



FEED THE FUTURE

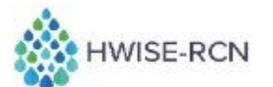
The U.S. Government's Global Hunger & Food Security Initiative



Photo: Fekadu Gelaw

Getting Ahead of the Game: Experiential Learning on Groundwater Governance and Collective Action

IFPRI and partners





WHY EXPERIENTIAL LEARNING/ GAMES

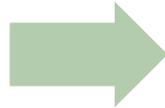
Useful for identifying behavioral patterns and shaping mental models; learning by doing

HYPOTHESIZED IMPACT PATHWAY



Intervention package:

- Game-facilitated experiential learning
- Platform for community-wide discussion about shared vision and ways to improve governance



Outcomes:

- Awareness about shared nature of groundwater system
- Behavioral change at the individual level
- Collective governance: Rules established



Impact:

- Sustainable and equitable natural resources management



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SITES

- Butajira, SNNPR - SE of Addis Ababa, Ethiopia
- Upper East Region, North of Ghana
- Keta basin, South of Ghana (coastal)

RESEARCH FOCUS

- The immediate learning effect of the game on participants; comparing before and after perceptions
- The medium-term effect of the intervention on the communities





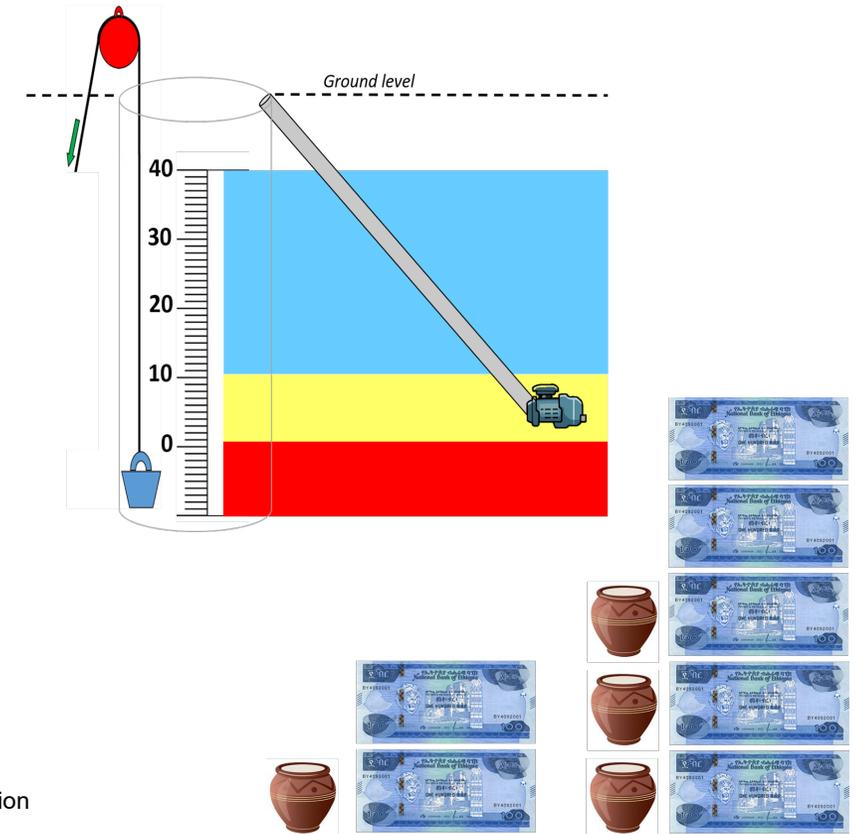
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GROUNDWATER GAME

ADAPTED FROM A GAME DEVELOPED/PILOTED IN INDIA (MEINZEN-DICK ET AL. 2018)

- Game
 - Players choose between crops with different water use & returns
 - Different game treatments: No communication, communication, and rules
 - Keta games adapted to address the GW salinity context
- Community debriefing
 - How this relates to own farming experiences/ challenges
 - Lessons/ insights gained from the experience



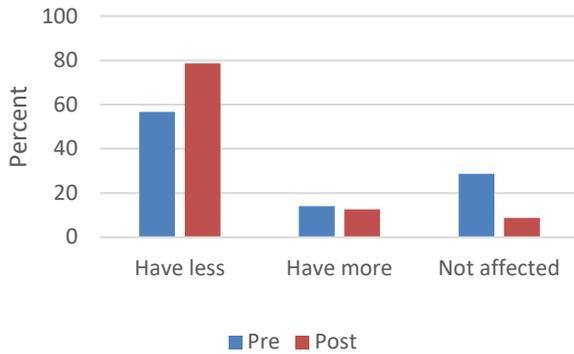
Meinzen Dick, R., M. Janssen, S. Kandikuppa, R. Chaturvedi, K. Rao and S. Theis. 2018. Playing Games to Save Water: Collective Action Games for Groundwater Management in Andhra Pradesh, India. World Development 107(July):40-53.



