

Pathways to Secure and Resilient Livelihoods

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1. Conditions of the Population Served

Pathways to Secure and Resilient Livelihoods project is working with small holder farmers, especially women, from poor households to reduce their vulnerability and susceptibility to natural disasters and increase their resilience in the face of climate change. 32% of the population in this zone lives below the poverty line. 94% of the population engages in agriculture, and face grave challenges regarding productivity and sustainability in their activities. Recurrent flood, water logging, heavy rainfall, draught and salinity are key climate issues that affect their life and livelihoods every year. Additionally, farmers struggle to access the information and inputs they need to resolve these problems, as 25% have no access to agricultural inputs, and only 46% can access extension information.

Women face even greater barriers. 76% of them have never met with an extension worker, and the lack of mobility makes it hard for them to access inputs, information, or market opportunities. Very few women are involved in decision-making at the household level, and men make between 60 and 88% of household decisions alone. The gender wage gap adds more suffering to women wage earners in agriculture in managing food and other basic needs of the family. In general, women make BDT 85 per day while men make BDT 150, just over half of a man's wage.

2. Nature and Strategy of the Program

The CARE Pathways to Resilient Livelihoods in Bangladesh has been running since 2012, focusing on getting women farmers access to inputs, extension services, and the empowerment they need to adopt sustainable farming practices, especially in the face of changing climate. It works with over 20,000 participants to build community support for women's empowerment and improved agriculture practices. The key strategies include:

Work with women to increase their engagement in agriculture by negotiating for access to equal wages, market opportunities, and information. This includes working with women's groups, landowners, the government, and community leaders to open up spaces for women's participation in decision-making and access to critical resources, like land.

- Improve the knowledge, skills, relationships, and self confidence of women farmers, especially using demonstration plots and community gender dialogues. The projects hosts sessions not only on agricultural techniques that promote improved production, income, and resilience to climate change, but also off-farm training on other key issues around women’s empowerment. More than 7,000 women have participated in sessions on gender, wage rights, nutrition, and disaster risk management.
- Contribute to women’s empowerment and resilience, especially in their influence over household decisions and community activities, by working to improve the enabling environment and support from men, mothers-in-law, and leaders in their communities. The project targets women farmers, but it does not work with only women. Our experience shows us that working with women will only have limited impacts unless other decision-makers support them. The sessions on gender and on wages also included more than 2,000 other community members to build support for women’s activities and women’s rights.
- Improve the yield and income of farmers through adopting climate resilient agriculture practices and connecting farmers to markets and value chains. This includes working to test new climate-smart seed varieties, changing planting and intercropping practices, and focusing on improved soil conditions. It also means connecting women more effectively to markets so that they can negotiate better wages and better prices.

3. Innovation Adopted

The project focuses on building empowerment and women’s ability to implement climate resilient agricultural practices. This leads to more sustainable crop and livestock production, and often includes organic farming as goals of the system. Some key innovations are:

- **Participatory Performance Trackers:** This tool for collective monitoring and action helps groups track their own progress on adopting sustainable behaviors, and overcome barriers to ensure maximum adoption. Farmers meet regularly to go over the list of improved practices, and examine 1) what practices they are successfully adopting, 2) the practices where they are struggling, and 3) barriers to adoption and how to overcome them. From those farmer meetings, the project aggregates data across producer groups. In addition to providing a key source of monitoring and evaluation data, this also allows staff to examine common barriers and how Pathways can help communities resolve them. This may include facilitating access to inputs, helping to negotiate with government

officials, or bringing additional technical assistance around particularly difficult practices. The PPT provides a way for producers groups to hold themselves accountable for behavior change, and help the project make necessary to changes to better achieve the results. The PPT has a web-based component to make data collection, aggregation, and analysis more efficient.

- **Sack planting:** Women are planting vegetables in 50-60kg rice sacks full of soil because it allows them to protect their crops in case of flooding and move them out of harm's way without losing the production of vegetables that they eat and sell. This was especially useful in August 2015, when more than 2,000 households faced flash floods that swamped traditional fields overnight.

Figure 1: Mukta Rai and her Husband Using Bottle Drip Irrigation



This method also protects plants from salinity, as it allows women to have better control over the soil and water conditions.

- **Relay cropping and Bottle Drip Method in home gardening:** Farmers are practicing relay cropping in their home garden that increasing productivity from the home garden in a short period. For example, till June farmers keep harvesting of sweet gourd from home garden pit and they cut off it at the end of June. On early June they plant ridge gourd or snack gourd in the sack bag and place it in the same pit after cutting off

the sweet gourd. In this way they are getting one more month to consume sweet gourd using a pit and keeping a second crop ready to plant in the same pit. This also allows them to protect the sapling of the second crop from the heavy rain as farmers can move it easily. Bottle drip, the adaptive system also protecting plants from drought saves women's time spent watering.

