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Foreword

Returns to investment in plant genetic resource conservation and crop improvement research

This special issue of *Agricultural Economics* contains a selection of papers presented at an international conference entitled “Why has Impacts Assessment Research Not Made More of a Difference?” held in San José, Costa Rica, in February 2002, the conference was organized by the Economics Program of the International Maize and Wheat Improvement Center (CIMMYT), with support from the Standing Panel on Impact Assessment (SPIA), the impact assessment division of the Science Panel (SP) of the Consultative Group for International Agricultural Research (CGIAR). Funding for the conference was provided by CIMMYT, SPIA, the Rockefeller Foundation, the International Fund for Agricultural Development (IFAD), the German Gesellschaft für Technische Zusammenarbeit (GTZ), the Spanish Instituto Nacional de Investigación Agrícola y Tecnología Agraria y Agropecuaria (INIA), the Japanese Ministry of Foreign Affairs, and the Norwegian Ministry of Foreign Affairs.

The CGIAR is an informal association of 58 public and private sector members that supports 16 international agricultural research centers known as Future Harvest Centers. CIMMYT is a Future Harvest Center. The 16 Future Harvest Centers share a mandate to increase agricultural productivity in developing countries, alleviate poverty, and enhance the sustainability of the natural resource base.

Successful achievement of this mandate depends on the ability of the Centers to identify appropriate research priorities, effectively manage ongoing research, account for resources invested in research and development activities, and build and maintain public support for their work. The success of these four

activities is critically influenced by the quantity and quality of the impact assessment research carried out within the CGIAR.

The overall goal of the conference was to enhance the effectiveness of impact assessment research within the CGIAR. The specific objectives of the conference included:

1. provide a forum for publicizing ‘best practices’ in impact assessment research and for disseminating results of recent impact assessment research;
2. foster dialogue between impact assessment practitioners, both within the CGIAR and throughout the larger research and development communities; and
3. demonstrate to donors that Future Harvest Centers are committed to organizational learning.

The conference brought together a wide range of actors involved in conducting impact assessment research, communicating the results of impact assessment research, or using the results of impact assessment research. Participants included impacts assessment practitioners from 15 Future Harvest Centers, as well as representatives from national agricultural research systems (NARS), public and private universities, multilateral lending organizations, development assistance agencies, non-governmental organizations (NGOs), philanthropic foundations, private corporations, and the media. The conference, which attracted over 145 participants, was the largest gathering in recent memory of the international impact assessment community.

The conference provided an excellent opportunity for impact assessment professionals to update their knowledge and skills in relation to both conceptual

and empirical approaches to impact assessment while engaging in extensive professional discourse and networking. The program included invited and contributed papers sessions, panel presentations, free discussion sessions, and poster sessions.

Since a large number of the conference participants work for or with the Future Harvest Centers, many of which maintain extensive plant germplasm collections and are actively involved in plant breeding research, it is not surprising that a considerable number of the papers presented at the conference dealt with assessing the impact of investments in the conservation, management, improvement, and utilization of crop genetic resources. This special issue of *Agricultural Economics* contains a selection of the best of these papers. Given the large amount of impact assessment work that is done at the Future Harvest Centers focusing on genetic resource conservation and plant breeding research, it is fair to say that the authors of these papers include many of the leading experts in the field.

The papers have been grouped thematically into four sections. Part 1 'Concepts and Methods' contains two papers that discuss theoretical and practical challenges associated with estimating the returns to investment in plant breeding research. Both papers suggest that while the conceptual issues are generally straightforward, as a practical matter it is often very difficult to obtain reliable empirical estimates of key parameters. Part 2 'Economics of Genetic Resource Conservation' contains three papers that examine the costs of conserving genetic resources, both in situ and ex situ. The information presented in these papers suggests that while the payoffs to in situ conservation remain uncertain, the benefits generated by investment in ex situ conservation are not only large but also widely distributed. Part 3 'Factors Affecting the Adoption of Modern Varieties' contains three papers that examine technical, economic, social, and institutional factors affecting the adoption and diffusion of modern plant varieties. These papers suggest that adoption and diffusion are influenced by numerous factors, many of them case specific. Part 4 'Distributional Impacts of Plant Breeding Research' contains three papers

that explore how the benefits associated with modern variety adoption are distributed across environments and population groups. These papers suggest that contrary to the conventional wisdom that the benefits of plant breeding research are incurred mainly in favored environments populated by wealthier farmers, significant progress is being made as well in breeding for marginal environments populated by poor farmers.

In recent years, concern has been growing within the donor community regarding the adequacy of existing impact assessment methods for guiding investments in agricultural research in general and crop improvement research in particular. The papers assembled in this special issue of *Agricultural Economics* show that the concern is unjustified. Including both conceptual think pieces and empirical case studies, the papers provide outstanding examples of current 'best practice' in impact assessment work relating to genetic resource conservation and crop improvement. From a range of perspectives, the authors address numerous important theoretical and practical challenges. Empirical results reported in many of the papers provide credible evidence that investments in genetic resource conservation and crop improvement research continue to generate attractive returns. At the same time, the variety of approaches used by the authors testifies to the ingenuity and creativity of impact assessment practitioners in seeking answers to the ever more sophisticated questions being asked with increasing urgency by those who fund research.

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