:
A04.	Village name and code	<input type="text"/>
A05.	Participant Identification Number:	<input type="text"/>

B. Respondent and household characteristics

Q. No.	Question	Response
B01.	Name of respondent	
B02.	Sex of respondent	
B03.	Phone number or other contact of respondent	
B04.	Age	1= Under 25; 2=25-35; 3= 36-45; 4= 46-55; 5=56-65; 6= 66+
B05.	What is the highest education level you have completed?	1=None; 2=Lower primary (till 4 th std); 3=Upper Primary 5-7 th), 4=Highschool (8-10 th Std), 5=Higher Secondary (11 -12 th), 6=Associate or College; 7=Post graduate
B06.	Are you a member of any farmer groups, committees, or associations? (check all that apply)	<ol style="list-style-type: none"> 1. Farmer cooperative 2. Water committee or water user association 3. Forest committee or forest user association/ Pastureland Committes 4. Religious association 5. Women groups 6. Youth group 7. Other [_____]

B07.	What are the three most important sources of livelihoods for your household? Please rank them by importance!	a) Farming – subsistence /commerical b) Animal Husbandry c) Farm Wage Labor d) Off-Farm Wage Labor e) Business f) Salaried Employment or Pensions g) Remittances h) Other	1. <input type="checkbox"/> 2. <input type="checkbox"/> 3. <input type="checkbox"/>
B08.	Number of members in the household	Adult Male (>18 yrs) Adult Female (>18 yrs) Male Children (<18 yrs) Female Children (<18 yrs)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

C. Land and water resources

Please provide the following information on crops grown:

Plot No.	Plot size (Ac.)	Land tenure\$	Kharif				Rabi				Perennial/full year			
			Main crop grown on plot in last Kharif season	Quantity (quintals)	Irrigation		Main crop grown in last Rabi season	Quantity (quintals)	Irrigation		Main perennial or annual crop grown in last year	Quantity (quintals)	Irrigation	
					Source*	Method@			Source*	Method@			Source*	Method@

\$ Own=1, Share/Co-own=2, Unofficial lease=3, lease with formal contract=4, NA=0

*No irrigation-0, Open dug well-1, Borewell-2, Irrigation canal-3, Tank/pond-4, Submersible pump-5, Rivers-6, Lift pump-7, Local irrigation System-8, Others (Specify) -----9. No answer – 10; MULTIPLE ANSWERS POSSIBLE

@ Flood irrigation – 0; Drip irrigation – 1; Sprinkler irrigation – 2; Others, please specify [____]-3

D. Livestock

Q. No.	Question	Response	
D01.	How much of the following types of livestock do you own?	Cows—native varieties Cows—crossbred or exotic, e.g. Jersey Buffalo Bullocks Goat and sheep Poultry Other []	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>

E. Water Resources available (Common and Private)

Q No	Question	Responses	
E01.	What are the main sources of water you use for domestic purposes? [check all that applies]	1. Open well 2. Tubewell 3. Community standpipe 4. Handpump 5. Piped water supply to house 6. River/ stream 7. Pond/ tank 8. Check dam/ anicut 9. Water purchase (Tanker) 10. Other	

F. “Social capital”/Trust and “Agency” in community

Q. No.	Question	Response			
F.01.	Think about the people that live in this village, whether permanently or temporarily. How many of them would you entrust with something important and personal?	No One	Very Few	more than half	Almost Everyone

<i>Please tell me whether in general you agree or disagree with the following statements:</i>				
Most people in this community are interested only in their own welfare.	Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly
In this community, I have to be alert that someone is taking advantage of me with water use.	Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly
I do not pay attention to the water needs of others in the community.	Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly
I can count on my neighbours when things go wrong.	Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly
I feel accepted as an equal member of this community.	Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly
In general, I trust local leaders in my community.	Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly
In the last month, how often did you have a conversation with others in your habitation about water management?	Never	Once or twice;	At least once per week;	A few times per week;
How well do you feel you understand your neighbours' concerns about water?	Not at all	Just a bit	Quite well	very good
If community leaders call for a meeting for next week to discuss water issues, I would join.	For sure	Unless there is anything else important	May be	No
Would you support if the government introduced new rules restricting farmers' water use?	Strongly support	support	oppose	strongly oppose

