

How Do Agricultural Innovations Influence Socio-economic Hierarchies?

Findings From Rural Rajasthan

Most social science research on agricultural development in the past few decades emphasizes that agricultural innovations (technological, social and financial) reinforce existing socio-economic hierarchies in that better resourced, typically men and people from socially privileged groups, are able to reap more of the benefits while less resourced farmers, such as women and people from less privileged groups, are marginalized further, even harmed, by new technologies. We conducted a study in three agricultural communities in rural Rajasthan to gain a more nuanced understanding of how agricultural innovations affect different socio-economic groups. In particular, we are interested in changes that might have occurred due to barley innovations, both new varieties and new marketing and lending mechanisms.

INTRODUCTION:

The study is part of a global project, entitled Gennovate, Gender Norms, Agency and Innovation in Agriculture and Natural Resource Management, and aims to:

- Provide robust empirical evidence on the relationship between gender norms, agency and barley innovation, and how these interactions support or hinder the achievement of development and environmental goals.
- Identify differential impacts for adoption of barley innovations to gain a more nuanced understanding of how agricultural innovations affect different socio-economic groups.

MATERIALS AND METHODS:

- Standardized qualitative methods for comparative analyses in three communities in Rajasthan of Etawal Bhopji, Mansagar and Mundru.
- 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.
- These barley interventions targeted both men and women in the communities.
- Structured key informant interviews
- Single-sex FGDs, structured also by age and socio-economic status.
- Tools: vignettes, private voting, hand raising, rankings – many visuals
- 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.

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Finding 1

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).

Finding 2

Although similar to men, women preferred the new barley varieties for saving water and increasing yield, women, who make main decisions related to livestock raising, 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." (Middle Class Focus Group-Women).

Finding 3

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).



DISCUSSIONS

Norms inform the very basis of how people make decisions and take action, making them vitally important for understanding how and whether innovations are adopted (O'Reilly, 2010, 2006 & Torri, 2010). Gender, in particular, was shown to affect the reasons for adoption and innovation preferences (Baruah 2015). Men adopted improved barley for its higher yield and, in some cases, for higher prices paid by SABMiller. Women additionally preferred or adopted improved barley, as opposed to wheat, for increasing the amount of fodder available for rearing livestock. Women exerted their own agency over some of the changes which were on their own terms (O'Reilly, 2006). They reared additional livestock. Women can directly control the profits of milk production. It is important to ensure that the benefits of innovations adoption are more gender equitable by targeting both women and men through innovations that can benefit both (Baruah 2005). As our findings reveal, providing women with opportunities for adoption has implications for increasing women's decision-making power. As opposed to what others found with regards to innovations benefitting exclusively privileged groups, the landless poor also benefitted from introducing barley or increasing its production in these communities through increased fodder availability.

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