- **Krishi Utsho input shops:** a way for farmers to access inputs such as improved seeds or cattle feed at a lower cost and closer to home. The shops also serve as a hub for sharing information on improved agricultural practices. This is especially important for women farmers, who are often not able to travel long distances to access the tools and information they need. Studies done on the Krishi Utsho model indicate that farmers see at least a 31% increase in their income. Because the shops are closer to home, farmers cut the time they spent going to get inputs in half (a 58% reduction). That makes inputs much more accessible for women, who have a harder time travelling long distances to access inputs. Farmers in Krishi Utsho areas also dropped their cost on items like feed by 92%. So people have more money to spend from income, but also on savings from the goods.
- **Collective bargaining:** Pathways has worked with over 14,000 participants to pressure landlords to provide women with equal wages as men. Working to get mass pressure, and to convince men to support women for equal wages, gives women the confidence and resources they need to implement sustainable agriculture activities.

4. Impact of Initiative

The results so far include increased income, investments in agricultural inputs, and adopting sustainable practices.

- **Better access to inputs:** Communities have raised \$5,703 to invest in agricultural inputs from their fields and in responding to climate-related shocks. By linking farmers to government and research institutions, farmers had access to an additional 500kg of drought-tolerant rice seeds. Nearly 3 times as many farmers are using improved seeds after 1 year of program implementation. This use of inputs has allowed farmers to reduce their production cost by 19% and increase profitability by 24% according to the demonstration do far.
- **Women have better access and equality:** Women have better access to land (215 additional acres so far), because of negotiations with their families, the government, and landowners. Women are also seeing improved

ability to make decisions in the household. In fact, women’s household influence in adopting agriculture technologies went up to 61% that was 36% before the project intervention. Husbands are now much more supportive of their wives as farmers. 78% of male partners of women farmers are supporting their wives in household activities and in child care while women are busy in other activities, whereas before project intervention, only 45 % male counterparts were willing to be supportive in household chores. Men are even helping them get access to the inputs they need to be more productive.

“The gendered discussion specially the community gathering on women’s right over asset using paper based visual materials helped my family to be more supportive towards me, immediate after the meeting he (husband) said that he will register some agro-land by my name. As he couldn’t manage enough money to buy land that time, he waited and when became able to manage money, he bought 6.5 decimal of land and registered by my name.” - Salma Begum, Holokhana union of Kurigram District

Women’s wages have also gone up as a result of gender sensitization and negotiations for fair wages. In the communities, where project worked from 2012 to 2014, the wage rate for male agriculture day labor has increased by around 23 percent, while that for female agriculture day labor has gone up by around 46 percent in the program village.

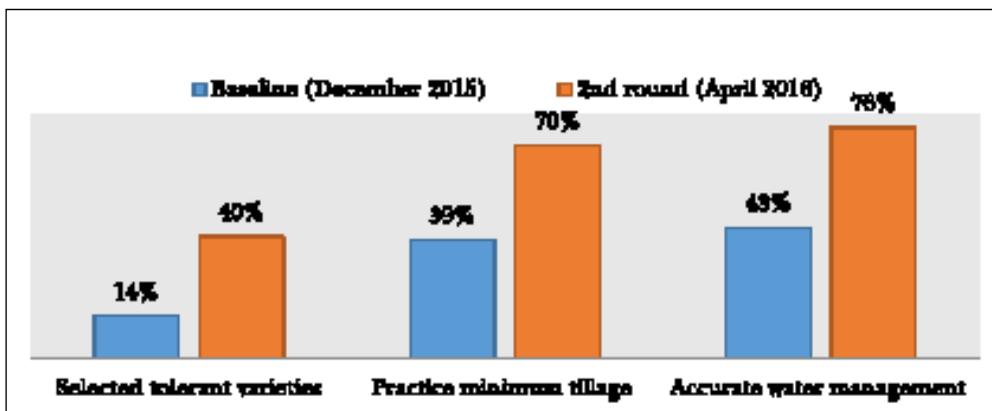
Table 1: Treatment and Control

	Participants	Pre- Intervention Wage in 2011 (BDT)	Post- Intervention Wage in 2014 (BDT)	Difference	% Change
Treatment	Male Ag. Labor	150	184	34	23%
	Female Ag. Labor	85	124	39	46%
Control	Male Ag. Labor	90	127	37	41%
	Female Ag. Labor	42	69	27	64%

Presently, working with 915 landlords, women have been able to raise their wages anywhere from \$0.32 to \$0.64 per day. This is anywhere from a 30-60% improvement in wages for women. 1641 women wage earners increased their income by \$ 631 per day. While this is a substantial improvement, it has not yet closed the gap between men’s and women’s wages. Men’s wages also went up by \$0.26 per day at the same time.

