

Women's Empowerment

Once rice is harvested, women's work in Bangladesh is just beginning. Women are responsible for their family's grain storage and preservation, and for food preparation as well. Freshly harvested rice is too wet to be stored. Unless dried properly, the grain can easily mold and become contaminated with toxins produced by the contaminating fungi, such as aflatoxins and fumonisins. Current grain drying practices in most villages have changed little for thousands of years. Grain is spread on a flat surface in the sun and left to dry. The grain is turned once or twice daily with a rake, or sometimes by women simply shuffling their feet through the grain piles to bring grain on the bottom up to the top where it gets more exposure to the sun. The biggest advance in this technology has been to use a tarp under the crop or perhaps a concrete pad instead of the ground. The drying isn't done quickly, often requiring several days, the grain is not uniformly dry, and the location for doing the drying might not even be close to the village where those who need the rice dried live. If the surface is improved, *e.g.*, a tarp or concrete, then some of the family's limited cash goes to rent the space where the drying is done. When the time for drying comes, the tasks are added to the normal tasks that women perform. Anything that reduces the time and labor spent on drying grain is a major improvement in their life.



Figure 1: A woman in Bangladesh spreading rice for open air sun drying. Photo taken by Dr. C. K. Saha, Professor, Bangladesh Agricultural University.



The Feed the Future Innovation Lab for the Reduction of Post-Harvest Loss, led by Kansas State University, is working with the University of Illinois and Bangladesh Agricultural University to develop simple low-tech options that enable fast, efficient and inexpensive drying of rice in local villages. STR driers are one possible way to reach these goals. These dryers are composed of bamboo mats, a dryer with an electric motor that can be run from a small generator, if necessary, and a heat source, commonly burning rice hulls. STR driers can be set up indoors, take up relatively little floor space, and can be assembled quickly and easily with a few simple hand tools. In six hours, these dryers can reduce the moisture present in 500 kg of rice to a level that is safe for storage for a few months under tropical conditions. STR driers could save substantial amounts of time and reduce the labor required to dry rice in rural Bangladesh leading to a significant increase in the quality of life of the women who live there. In the coming cropping season, women in four districts in Bangladesh will be given hands-on practice access to STR dryers in their villages to assess the potential for these dryers to make life easier for women living in rural areas throughout the country. The results from these field trials will help determine how and when to make these simple dryers more widely available throughout Bangladesh.



Figure 2: Students and research technicians setting up a STR dryer in the lab at Bangladesh Agricultural University. Photo taken by Dr. C. K. Saha, Professor, Bangladesh Agricultural University.