

UNITED STATES SUBMISSION:
PUBLICATIONS ON SOCIOECONOMIC CONSIDERATIONS

7 August 2019

The United States government has previously submitted a sample of studies that quantify socioeconomic factors associated with the use of organisms that could be considered to fall within the definition of a living modified organism (LMO) under the Cartagena Protocol on Biosafety. That list can be viewed through this link:

<https://bch.cbd.int/database/record.shtml?documentid=112098>.

It is important to note that many publicly available articles consider socioeconomic factors that fall outside the scope of Article 26 of the Protocol. Article 26 states that Parties “...*may take into account, consistent with their international obligations, socio-economic considerations arising from the impact of LMOs on the conservation and sustainable use of biological diversity...*” In cases when an LMO does not result in an impact on the conservation and sustainable use of biological diversity, socioeconomic considerations fall outside the scope of Article 26. In the U.S. opinion, activities regarding socioeconomic considerations conducted under the Protocol should be aligned to the limited scope of Article 26 to avoid confusing or misleading policymakers.

The United States also recognizes that it can be difficult to conduct *ex ante* assessments of socioeconomic factors for products that have not been commercialized. In the U.S. experience, it is possible to gather sufficient information and analyze the nature of the social and economic changes associated with a product once it has been in use for several years. We consider that without scientifically validated data, economists cannot necessarily predict how free markets, and as an extension individuals, respond to the presence of new products. In our view, incorporating perceived socioeconomic factors into decision-making is speculative and undermines a policymaker’s ability to make the best-informed decision. As a result, the vast majority of quantitative socioeconomic studies assess LMOs after adoption and safe use has occurred over many years.

There are many U.S. government and other publications of interest on this subject; however, for the sake of this exercise we are highlighting three that are representative of the research that has been carried out. We would be very pleased to suggest additional examples if it would be useful for us to do so.

For additional international information on genetically engineered crop adoption:

1. **International Service for the Acquisition of Agri-biotech Applications (ISAAA).** Annual briefs contain information on adoption and analyses of impacts of the use of genetically engineered crops. <http://www.isaaa.org/>
2. **Global impact of biotech crops: socio-economic and environmental effects 1996–2015. (2017).** This study presents the findings of research into the global socio-economic and environmental impact of genetically modified (GM) crops in the twenty years since they were first commercially planted on a significant area. It focuses on the farm level economic effects, the production effects, the environmental impact resulting from

UNITED STATES SUBMISSION:
PUBLICATIONS ON SOCIOECONOMIC CONSIDERATIONS
7 August 2019

changes in the use of insecticides and herbicides, and the contribution towards reducing greenhouse gas emissions.

<https://www.pgeconomics.co.uk/pdf/2017globalimpactstudy.pdf>

- 3. Economic impacts and impact dynamics of Bt cotton in India. (2012). PNAS. 109(29): 11652–11656.** Despite widespread adoption of genetically modified crops in many countries, heated controversies about their advantages and disadvantages continue. Especially for developing countries, there are concerns that genetically modified crops fail to benefit smallholder farmers and contribute to social and economic hardship. Many economic studies contradict this view, but most of them look at short-term impacts only, so that uncertainty about longer-term effects prevails. We address this shortcoming by analyzing economic impacts and impact dynamics of Bt cotton in India. Building on unique panel data collected between 2002 and 2008, and controlling for nonrandom selection bias in technology adoption, we show that Bt has caused a 24% increase in cotton yield per acre through reduced pest damage and a 50% gain in cotton profit among smallholders. These benefits are stable; there are even indications that they have increased over time. We further show that Bt cotton adoption has raised consumption expenditures, a common measure of household living standard, by 18% during the 2006–2008 period. We conclude that Bt cotton has created large and sustainable benefits, which contribute to positive economic and social development in India.

<https://www.pnas.org/content/109/29/11652>