- Increased use of improved practices:** The project has established 346 demonstration farms, where 5573 farmers have learned about sustainable agricultural practices. Farmers have substantially increased their use of adaptive practices. This includes a 31% improvement in farmers practicing minimum tillage, a 33% improvement in those farmers using accurate water management and 26% improvement in selecting tolerant varieties to protect crops from climate adverse. The result from Participatory Performance Tracker tool implementation shows as follow;

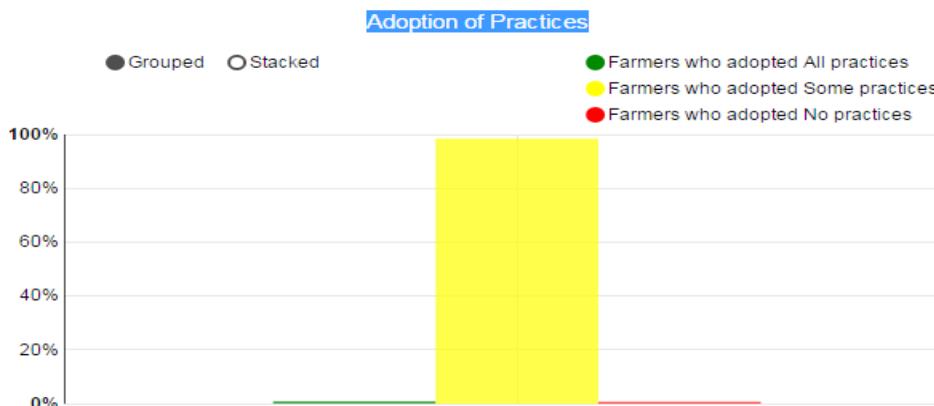
Figure 1: Adoption of resilient variety, minimum tillage and water mgt. techniques



- Better business practices:** Farmers are now better able to calculate the benefits they are gaining from adopting improved practices. This helps them make appropriate choices about which techniques to adopt and how to invest. The project teaches farmers to keep farm records of production cost and benefit from yield sale. Farmers have also learned the key factors to calculate on production cost and how to manage harvest and post-harvest loss. Now, 74% of farmers seek out market information before making decisions, compared to 40% before the project started.
- Higher income and production:** Adoption of better agricultural practices has paid off. More than 2,000 farmers have increased their income by \$2,431, and grew 15.3 more tons of food. These income increases come from increased wages, selling compost, improved rice production, and selling vegetables from homestead gardens.
- Improved Resilience:** A total of 2,575 farmers have been able to save \$5,703 through Village Savings and Loan Associations. They invest 30% of this money (\$1,712) in activities that would help them face climate shocks, such as building improved seed storage, raising houses above flood levels, and buying sanitation supplies after flooding. Farmers invested the remaining 70% of their saving in buying cattle, land, vegetable seed

and other agricultural inputs. They were also able to access \$2,779 in loans that helped them build assets and manage disasters and flooding. The PPT result also shows that 0.88% farmers adopted all climate smart practice whereas 98.4% farmers adopted few or at least one of the climate smart practices as trained by the project. This also indicates that the farmers are more resilient in the face of climate issues.

Figure 2 and 3: Adoption of Practices



Scenario of 19 August, 2015 session facilitated by SAAO at demo plot



The same plot one day later at Suverkhuthi, Holokhana at Kurigram

5. Challenges Faced

Climate shocks are the program’s biggest challenge, as flooding wiped out a number of demonstration plots and farmers’ fields in 2015. 92 groups in 51 communities suffered severe damage to their farms and demonstration plots, as well as their homes. Ultimately, more than 4,400 households and 3,644 acres of land in the project areas were affected by the flash floods. The project quickly mobilized hygiene kits to affected households to ensure that they could have safe drinking water and clean homes. Pathways also facilitated farmers to re-cultivate their lands by alternate cropping through effective

linkages with Bangladesh Rice Research Institute (BARI), Bangladesh Institute of Nuclear Agriculture (BINA) and Department of Agriculture Extension (DAE). The use of planting bags also helped women rescue some of their crops during the floods.

Climate conditions also put potato crops at risk for many of the households. The extreme cold made it much easier for fungi to attack the potato fields. In order to mitigate these threats to potato crops, farmers had to invest heavily in fungicides that made the crop unprofitable for them.

6. Scale and Sustainability of Program

The learning from this program is influencing CARE's work globally in more than 18 programs. The project is helping refine the training modules that projects use to work with communities around issues of resilience to climate change. Reducing gender wage gap and the facilitation of climate smart agriculture practices are also influencing administration and extension workers in the government of Bangladesh to support the program and spread sustainable agricultural practices to women farmers.