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## **BEST PRACTICES FOR ASSESSING THE SOCIAL AND ECONOMIC IMPACTS OF TRANSGENIC CROP VARIETIES ON SMALL-SCALE FARMERS**

### *Project Summary*

#### **INTRODUCTION**

Article 26 of the Cartagena Protocol on Biosafety encourages countries to take social and economic considerations into account when making decisions on genetically modified organisms. However, there has been little guidance to date from the international community on how to implement these recommendations. The IFPRI project, “**Best Practices for Assessing the Social and Economic Impacts of Transgenic Crop Varieties on Small-scale Farmers,**” has been designed explicitly to fill this gap.

This project (2006-2008) aims to enable national and local decision makers to assess the benefits of transgenic crop varieties, make policy choices, and develop regulatory processes. Specifically, this project addresses the need for better information, policies, and procedures regarding the social and economic aspects of transgenic crop varieties. The project’s goals are to:

- Develop components of a “good practices” methodology for assessing the social and economic impacts of the adoption of transgenic crop varieties by small-scale farmers in developing economies;
- Pilot this methodology in a set of comparative case studies, drawing policy implications for local and national decision makers in the countries where case studies are conducted; and
- Contribute to the development of policy and governance tools that effectively incorporate social and economic considerations into decision making by these and other countries.

To achieve these aims, IFPRI and Oxfam America are coordinating efforts on complementary, but separately funded, projects. The IFPRI component of the project is funded by the International Development Research Centre (IDRC) based in Canada, and a global project team is researching the impacts of adopting transgenic crops in Bolivia, Honduras, and the Philippines. Oxfam America’s project focuses on the social and economic impacts of Bt cotton adoption on small-scale farmers in China, Colombia, India, and South Africa. The experiences of these farmers will serve to guide decision making in several West African countries considering the adoption of Bt cotton.

An advisory committee was established to help develop and implement the methodology for both the IFPRI and Oxfam projects. The committee broadly represents the projects’ stakeholders and developing countries, and includes farmers’ associations, universities, scientists, and NGOs. During implementation of the case studies, the committee provided feedback and advice. They are also reviewing the synthesis of the project’s findings.

#### **FOCUS COUNTRIES AND ACTIVITIES**

**Bolivia:** Colonizing farmers in the Santa Cruz region and their unofficial use of Ht soybean provide an interesting context for the case study in Bolivia, implemented by the Association of Oil Seed and Wheat Producers (ANAPO) with advice from IFPRI. Adoption of Ht soybeans and cultivation practices depend on the social characteristics of these ethnically diverse communities. Social network analyses, as well as the impacts of use on labor and management time by family members, are central to the research. Field surveys have measured land-use changes, such as clearing and re-allocation from other crops to soybeans.

**Colombia:** Sponsored by Oxfam America, the Colombian Cotton Confederation (CONALGODON) and IFPRI staff are carrying out farm surveys in the two major cotton-growing areas of the country—the coastal plains and the interior zone around Tolima. Bt cotton represents almost half of the cotton grown in the country, but there has never been a thorough study of its performance. The surveys are assessing the costs and benefits of the technology, with particular emphasis on the experiences of small growers. In Colombia, cotton farmers must belong to a growers' organization and contract private extension agents, which provides an opportunity to analyze the effects of a highly integrated structure for providing inputs, extending technical information and advice to farmers, and controlling product quality and marketing.

**Honduras:** Maize is a staple crop in this country, and over the years, farmers have received a steady stream of high-yielding maize varieties and hybrids at a relatively low price. Despite this, less than 20 percent of farmers grow improved maize. The urgent need to examine the structure and performance of the Bt seed industry, maize productivity, and the role of maize production in rural development prompted research that includes agronomic experiments, participatory work with farmer field schools, and on-site demonstrations. A component of this work aims to improve the methods used to measure the reduction of insect damage from use of Bt seed, which is important for accurate impact assessments. Escuela Agrícola Panamericana (Zamorano University) is implementing the research, with contributions from IFPRI staff.

**Philippines:** Sites in the north and south, both with high adoption rates but with contrasting agro-climatic conditions, were selected for the country case study. In addition to economics analysis, team members are exploring the social and ethical dimensions of the impacts of Bt maize on small-scale farmers, with a focus on gender. A social development monitoring tool has been applied. A choice experiment allows researchers to analyze how farmers perceive and value maize seed attributes—this includes pest resistance, whether or not the seed is transgenic, and from whom the farmer obtained the seed and learned about it. University of Ateneo is leading this case study, with input from IFPRI staff.

**bEcon:** bEcon is a searchable, web-based bibliography that contains a comprehensive collection of all peer-reviewed applied economics literature that assesses the impacts of genetically modified (GM) crops in developing countries. The web bibliography is organized under four major research questions: (1) What are the (potential, actual) advantages of GM crops for farmers? (2) What are consumers willing to pay for non-GM products, and how will their preferences affect the market? (3) What are the magnitude and distribution of the economic benefits resulting from the adoption of GM crops in a particular sector? (4) What is the international distribution of economic benefits resulting from the adoption and trade of GM crops? bEcon will be updated regularly, and a CD-ROM will be produced on an annual basis for those with limited or no internet access. <http://www.ifpri.org/pubs/becon/becon.asp>.

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This Country Case Study Summary contains preliminary material and research results. It has not been subject to formal external reviews managed by IFPRI's Publications Review Committee.