Would you support a government policy which increases electricity charges for agricultural use, esp. pumping of water?	Strongly support	support	oppose	strongly oppose
Would you support a government policy which increases electricity charges for agricultural use, esp. pumping of water if at the same time it increased the minimum support price for water efficient crops?	Strongly support	support	oppose	strongly oppose

G. Norms, rules, and collective action regarding water resources

G01.	<i>Please tell me whether in general you agree or disagree with the following statements. In these statements, rules include informal rules, customs, norms, community consensus, or coordination on recommended ways to act (strategies), as well as formal rules with sanctions.</i>	Answer <i>1 = strongly agree, 2 = agree, 3 = disagree, 4 = strongly disagree, 5 = NA</i>
	In our community there are rules with regard to prioritizing groundwater use.	
	In our community there are rules with regard to prioritizing surface water use.	
	In our community are some arrangements or rules related to individual farmer's crop choices.	
	One farmer's crop choice affects other farmers in the community?	
	Coordinating and regulating water management in the community is for the benefit of everybody in the community.	
	Our ground water use now will affect the availability of the resource in the future for the community as a whole.	
	Farmers should be allowed to use the groundwater under their land without any rules and restrictions.	
	Community members should make rules about use of groundwater, such as about well locations and depth, or when, where, or how much groundwater may be used, for what purposes.	

	Anybody who can access surface water bodies, such as streams or tanks, should be able to use water without any rules or restrictions.	
	Community members should cooperate to invest in the establishment and maintenance of important community water structures such as dams.	

H. Surface Water structures

Q. No.	Question	Response	
H01.	Have you or your family members contribute money to the maintenance of water harvesting structures during the last year?	1. Yes 2. No 3. NA	
H02.	Have you or your family members contribute labour to the maintenance of water harvesting structures during the last year?	1. Yes 2. No 3. NA	
H03.	In the last year, have you been involved in conflicts related to common water infrastructure.	4. Yes 5. No 6. NA	

We have now reached the end of the interview. Is there anything that you would like to mention with regard to water management in your community, which you haven't had a chance to within this interview?

Thank you very much for taking the time to speak with us! Your contribution is highly valued and provided us with many useful insights.

Annexure 3: Community Water Focus Group

Gather a group of 10-15 members from the village, including equal number of women and men representing the diverse communities in the habitation. Ensure that there are at least 5 women in the FGD. The identity of the participants in the FGD will be confidential.

Informed consent

My name is _____ and I am part of a research team from International Food Policy Research Institute (IFPRI), International Crop Research Institute for the Semi-Arid Tropics (ICRISAT), Foundation for Ecological Security (FES), and National Institute of Agricultural Extension Management (MANAGE). We are working on the project “Scaling up experiential learning tools for sustainable water governance in India”. The survey includes questions about the management (rules for maintenance, benefit allocation) of water resources (both common and individual) in your community. This discussion will last for approximately 45 minutes.

Your participation in this study is completely voluntary, and you may leave the discussion at any time. The questions are not personal or sensitive, they are about the community in general. Nevertheless, you are free to refuse to answer any questions if you feel uncomfortable. You are free to leave at any time, but your assistance in answering all our questions will help us greatly and is very appreciated. You may ask us any questions about the study before agreeing to participate, or at any point during the discussion.

This discussion is for research purposes only, and all the information obtained will be kept safe in our files. You will not be identified in any presentation of the study reports. Only our study team IFPRI, ICRISAT, FES and MANAGE will have access to the data, and all personally identifiable information will be erased after publication. With your permission, we would like to audio record the group discussion, so that we can check our notes and be sure to accurately document your views and experiences.

