

POTATO IN CEREAL BASED SYSTEM TO MEET FOOD SECURITY IN SOUTH ASIA

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Introduction

South Asia was last reported at 69.86% living in rural area in 2010, according to a World Bank report published in 2012. The prediction by the French Institute of Demographic Studies (INED) is that India alone will succeed China in population by 2050 with a population of 1.6 billion which would give South Asia the highest global population. Malnutrition is still a major problem in South-Asia despite economic growth and reduction in poverty as about half of the children below five are stunted (47% in 2008 according to WDI).

Potato in Sub-tropical Lowlands of South Asia (SA)

Potato is an important food and cash crop in the subtropical lowlands of the Indo-Gangetic Plains (IGP) cultivated in the winter under short day. It is a key rotation crop in cereal systems. India has the largest area under potato: 1.9 million hectares followed by Bangladesh: 0.534 million hectares and Pakistan 0.185 million hectares (FAO Stat.2012). Accelerated breeding schemes, improved seed delivery, diversification of value chains, and ecological management practices in region can enhance productivity and incomes in a sustainable and equitable manner. This could be accomplished through use of short maturing potato that in extensive cereal-based systems of South Asia.

Constraints to wide adoption of potato

The private sector can play a key role in the scaling up of improved varieties and practice in SA. One of the aspects that make the value chain disarticulated is a poorly developed processing sector that could operate in preventing gluts and stabilizing market prices. Many countries cannot develop their own sustainable seed program based on locally developed varieties due to high dependency on imported seed and lack of trained manpower and infrastructure.

Targeting systems

In Eastern IGP, the farmers practicing boro (summer) rice after potato, do not get potential yields of boro rice or potato or both because; i) harvesting of potato at full maturity delays transplanting of boro rice reducing yield of boro rice, ii) early harvesting of potato for timely transplanting of boro rice reduces the potato yield, iii) the water requirement of boro rice is increased by delayed transplanting of boro rice, iv) the boro rice planted after potato remains in the field during summer and becomes more prone to abiotic and biotic stresses and natural calamities. The lack of heat tolerant varieties has limited wheat-potato area in North-IGP. The development of promising early maturing clones/varieties to heat tolerance can meet new opportunities of potato in the rice/wheat system.

CIP-Research and Development Strategy for SA

1. Advances in breeding technology for abiotic and biotic stresses and earliness
2. Enhance the processed potatoes from today's 3–6% in the SA region to 20% by 2020.
3. Participatory variety selection to accelerate the release varieties of stakeholder choice and adapted to system.
4. Regional networking to facilitate the exchange of information and material. Capacity building: Create regional training hubs for NARS, farmers associations, and NGOs
5. Increasing engagement of private sector in processing and seed production sectors.
6. Increasing women's role in project design and targeting, evaluation and dissemination.

World Development Indicators (WDI): <http://databank.worldbank.org> .