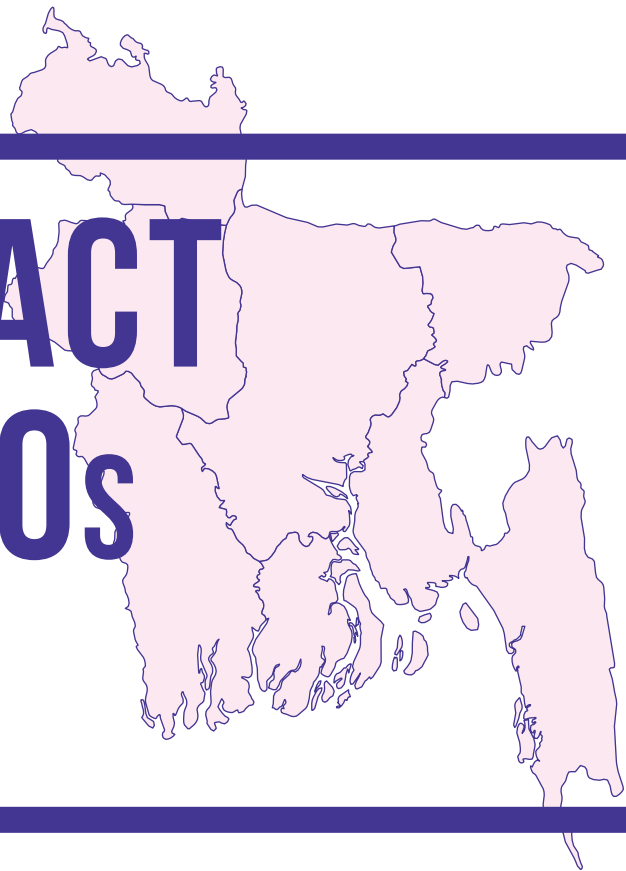


# THE GLOBAL IMPACT ON FARMING: GMOs IN BANGLADESH



“GMO” (genetically modified organism) is the common term consumers and popular media use to describe a plant, animal, or microorganism that has had its genetic material (DNA) changed using technology that generally involves the specific modification of DNA, including the transfer of specific DNA from one organism to another. Scientists often refer to this process as genetic engineering.

GMO crops affect our world in many ways. GMO crops can improve the lives of farmers, and one example is the GMO eggplant in Bangladesh.

Eggplant is a large part of people’s diets in Bangladesh. An insect, the eggplant fruit and shoot borer, can destroy entire harvests of eggplant, affecting the lives of the farmers who grow it and those who eat it daily.

The U.S. Agency for International Development (USAID) helped Bangladeshi scientists develop locally adapted varieties of GMO eggplant that are highly resistant to the eggplant fruit and shoot borer.

## BT EGGPLANT

*Bacillus thuringiensis* (Bt) is a bacterium that naturally produces an insecticide. Scientists inserted a gene from Bt into an eggplant, which enables the plant to protect itself against insect pests, in this case, eggplant fruit and shoot borers.

## STUDIES SHOW BT EGGPLANT IS IMPROVING THE LIVES OF SMALL SCALE FARMERS IN BANGLADESH.

**Growing Bt eggplant leads to 95% reduction in fruit and shoot borer infestation.** The Bt trait worked exactly as expected, providing near-total protection against the eggplant fruit and shoot borer. Bt eggplant also led to a 42% increase in yields compared with the non-GMO eggplant varieties.

**Bt eggplant increases profits.** Farmers who grew Bt eggplant earned around \$400 more in profits per hectare—14% higher than non-Bt eggplant farmers. Most of the increase was because Bt eggplant farmers spent less money to buy and apply insecticides.

**Bt eggplant reduces the need for additional insecticides.** Bt eggplant farmers sprayed their crop half as many times as non-Bt eggplant farmers and applied 39% less total insecticide. Not only are Bt eggplant farmers in Bangladesh applying smaller *amounts* of insecticides less frequently, but they are also using insecticides that are significantly *less toxic* to humans and the environment.

# Sources:

<https://www.fda.gov/food/agricultural-biotechnology/how-gmo-crops-impact-our-world>  
<https://www.agrilinks.org/post/impact-study-demonstrates-bt-brinjal-eggplant-helps-farmers-earn-more-less-pesticide>