

Stories of change

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Increasing gender equality among small millet farmers in South Asia

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Key messages

- Introducing small farm machinery reduces the time spent on post-harvest processing of small millets (largely by women) by 35-90%, and encourages male farmers to play a greater role.
- Working with scientists, farmers have improved their skills in small millets seed selection and cultivation, and identified varieties optimally suited to their specific contexts.
- Small millet-based meals have been introduced in three schools and 13 childcare centers, diversifying children's diets; women are increasingly using small millets in their cooking.
- Women have reduced their dependency on men (who are often absent in search of work) by adopting iron plows, instead of the wooden plows traditionally made by men.

offer better nutrition. They contain higher levels of various micronutrients, including vitamin B, calcium, iron and sulfur. Small millets are also rich in dietary fiber, have low glycemic index and are known for their adaptation to a wide range of growing environments. However, over the past three decades, cultivated area of small millets has been declining in India, Nepal and Sri Lanka. While currently grown on over 2.3 million hectares, farmers are losing interest in these crops, which are labor intensive, both in production and post-harvest processing.

Women are responsible for the bulk of processing, which involves considerable drudgery. In Semiliguda, India, for example, little millet is parboiled, dried and then pounded four to seven times before the grain can be consumed. In Nepal, finger millet threshing is done by trampling the panicles under the feet or by beating with a stick, leading to rashes on the feet and swellings on the palms. Small millets are perceived as a low status food crop, and have been largely ignored by formal research and extension services. Women's responsibility for these crops also appears to be a factor in their low status in the region.

Between 2011 and 2014, the *Revalorizing Small Millets in South Asia* (RESMISA) project has been

Context

While cereal crops, such as rice and wheat, are a relatively low-cost source of dietary calories, coarse grained cereals known as small millets





Farmers using improved finger millet planting methods

working in six sites in India, and one site in each of Nepal and Sri Lanka to enhance the status of small millets in local diets, especially among rural women and children. The project aims to increase gender equality, using gender sensitive approaches within its research activities, and has three main areas of focus: enhancing the role of women in agricultural research; addressing women's workload and drudgery in relation to small millet production; and promoting dietary diversity in women and children for improved health. Five universities in Canada and six South Asian partners, led by the Canadian Mennonite University, Winnipeg, and an Indian NGO, the DHAN Foundation, have been involved in the project.

Emerging outcomes

Reduced drudgery of women

The introduction and field testing of small farm machineries, such as iron plows, threshers and dehullers has helped to decrease the time and drudgery related to cultivation, threshing and dehulling (the process of removing the hull, or husk, from the millet seed). Specifically, in Semiliguda, India, where over 80% of women had reported having difficulties in dehulling

small millets, use of a mechanized dehuller has reduced the time spent on this activity by 90%, freeing up the women's time for other agricultural and social activities. In Nepal, a pedal-operated thresher, piloted in two villages, has decreased threshing time by 35%. With men helping to operate the machine, women's workload has been further reduced. In 2014, a version of the thresher fitted with an electric motor will be tested, and could further increase efficiency.

Use of a mechanized thresher reduced threshing time by 35%, while time spent on milling of finger millet in Sri Lanka was reduced by 40%. Through the project the machines underwent field testing; the next step will be to make the machines available in villages through rental services run by local entrepreneurs or farmers' groups.

Engaging women farmers in research

In collaboration with scientists, men and women farmers tested 157 small millet varieties, of which one to three location-specific small millet varieties were preferred in each of the eight project locations. Participating in the variety selection and on-farm trials to identify site

specific solutions to production constraints has given 1642 women farmers improved skills related to small millet cultivation, including quality seed selection, intercropping, shaded compost pit preparation, judicious application of fertilizers and line sowing. Now, the women collaborate closely with scientists from universities and research organizations. They actively engage in research activities and articulate their concerns in identifying suitable varieties for their regions.

“ I am from a traditional farming family. Previously, we used broadcasting for finger millet cultivation. With the project we learnt to cultivate in rows. It is a very good method. I can control weeds easily between rows and get higher yields. We also learnt a lot from the project about pest and disease control. ”
Damyanthi, a small millet farmer from Kahakurullanpelessa, Sri Lanka

Increased dietary diversity among women and children

The project reached over 100,000 people to build awareness on the nutritional benefits of small millet based foods, including their high micronutrient and protein content, high dietary fiber and potential for lowering the glycemic index, so important in a region where diabetes is prevalent. Activities, such as recipe contests, cultural programs, food fairs, and training in recipe preparation, encouraged community sharing on the cultural, culinary and nutritional values of small millets.

Trainings on recipe preparation resulted in dietary diversification for women and children. This was supported by inclusion of small millet-based products in midday meals at schools, childcare centers, and in small-scale shops and by routing small millet products through women’s federations. Some trained women have proactively begun training more young adults to prepare finger millet-based food. Cooking is a daily task that can become repetitive; engaging in recipe contests has transformed an everyday task into an opportunity to showcase knowledge and skills in friendly competition.



Recipe demonstration in Semiliguda

“ Millet-based food is not only nutritious but also tasty which is evident from the faces as well as the eagerness of children to have millet-based food. ”
Ms. Kalavatamma, Dumbriguda, India

Reduced women’s dependency on men

In Jawadhu Hills, India, women are often responsible for plowing land, particularly in the case of women headed households and households where men have migrated for off-farm work. In this tribal pocket, plows are made by men from wood collected in nearby forests. Typically, they break two or three times a year due to the stony nature of the soil, and normally women farmers rely on men to repair them. Women involved with the project sought support for the introduction of iron plows, which they had seen used by a few progressive farmers in their area. The project tested three different models of iron plows, from which the women chose two low cost models they felt were most appropriate to their needs. In 2013, 121 women adopted one of the two models and found them to be both faster and more effective in land preparation and weed control. The introduction of these iron plows has also reduced the women’s dependency on men.

Conclusion

Small farm machineries have the potential to substantially reduce women’s drudgery in small

millet cultivation and post-harvest processing, freeing up time for more productive activities. It also increases the participation of males in these activities, thereby helping to share work burdens more evenly between men and women. Scaling out these piloted small machineries in other small millet growing regions of South Asia should now be explored, in order to further reduce drudgery and increase the productive capacity of women, for the benefit of entire households and communities.



Woman entrepreneur selling small millet products in Nepal

Women's participation in agricultural research, from problem identification to trial implementation, has improved their farming skills. Being generic in nature, these skills can help them not only in small millets cultivation, but in all their farming activities. Furthermore, their interaction and work with scientists and other outsiders has enhanced their worldview and made them more open to new ideas.

Promotion of small millet products is also leading to dietary diversification in schools, childcare centers and local shops. More schools and local women entrepreneurs are showing interest in recipe preparation and the inclusion of small millets on their menus. There is scope to introduce small millet-based meals to more schools to improve the nutritional status of school children and to bring small millets back into the food baskets of a large number of families.

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