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Governance Challenges in Legume Seed Systems: What Role Can the International Agricultural Research Centers Play?

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Abstract

Legumes make significant contributions to diets of the poor in developing countries, especially as a source of protein. At the same time, they play an important role in maintaining soil fertility. Improved legume varieties with higher productivity and disease resistance could make a significant contribution to the well-being of smallholder farmers. However, the self-pollinating nature and low seed multiplication ratio of most legumes lead to market failure as these factors render them non-attractive for the commercial seed industry. Hence, research and dissemination of improved legumes often rely on government systems, which face their own governance challenges such as low efficiency, shortage of funds, and lack of qualified staff. The paper deals with the question as to what role the international agricultural research centres of the Consultative Group on International Agricultural Research (CGIAR) can play in addressing these governance challenges. The first part of the paper uses a transaction cost approach to analyse the role that the international centres should play in relation to national agricultural research centres and national seed systems, considering attributes such as transaction intensity, asset specificity, economies of scale and potential for spillovers. The second part of the paper presents an empirical analysis of the programme for improved groundnut and chickpea varieties of the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) in three countries that differ with regard to the capacity of their agricultural research systems and the state of their seed systems: India, Malawi and Ethiopia. A participatory mapping technique called Netmap, key informant interviews, and a meta-analysis of adoption studies were conducted to analyse the role of the different institutions and actors involved in promoting improved legumes. The results indicate that international agricultural research plays an important role in breeding improved varieties, for which the centres have a comparative advantage. However, due to factors such as donor pressure to show impact, the international centres also engage in downstream activities of seed promotion, which are problematic from a governance perspective, because they either compete with national systems, or they reduce the incentives for national governments to overcome the governance challenges in their national systems.

Keywords: Agricultural innovation, CGIAR, seed systems, spillovers, transaction costs