Don't worry about trying to think about a “right” or “best” answer. We are very interested in your knowledge and experiences, as we do not know much about this area. Please just share with us any of your thoughts or ideas.

Do you have any questions?

[Check whether participants have understood the question and the informed consent.]

If you have any concerns about this study, you may contact:

Meinzen-Dick, Ruth Senior Research Fellow-Environment and Production Technology (EPTD) International Food Policy Research Institute (IFPRI) r.meinzen-dick@cgiar.org +1 (636) 405 1711	International Food Policy Research Institute (IFPRI) 1201 Eye Street, NW, Washington DC 20005, the United States
Thomas Falk	Patancheru, Telangana, 502324, India.

Senior Scientist - Ecosystem Service and Natural Resources Governance, ISD-MIND, International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)	
Pratiti Priyadarshini, Senior Programme Manager -Studies and Policy Advocacy Group, Foundation for Ecological Security. pratiti@fes.org.in +91 9414631085	Foundation for Ecological Security C/O Surabhi Regency Jay Tower, Amul Dairy Road Anand 388001, Gujarat, INDIA

Do you agree to participate in this study?

[If YES, indicate below that the oral informed consent has been obtained. Then proceed with the question below regarding audio recording. If they refuse, thank them for their time and dismiss them.]

Oral informed consent received

Do you agree to be audio recorded?

[If YES, indicate below. If any of the participants responds "NO", proceed with the focus group without recording.]

Consent to audio record interview received

With the spread of Coronavirus, there is a health risk of COVID-19 through gatherings. Therefore, we ask everyone to maintain a 1.5-meter distance to minimize transmission. We will provide you with face masks, hand gloves, and hand sanitizers and ask you to please keep your mask on for your safety and the safety of others. If participants do not respect the safety precautions, the discussion will be stopped.

Signature of interviewer: _____ Date: ____/____/____

Identification (Facilitator please fill out)

Community Identification	Response
Habitation Village name	<input type="text"/>
Habitation Village code	
Date of the key informant survey (DD/MM/YY)	____/____/____
Start time of the key informant survey	:
End time of the key informant survey	:

Participant roster

	Name	Gender	Age	Irrigates from surface water	Irrigates from groundwater
1					
2					
3					
4					
5					
6					
7					

General Information

State	
District	
Block	
Panchayat	
Village	
Habitation/Ward	

(Reference community resource maps that have been collected previously)

Catchment Protection

1. Catchment condition (Choose which is most closely applicable to your village)

Very unhealthy/Poor	Somewhat unhealthy	Somewhat healthy	Healthy and excellent
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2. Efforts of protection or management and degrees of involvement by members of village (Note to enumerators: first note level of protection (1-4). Then for that level of protection, ask whether villagers have limited or full involvement)

1= None	2= Minimal norms related to catchment use/protection	3= some restraint in use to protect catchment	4= High level of management
--	Degree of involvement of villagers: 1= limited or 2= large share of HHs (Select one)	Degree of involvement by villagers: 1= limited or 2= large share of HHs (Select one)	Degree of involvement by villagers: 1= limited or 2= large share of HHs (Select one)

Condition of surface water infrastructure and participation of village members in maintaining water resources

3. Choose which is most closely applicable to surface water infrastructure in your village.

Very unhealthy and Poor	Somewhat unhealthy but not poor	Somewhat healthy but not excellent	Healthy and excellent
-------------------------	---------------------------------	------------------------------------	-----------------------

4. Efforts of maintenance of water infrastructure and degrees of involvement by members of village (Note to enumerators: first note level of protection (1-4). Then for that level of maintenance, ask whether villagers have limited or full involvement

1= No maintenance is done	2= Occasional repairs, but not sufficient	3= Annual maintenance	4= Regular inspection and maintenance
--	Degree of involvement of villagers: 1= limited or 2=only HHs close to structure 3= large share of HHs (Select one)	Degree of involvement of villagers: 1= limited or 2=only HHs close to structure 3= large share of HHs (Select one))	Degree of involvement of villagers: 1= limited or 2=only HHs close to structure 3= large share of HHs (Select one)

Capacity of the water infrastructure to help mitigate drought or flood

5. Choose which is most closely applicable to your village.

1. The village can't withstand even a single year of drought or floods as infrastructure is inadequate.
2. The village can withstand one year of drought or floods although it takes time to get back to normal.
3. The village can withstand consecutive years of drought or floods and can bounce back quickly.

