Using a gender lens to understand the role of agro-biodiversity in adaptation to climate change

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Abstract

Despite the recognition of women’s role in natural resources sustainable management
and biodiversity conservation, the implications of gender relations in adaptation to climate
change have been insufficiently investigated. In any given society, knowledge and percep-
tions of risks and drivers of change as well as preferences on adaptation responses may differ
between men and women. Because of the ”power bundles” in which they are embedded and
because of their differing responsibilities and roles, women and men differ in their sensitivity
but also in their abilities to adapt to changes. Therefore, to adequately inform the develop-
ment of interventions that foster ecosystem-based adaptation, a gender-sensitive approach is
needed.
The paper presents a case-study research aimed at: 1) disentangling gendered specialization
in agro-biodiversity management and food self-sufficiency and 2) examining the gendered
perceptions of climate change affecting local agro-biodiversity and livelihoods and prefer-
ences in adaptive responses.

The empirical research was conducted in the north-western HimalayanMountains and in
the Indian-Gangetic plains, representing two economically less developed regions in rural
India. Both areas have important wheat-rice cropping systems, but differ in their cultural,
institutional and agro-climatic conditions.

Our findings show that the social structures, cultural norms and customs of each region
differently shape women’s and men’s preferences to manage local agro-biodiversity and the
seed systems. In the mountain zone, where women display a key role in agriculture, we ob-
serve higher richness of crops and higher diversity in the field, resulting in better household

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performance in terms of food self-sufficiency. Because of their important role in agriculture and specifically in seed management, women can influence decisions, maintain status, and negotiate with their husbands over crop use. In contrast, in the plain zone, women -both from better-off and from economically backward households- have progressively lost their control over the agro-ecosystem management. Women may be the main workforce in agriculture, but they show the worst performance in terms of household’s agro-biodiversity and food self-sufficiency. Results suggest further exploring linkages between economic status, gender relations and food production objectives. Then, linking agro-biodiversity management and adaptation to climate change, the study shows how the prioritization of strategies adopted differ in the two contexts; gender being a key factor in explaining differences. In the mountain zone, results also evidence that, even though women still control the decision-making and the access to agro-biodiversity and knowledge, they also perceive to have only maintained few coping mechanisms to react to perturbations. In the plains, men have prioritize a wide range of planned agriculture biodiversity-based measures, including diversification of sources and canals of seed distribution which may further marginalize the role of women in adaptation processes.

We conclude by discussing our findings in the context of gender-sensitive policy interventions for conservation and adaptation.

**Keywords:** agrobiodiversity, ecosystem based approaches to adaptation, climate change, gender relations, India