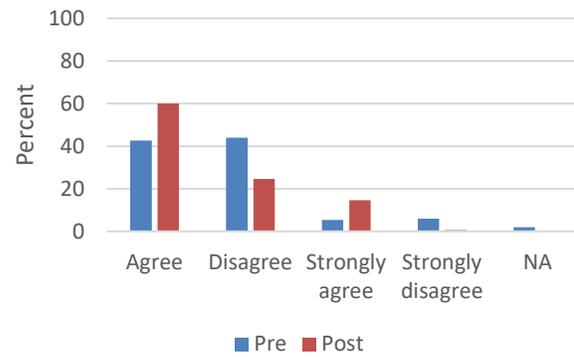
SELECTED RESULTS, ETHIOPIA

- Visible shifts in immediate mental models before and after the game:
 - Groundwater is a shared and depletable resource
 - Communication, collective action, and rules are important for governance
 - Individuals/ crop choices affect groundwater availability

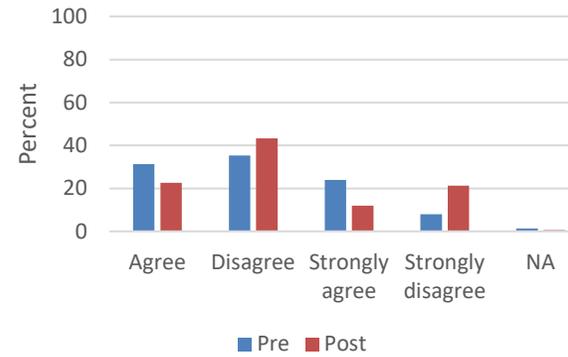
Groundwater availability expectations if other farmers around start pumping more groundwater for irrigation



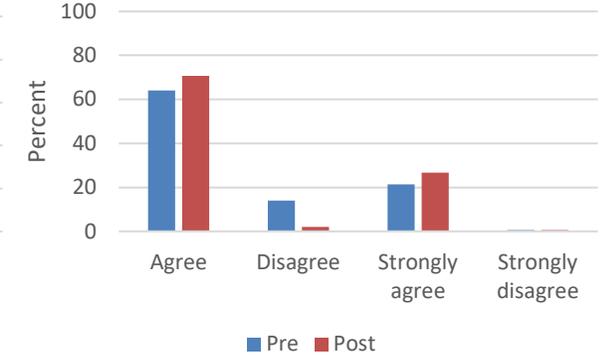
Groundwater use now will affect its sustained availability in the future for all the community



No need for rules to limit wells or groundwater use



Community members should act collectively to manage groundwater





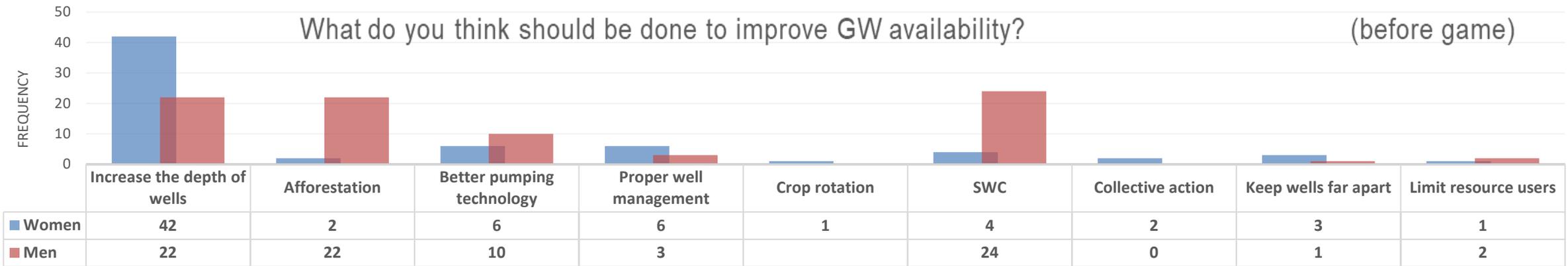
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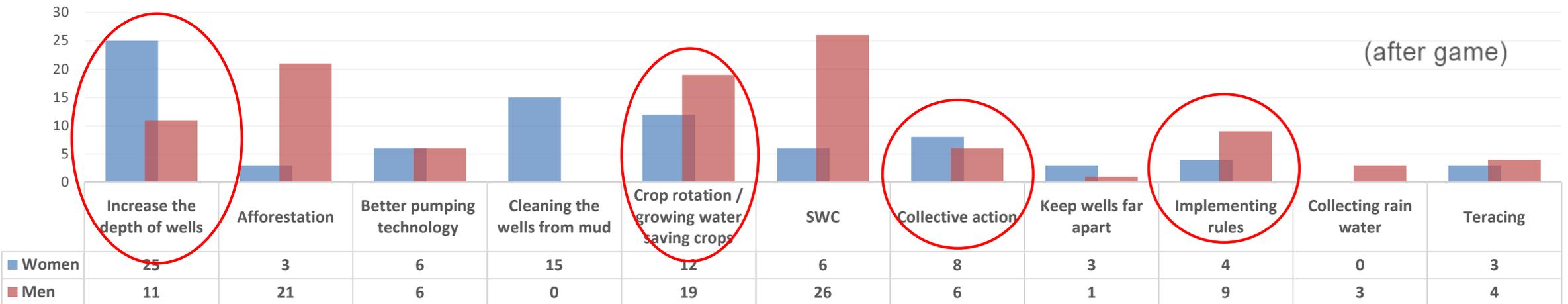
SELECTED RESULTS, ETHIOPIA

What do you think should be done to improve GW availability?

(before game)



(after game)





IMPACTS AND KEY LESSONS FOR SMALL SCALE IRRIGATION

- Post-game community debriefing discussion is crucial for community-wide learning and spillover effects
- Refreshers/ long-term engagement needed to ensure sustained retention of lessons and fueling collective action
- Implementation of rules/ collective action is a longer-term process



Community debriefing meeting, Keta, Ghana. Photo credit: Emmanuel Obuobie and Margaret Akuriba

IMPACTS AND KEY LESSONS FOR SMALL SCALE IRRIGATION

- Team-up with extension officers to support community members in determining suitable water-saving crops
 - Address possible 'literal learning'
- Monitor GW changes to see longer-term effects on resource sustainability
- Adapt to context to increase relevance



Women playing game, Ethiopia. Photo credit: Fekadu Gelaw



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THANK YOU



Community debriefing meeting, Ethiopia. Photo credit: Fekadu Gelaw