Perceptions of water resources

6. Note to enumerator: Ask the whole set of questions for the groundwater column first. Then if there is surface water, do the surface water column

Q. No.	Question	Groundwater	Surface water
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6.a.	Over the past 5 years, do you think water availability in your community has changed?	<ol style="list-style-type: none"> 1. Fallen (go to 3.2) 2. Risen (go to 3.2) 3. Remained the same (go to 3.3) 4. Don't know (go to 3.3) 	<ol style="list-style-type: none"> 1. Fallen (go to 3.2) 2. Risen (go to 3.2) 3. Remained the same (go to 3.3) 4. Don't know (go to 3.3)
6.b.	If 4a was answered 1 or 2: What do you think are the reasons behind this change (if any?) skip code needed if this will be only for those who responded 1 or 2 for the question above?	<ol style="list-style-type: none"> 1. Rainfall changes 2. Changes in surface water users / withdrawals 3. Changes in groundwater users / withdrawals 4. Changes in the state of soil / land 5. Changes in land restoration or soil conservation activities 6. Changes in water use upstream / downstream 7. Changes in water use outside of the community 8. Changes in local rules 9. Other [] 	<ol style="list-style-type: none"> 1. Rainfall changes 2. Changes in surface water users / withdrawals 3. Changes in groundwater users / withdrawals 4. Changes in the state of soil / land 5. Changes in land restoration or soil conservation activities 6. Changes in water use upstream / downstream 7. Changes in water use outside of the community 8. Change in condition of infrastructure. 9. Changes in local rules 10. Other []
6.c	Over the past 5 years, did the number of farmers using water for irrigation change?	<ol style="list-style-type: none"> 1. rising 2. declining 3. remain the same 4. Don't know 	<ol style="list-style-type: none"> 1. rising 2. declining 3. remain the same Don't know
6.d	Over the past 5 years, was there a change in intensity of use of water for irrigation?	<ol style="list-style-type: none"> 1. rising 2. declining 3. remain the same 4. Don't know 	<ol style="list-style-type: none"> 1. rising 2. declining 3. remain the same Don't know
6.e	If other farmers around your farm start using more water for irrigation, you would likely expect to:	<ol style="list-style-type: none"> 1. Have more water 2. Not be affected 3. Have less water 4. Don't know 	<ol style="list-style-type: none"> 1. Have more water 2. Not be affected 3. Have less water 4. Don't know

6.f	What do you think should be done to improve water availability and quality? [open question]		
6.g	In your opinion, how would one farmer's choice to use groundwater from his borewell affect another farmers' well in the community?	1. Not 2. Little 3. Substantially	

Note to enumerator: Was there a discussion and differing opinions around question 6? (Yes / No)

Rules and Norms regarding water governance

7. Are there any village committees or other community organizations which deals with the management of groundwater or surface water resources?

Yes No

If yes, please name them:

Groundwater

8. Are there any rules about who can dig or deepen wells to use groundwater under their land in this community, or what kind of pumps they can use?

Yes No

If yes, what are the rule(s)? (if they report state regulations, list those and ask if there are any additional rules set by the community)

9. Are there any rules about what crops they can grow under groundwater irrigation in any season?

Yes No

If yes, what are the rule(s)?

Are these rules enforced?

Yes No

If so, how? (Give examples)

10. Do you think people should consult others in the community in making their personal choices about how to use groundwater?

Yes

No

Why/ why not?

