

Development and Diffusion of Dryland Cereals in Semi-Arid Tropics of India — Role of Partnerships[§]

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Abstract

In any crop improvement program, public and private partnerships are vital for development of improved cultivars and their dissemination to the target niche locations. This paper has provided information on the diffusion of dryland cereals (particularly sorghum and pearl millet) in India and has highlighted the role of partnerships in sustaining the crop improvement as well as improved cultivars' adoption. Over the past two decades, the R&D in pearl millet and sorghum has become increasingly privatized, reflecting a general shift in India's agricultural research system from public sector dominated to private sector-driven seed development and distribution. The accomplishments of pearl millet and sorghum breeding are considered as the success stories in India, with a large number of high-yielding, disease-resistant hybrids and open-pollinated varieties very widely used by the Indian farmers. This was made possible because of strong partnerships and Consortium model introduced by ICRISSAT. This kind of approaches lead to scientific innovations that create a vibrant and sustainable supply of new improved cultivars and their adaptation in the targeted regions very quickly.

Key words: Improved cultivars, crop improvement, adoption, pearl millet, sorghum, partnerships, dryland cereals, semi-arid tropics

JEL Classification: Q13, Q15, Q10

Introduction

The importance of crop genetic improvement research is demonstrated well by the green revolution in terms of a rapid increase in food production in Asia. Such increases in productivity gains contributed to a decline in poverty not only through increases in farmers' income, but also through a decline in prices of foodgrains. The success of crop genetic improvement research in several parts of the world leading to the development of improved varieties of several food crops, has been well documented (Evenson and Gollin, 2003; Bantilan *et al.*, 2014). But, despite progress made

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through crop varietal development in the past, poverty is still concentrated in South Asia, which is a home for around 571 million or one-third of the world's poor of about 1.29 billion in 2011 (World Bank, 2012). Substantial potential exists for further reduction in poverty through crop genetic improvement by increasing or stabilizing the yield of major food crops, particularly the dryland crops in South Asia. This varietal change by itself may not lift a large number of people out of poverty, but a greater dynamism in this area can go a long way towards moving poor people closer to that threshold.

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