

# How do agricultural innovations influence socio-economic hierarchies? Findings from Rural Rajasthan.

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# Background

- Most social science research on agricultural development in the past few decades emphasizes that **agricultural innovations** end up **reinforcing** existing socio-economic **hierarchies**.
- Most of this literature, however, is based on **the green revolution efforts** which largely focused on high yielding varieties **of rice, maize and wheat** along with the use of irrigation, fertilization and pesticides.
- We conducted a study in **three agricultural communities** in dry rural Rajasthan with differing economic and gender norms dynamics to gain a more nuanced understanding **of how the adoption and benefitting of barley innovations are affected by gender, class and age**.
  - Barley as “forgotten crop” gaining momentum (environmental considerations and beer consumption)
  - Related innovations were simultaneously introduced, new livestock breeds.

# Methods



- Part of a larger study entitled “Gender Norms, Agency and Innovation in Agriculture and Natural Resources Management”, GENNOVATE. **Standardized qualitative methods** for comparative analyses in three communities in Rajasthan of Etawal Bhopji, Mansagar and Mundru (240 respondents).
  - In the first community **barley contract farming** (*Sanji Unati*) was introduced, in the second **barley as a crop was reintroduced**, and in the third **improved varieties were introduced**.
  - Structured key informant interviews
  - Structured single-sex FGDs, separated by age and socio-economic status
  - Tools: vignettes, private voting, hand raising
  - Semi-structured interviews and life histories with women and men innovators
  - Data was then coded in Nvivo 10 **looking for sex-disaggregated and differential impacts related to barley innovations on various socio-economic groups**.

# Findings



## **Finding 1. Women benefitted from the introduced barley varieties especially when they were targeted and when new livestock breeds were simultaneously introduced.**

- Although similar to men, women preferred the new barley varieties for saving water and increasing yield, women, who make main decisions related to livestock, also valued the subsequent increase in fodder.

“We want to give second rank to hybrid barley variety because new hybrid barley variety gives us more yield than the first variety we used before. And, hybrid barley variety gives us more fodder. So hybrid barley variety is useful for our livestock also. And hybrid barley variety helps in livestock producing more milk.” (Focus Group-Women).

- Women’s success in carrying out barley cultivation led to increased decision-making power in their households.

“Now [after profitable barley production] my family members have more faith that I can decide. So sometimes my family members take suggestions from me.”(Innovator-Woman-EB)

- However, women who adopted improved barley varieties were less able to take the innovations further such as through simultaneously applying proper soil fertility management and new irrigation techniques due to lack of knowledge about these subjects which are largely perceived as men’s domain.

## **Finding 2. Purdah and women's empowerment are not mutually exclusive.**

- Women simultaneously navigated both well, evidenced by the compromise many found selling milk from their homes, which given the higher milk yield and fertility of improved livestock breeds, also provided them with higher incomes.
- When asked “what do you think helped you the most to be successful with new barley innovations” all six innovator women mentioned their husbands and family members’ support.

“My husband’s support. Because my husband never say “no” to me because he always agrees with me. My husband gives me permission to do anything if that is important for me. And when I like to do something, then he says that you should do something for yourself also.” (Mundru-Innovator Interview- Woman).

“Before the past ten years only men can buy or sell the livestock. But now I can also buy livestock after discussion with elder family members. Like my husband and my mother-in-laws and father-in-law. Because now people are educated and give some rights to women so that women can also help their husband in every situation.” (Mundru-Movement out of Poverty-Woman).

- However, despite women being able to make modest gains through changes in gender norms - mainly due to external influences (they were directly targeted by a milling company to plant barley) and an increase in women’s education - property ownership and the lack of political participation remained a constraint.

### **Finding 3. Relationship between poor and middle class groups in rural communities were not antagonistic.**

- The new barley varieties have benefitted the community more broadly, including the poor, by contributing to an increase in fodder availability which was in shortage.

“The coming of CAZRI new barley variety, hybrids of *bajra*, created jobs like of selling fodder of these varieties in village and others buy because of shortage of fodder.” (Focus Group-Men-Msg).

- Our findings reveal that both livestock and barley innovations often started on wealthier farmers’ lands and then spread to others.

“We got the innovation from Gorakh Ram. He is a farmer in our village. Gorakh Ram has so much property - land for farming, money, and resources like water. So Gorakh Ram is always ready to try something new and good in the village. Gorakh Ram has failed at very few things. So everyone knows that if Gorakh Ram tries something, then it will be useful and important.” (Mansagar-Innovator Interview-Woman).

“I introduced Marwari goat breed into my village form Nagour district of Rajasthan,” (Mundru-Innovator Interview-Man).

# Conclusions



- The big lesson that emerged from this study was the need to think beyond established wisdom about how innovations help or hurt the poor. Paying attention to local norms and context, and understanding that rural communities are constantly evolving and adapting to wider social and economic changes, provides a much more complicated understanding of how agricultural innovations benefit people of different genders, economic classes and generations.
- It is important to ensure that the benefits of innovation adoption are more gender equitable by targeting both women and men through innovations that can benefit both.
- Synergies between innovations are important for improving the resilience of women and men in the dry areas.
- Finally, wheat subsidization policy is a key impediment to the adoption of barley. Barley could be as popular as wheat if it also received subsidization and government support. In order to reduce poverty, governments should be advised to support barley farmers in the same way they support wheat farmers – particularly since barley appears to have a wider uptake among poorer groups.



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