11. In your opinion, how would one farmer's choice to use groundwater from his borewell affect another farmers' well in the community? [open question]

Surface water (To be asked only for those that have surface water for irrigation)

12. Does your community have any surface water irrigation sources?

Yes

No*

*skip if no

13. Are there any arrangements or rules in the community related to individual farmer's crop choices from surface irrigation?

Yes

No

If yes which: _____

Are these rules enforced?

Yes

No

If so, how? (Give examples)

14. Are there any arrangements or rules in the community related to allocating irrigation water from surface water sources to different farmers?

Yes

No

If yes, which: _____

15. In cases of water shortage (e.g. drought years or dry spells), are there discussions in the community on individual farmer's crop choices?

Yes

No

If yes which: _____

16. Are there any rules in the community related to maintenance of the water harvesting structures?

Yes

No

If yes which rules

Are these rules enforced?

Yes

No

If so, how? (Give examples)

Existence and management of conflicts related to water

17. How frequent are conflicts related to water in your habitation?

1. Very rare
2. Occasional/some conflicts, e.g. several times per season
3. Very frequent, e.g. every few days

18. How frequent are conflicts in the community related to use of ground water amongst individual farmers (e.g. during times of water shortage)?

1. Very rare
2. Occasional/some conflicts, e.g. several times per season
3. Very frequent, e.g. every few days

Can you please provide examples?

How are they resolved?

1. There is no system of managing conflicts
2. Traditional leadership manages conflicts
3. Habitation institution (e.g. formal or informal water user group) manages conflicts
4. Panchayati raj institutions manage conflicts
5. External government agencies manage conflicts
6. People actively manage or defuse conflicts themselves
7. Other (please specify)

19. How frequent are conflicts in the community related to the allocation of water amongst individual farmers (e.g. during times of water shortage)?

1. Very rare
2. Occasional/some conflicts, e.g. several times per season
3. Very frequent, e.g. every few days

Can you please provide examples?

How are they resolved?

1. There is no system of managing conflicts
2. Traditional leadership manages conflicts
3. Habitation institution (e.g. formal or informal water user group) manages conflicts
4. Panchayati raj institutions manage conflicts
5. External government agencies manage conflicts
6. People actively manage or defuse conflicts themselves
7. Other (please specify)

20. How frequent are conflicts in the community related to the maintenance of water harvesting structures?

1. Very rare
2. Occasional/some conflicts, e.g. several times per season
3. Very frequent, e.g. every few days

Can you please provide examples?

How are they resolved?

1. There is no system of managing conflicts
2. Traditional leadership manages conflicts
3. Habitation institution (e.g. formal or informal water user group) manages conflicts
4. Panchayati raj institutions manage conflicts
5. External government agencies manage conflicts
6. People actively manage or defuse conflicts themselves
7. Other (please specify)

21. How strongly are women involved in deciding about crop choices in your community?

- 1) Only men decide**
- 2) Mainly men decide
- 3) Both decide together
- 4) Mainly women decide
- 5) Only women decide

22. How strongly are women involved in deciding about the maintenance of water infrastructure in your community?

- 1) Only men decide
- 2) Mainly men decide
- 3) Both decide together
- 4) Mainly women decide
- 5) Only women decide

23. To what extent do you believe that you as a community can solve problems, maintain resources and make life and livelihoods better for this community?

- a. What would you like done to make things better?
- b. What would it take to make that happen?
- c. Is there anything you can do? Why? Why not?
- d. How do you as a community engage with each other to solve problems? Give an example.

Women's participation in the meeting

Enumerator please note the extent to which women participated in the discussions above:

24. How many women spoke during the meeting: (number) _____

25. How often did women speak?

- 0= not at all
- 1= on a few issues
- 2= on many issues, but women spoke less than men
- 3= women spoke equally with men
- 4= women spoke more than men

Resource Mapping

26. Resource Map has been developed by the group and is enclosed (Yes/No): _____

Name of Facilitator: