India

Spotlight: Adapting to a Changing Water Landscape

India is an agricultural powerhouse, the second-largest producer of vegetables in the world. However, climate change and associated water scarcity have affected agricultural productivity. Farmers rely on seasonal rainfall for water. In the last decade, India has experienced short, intense bursts of rain, with extreme rainfall events and storms. This has resulted in alternating floods and drought. In 2022, the monsoonal rains were delayed by almost a month in states like Odisha, with flooding occurring immediately after the rains.

The EWS-KT India team has been helping farmers to adjust to the change in rainfall patterns. As part of crop planning, we are educating farmers on selecting crops and varieties that are able to withstand excess water during rains, require less water during the summer, and can tolerate heat stress. We also promote water management techniques like drip irrigation, which uses scarce water sources more efficiently, and drainage pathways, which allow excess rainfall to drain away, protecting plant roots. To conserve soil moisture, we teach farmers how to use mulch, which has the added benefit of reducing the risk of soil-borne diseases that damage crop growth.

These sustainable techniques enable farmers to grow stronger plants and increase their yields amid a changing environment.

2022 Results

25,280
FARMERS TRAINED

WOMEN 35%

MEN 65%

YOUTH 14%

315 DEMO PLOTS ESTABLISHED

679 TRAINING EVENTS

AVERAGE NET PROFIT

US$ **198.21** per crop cycle, 500 sq. m. plot

HIGHEST NET PROFIT

BITTER GOURD

US$ **223.29** AVERAGE NET PROFIT, per crop cycle, 500 sq. m. plot

Dinesh Chandra Giri and his wife, Binapani Giri

Applying Business Knowledge to Fluctuating Markets

Dinesh Chandra Giri has been farming for 40 years in Odisha state, growing tomato, hot pepper, bitter gourd, and other crops. When someone showed him photographs of farmers with an EWS-KT demonstration field, Dinesh was convinced that he needed to learn these improved practices and latest techniques. He therefore came forward to set up a hot pepper demonstration plot with the guidance of EWS-KT field staff.

Dinesh soon saw how techniques like improved seed selection and seedling production, zig-zag planting methods, tailored fertilization timing, and integrated pest management enabled him not only to get higher yields but to reduce the cost of cultivation.

EWS-KT helps farmers to improve both their agricultural skills and their business skills, including selection of crops and varieties according to the season and the local market requirements. India's rapidly changing vegetable prices make it difficult for farmers to accurately predict profits and to decide which crops to grow. However, careful planning and monitoring can help farmers reduce the impact of price fluctuations and react to changes in the market.

Despite Dinesh's good planning, the price for fresh hot peppers fell shortly after his harvest. He discussed options under these new market conditions with EWS-KT staff and decided to dry a portion of his peppers to get a better return. From an investment of 4,565 rupees (US$59), he was able to earn a profit of 56,425 rupees (US$727) due to this business decision.

> "Now I believe we must constantly use these improved farming techniques to achieve profitable production from vegetables."
>
> – Dinesh Chandra Giri