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**“Impacts of Strengthened Intellectual Property Rights Regimes
on the Plant Breeding Industry in Developing Countries: A
Synthesis of Five Case Studies”**

D. Eaton, (LEI, The Hague, Wageningen University and Research Centre, the Netherlands)
derek.eaton@wur.nl

Niels P. Louwaars (Centre for Genetic Resources, The Netherlands, Wageningen University
and Research Centre),

Robert Tripp (Overseas Development Institute, London, UK)

Victoria Henson-Apollonio (Central Advisory Service, CGIAR, Rome, Italy)

Ruifa Hu (Centre for Chinese Agricultural Policy, Chinese Academy of Sciences, Beijing,
China)

Maria Mendoza (Bogotá, Colombia)

Fred Muhhuku (Agricultural Productivity Enhancement Programme, Kampala, Uganda)

Suresh Pal (National Centre for Agricultural Economics and Policy Research, Indian Council
of Agricultural Research, New Delhi, India)

Joseph Wekundah (Biotechnology Trust Africa, Nairobi, Kenya)

ABSTRACT

The objective of this World Bank-commissioned study is to describe and evaluate initial
experiences with strengthened IPRs (patents, plant breeders' rights systems and trademarks)

in developing country agriculture, focusing on five case studies. China, Colombia, India, Kenya and Uganda were chosen to represent a wide range of situations. The preliminary nature of developing countries' experience with IPRs in agriculture precludes most possibilities for quantitative evaluation of impacts, and in many cases possible effects of IPRs are confounded with other developments (such as domestic policy changes and the liberalization of international trade). The study thus concentrates on qualitative evaluation of initial experiences and analyzes the efficiency with which IPRs are implemented at the institutional level (including interactions with other regulatory mechanisms, such as seed laws and biosafety regulations), the effectiveness of the new IPR regimes in providing added incentives for the breeding and seed sectors (both public and private), and the equity of outcomes for producers (with particular attention to smallholders). Data was collected primarily by means of in-depth, semi-structured interviews with a sample of stakeholders from the public, private and non-profit sectors. The experiences of the case study countries illustrate that adopting an IPR law, including even a relatively "straightforward" PVP legislation, and putting it into practice are two separate challenges. Furthermore, despite flexibilities available under TRIPS, few countries seem to be tailoring the scope of protection offered to their circumstances. The findings of the study with respect to the relative roles of the public and private sectors in plant breeding, including the use of agricultural biotechnology, raise some cause for concern. The emergence to-date of the private seed sector in the case study countries owes relatively little to national IP regimes. The establishment of PVP regimes comes at a time when public agricultural research in developing countries is being asked to take much more responsibility for revenue generation. In the case study countries there is little evidence so far of actual revenue generation from public breeding through IPRs, with the exception of some Chinese institutes. While the growth of the private seed industry would seem to provide a more effective link between public plant breeding and farmers' fields, the establishment of IPR systems has done little to resolve long-standing challenges for public plant breeding. It is likely that NARS' focus on revenue generation, supported by the introduction of IPRs, may divert their attention from the needs of marginal farmers. At the same time, IPRs do not seem to be stimulating access to proprietary technologies from the North, with the exception of a few well-publicized initiatives.