

## Gender and climate resilient agriculture: an overview of issues

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Climate change impacts are gendered. Many UN and international conferences have constantly highlighted women and their work environment relationships over time and have concluded that environmental change would bring adverse effect on women's livelihood, probably leading to their high stake in adaptation responses to climate change. As it is clear, gender is a cross-cutting issue for different sectors in health, agriculture, livestock, education, etc. and climate change is no exception. Climate change is expected to cause increased crop losses, widespread food and water insecurity, malnourishment and negative health impacts<sup>1</sup>. Women are much more affected and susceptible to severe malnourishment, particularly in low-income groups. In fact, women are more sensitive to vulnerable actions posed by climate change in terms of needs, opportunities, access to resources, etc. due to the differences that exist in social settings of varied cultures and norms, particularly among the poorest of the poor in the developing countries. In rural areas, 72% of men and women are affected due to climate change impacts as they all depend on agriculture which is one of the most vulnerable sectors. In such situations, there is a profound need to include social issues with women in the forefront of climate change debates, policies for them to be heard and seen<sup>2</sup>. With growing concerns on climate change and its impacts affecting food production and livelihood structure, a strong need to integrate gender perspectives into climate change discussions is highly warranted. To add further to the discussion and reinforce learning, some issues related to gender are presented here that have relevance to planning and design of climate-resilient agriculture.

*Mainstreaming gender concerns:* The concepts of mitigation and adaptation are found universally acceptable to offset climate change impacts. However, adaptation strategies, according to the Stern review, see it as only a measure available over the next few decades that could ameliorate impacts of climate change more than mitigation<sup>3</sup>. Some of the documented evidences reveal that the adaptations/responses which have gendered

impacts are situation-specific. In India, women are faced with work overload; they need to involve themselves in labour-intensive works and expend more time and energy in daily work. While the situation in Australia depicts a different picture, where men lead isolated lives that are emotional and stressful on account of migration as soils are eroded, livestock dying and loss of farming and women are overburdened with family, on-farm and off the farm activities<sup>4</sup>. A study from Nepal indicated tremendous change in the duration of fodder and firewood collection for women and men respectively. As in the United Kingdom, health hazards were reported from high temperatures and also there was increasing difficulty for women to access resources. These documented gendered impacts on climate change are generally related to two major outcomes: increase in women's workload and increased investment in time for the same work. The impacts are further exacerbated with migration of men as common response to climate change indicated by gender differences that affect vulnerability and adaptive capacity of women and men equally<sup>5</sup>.

First, the common division of labour of men and women in agriculture is challenged by climate change impacts. Rural women are primary producers and custodians of natural resources. Their roles and responsibilities encompass crop cultivation, tending animals, household maintenance, caring for the children and collection of fuel wood. Any change in the environment occurring due to natural hazards like cyclones, floods and droughts affects the women's work in a number of ways causing livelihood changes and in some cases there is a complete shift in livelihood itself. The migration of men has resulted in women being left behind with heavy workload on the farm; they also become de facto heads of the households<sup>6</sup>. Will this lead to more autonomy in decision-making and access to more technical knowledge and resources for women? On the contrary, women's greater participation in decision-making is quite not improved in the absence of their male partners. Division of roles adopted by men and women

over time and keeping in pace with natural hazards only increases their workloads. For example, fodder collection is considered as a female task and firewood as a male task and any change in the environment makes both roles unpredictable and challenging individual strengths to achieve the task of collection of firewood and fodder. Resilience of agricultural system to climate change, therefore, can be improved over time only when individual roles are interchangeable and with less adherence to existing division of labour. In other words, it is recognized that both male and female farmers should be equipped with new skills to reduce drudgery arising out of newly acquired jobs and strive to become part of the resilient agriculture systems.

Secondly, most gender relations are static and have traditional outlook in rural societies which hinders adaptation responses at times of natural hazards. For example, in Bangladesh, it was reported that more females died than males during the floods in 1990. Among the flood-affected population in the age group of 20–44 years, 71 females per thousand died compared with 15 males per thousand<sup>6</sup>. It is a clear example of cultural norms and a constraint on women's mobility that had prevented access to shelter. Gender relations do not improve spontaneously during hazards. Vulnerability outcomes mostly stemming from poverty, cultural and gender norms which develop stereotypes at times of natural hazards cause more risk proneness. It should be noted that under climate change context, preparedness for disasters to evoke proper adaptation responses was found to be extremely important. Environmental education must be enhanced for both men and women for significantly higher preparedness and concerns leading to better adaptation responses.

Thirdly, gender inequality is predominant in rural areas due to men and women possessing unequal land rights, and ownership of productive assets, lower educational status in women as well as their lesser social participation leading to absence of gender balance. With adverse climate change impacts, the existing gender imbalance is likely to

deepen affecting traditional coping mechanisms along with negligence of health and welfare issues<sup>7</sup>. In addition, if public policies supporting adaptation fail to consider gender equality measures, the vulnerability of the stakeholder's further increases. The situation, therefore, calls for a conscious effort to understand gender-related patterns of vulnerability prior to design of gender-responsive adaptation strategies for the poor and gender equality.

Fourthly, adaptations to climate change have proven women's involvement in livestock sector under extreme weather events. During drought conditions when primary crop production systems fail, the production systems with livestock component, particularly comprising small ruminants like goats, sheep and poultry provide immediate income to households. Similarly, tertiary systems like off-farm employment-wage earning, contribute to resilience and risk cover to farmers. It is interesting to note that these livestock are managed by women in general in 90% of households of rural India. As climate change impacts influence the rural livelihood structure and since women are the major workforce of economy and are much likely to play a major role as risk managers in the decades to come, it is appropriate to design suitable technologies and management strategies for them to deal with risks.

According to the World Bank Report<sup>8</sup>, risk mechanisms shared by gender are classified as formal and informal mechanisms. The commonly stated formal mechanisms are market-based activities and publicly oriented ones where men play prominent roles, and informal mechanisms are those arrangements made by individuals or households or such groups as communities or villages; women mostly opt for informal mecha-

nisms such as crop diversification, adopt mixed cropping, diversification of income source, other good agricultural practices and also make institutional arrangements of crop sharing, agricultural equipment sharing, etc. Formal mechanisms that are accessible by men are markets, access to institutional credit and subsidies and seeking insurance, etc. If male-domain jobs embedded in formal mechanisms (marketing, institutional credit, extension) could be extended to women through gender awareness and long-term educational programmes as part of adaptive planning, women would be better empowered to meet climate change challenges.

Fifthly, another issue that needs immediate attention is nutrition where malnourishment is common in women (anaemia, iodine deficiency) in general, but becomes more acute with climate change and natural hazards. Government-aided food programmes during relief operations are short-term ones and should not be relied upon completely. The government needs to look into alternatives to sustain nutritional programmes through investment in research and development. Implementation of awareness and capacity building programmes would ameliorate nutritional disorders and supplementation with fortified foods would ensure improvement in nutritional status of women and children. Another possibility to improve malnourishment under adverse drought situation is the productivity enhancement of low-risk zones so that the surplus produce can be exported to high-risk zones. To achieve this, it requires more regional cooperation and facilitation in the removal of trade barriers and risks.

Women suffer a gamut of issues under adverse climatic conditions and a focu-

sed debate on gender-responsive adaptations has tremendous potential to offset adverse impacts of climate change. Research and development policies need to focus on pro-poor, pro-women strategies, to concentrate on ways to reduce drudgery and vulnerabilities, integrate social consequences that emerge from permanence of impacts from climate change and necessitate a rights-based framework for both men and women equally<sup>9</sup>.

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