

## Strategies to Gear-up Seed Production in North-Eastern Region of India

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### Abstract

**Seed is the most important component of agricultural production system. Information available from different sources indicates that there is a large gap in the supply of this vital input. Of the total quantity of improved seeds required by the farmers, roughly 40 per cent is met from within the region leaving a gap of 60 per cent in its present requirement. Therefore, there is urgent need of establishment of organized seed production and quality control system to ensure the production of quality certified seeds in North- Eastern Region.**

**Key words:** Seed, HYV, Seed company, North Eastern region

### Introduction

Indian seed industry is one of the most mature and vibrant one in the world currently occupying the 6th position with nearly 9000 Crore turnover. During the past 5 years the Indian Seed Industry has been growing at a CAGR (Compound Annual Growth Rate) of 12% compared to global growth of 6-7%. In value terms the major growth has come from the increased adoption of Bt cotton hybrids, single cross corn hybrids and hybrid vegetables. The volume growth has mainly come through increased Seed Replacement Rate in crops like Paddy and Wheat. Indian seed industry is undergoing wide ranging transformation including increased role of private seed companies, entry of MNCs, joint ventures of Indian companies with multinational seed companies and consolidations.

The seven sisters (Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura) and Sikkim constitute North-Eastern Region of India. This area lies between 21.5° N to 29.5° N latitude and 85.5° E to 97.5° E longitude. As per a report of National Academy of Agricultural Sciences northeast have a total cropped area of 5.3 million hectares and a population of around 39 million.

Agriculture is the dominant economic activity providing employment to 64.28 per cent of total workers. The region has 3.73 per cent of the total population of the country and contributes 2.6 per cent to the Net Domestic Product. Total operational land in

the N.E. India is 53.4 lakh ha. The highest operated area is 31.6 lakh ha in Assam and the lowest (0.8 lakh ha) is in Mizoram. Nagaland has the unique characteristic of highest size of operational holdings at 6.8 ha, which is higher than the Northeast regional average (1.59 ha) and also of the all-India level (1.6 ha). Out of total geographical area of 255.09 lakh ha in the NE India, area under forest is 164.3 lakh ha (64 per cent) (Saikia, 2001).

The NER falls under high rainfall zone and the climate ranges from subtropical to alpine. The region is characterised by difficult terrain, wide variations in slopes, altitude, land tenure systems and diverse cultivation practices. The transport and communication system is poorly developed and as a result majority of the areas in the region remain still inaccessible. Majority of the population, predominantly tribal, is dependent on agriculture and land-based activities. The agricultural production system in the region is predominantly rainfed, mono-cropped at subsistence level. Slash and burn agriculture is still practised in almost all the states except Sikkim on steep slopes with reduced cycle of 2-3 years as against 10-15 years in the past. The region, once richly endowed with rich genetic diversity of plants, has been denuded due to human interference by adoption of unscientific land use system. With rapid increase in human and livestock population and the rising demand of food, feed, fuel, fodder, fibre, timber and the other developmental activities, the farmers have been forced to exploit forestland and water resources at sub-optimal level in complete defiance of the inherent potential. This has resulted in progressive decrease in forest cover, loss of

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biodiversity, serious soil erosion leading to depletion of plant nutrients, gradual degradation and decline in land productivity (Anonymous, 2001).

### Current Status

Seed is the most important component of agricultural production system. Indian seed Industry is one of the most mature and vibrant one in the world currently occupying the 6th position with nearly 9000 Crore turnover. During the past 5 years the Indian Seed Industry has been growing at a CAGR of 12% compared to global growth of 6-7%. In value terms the major growth has come from the increased adoption of Bt cotton hybrids, single cross corn hybrids and hybrid vegetables. The volume growth has mainly come through increased Seed Replacement Rate in crops like Paddy and Wheat. Indian seed industry is undergoing wide ranging transformation including increased role of private seed companies, entry of MNCs, joint ventures of Indian companies with multinational seed companies and consolidations. Information available from different sources indicates that there are large gaps in the supply of this vital input. The time lag in the supply of seeds frustrates the production programmes of the region. The spread of HYV has been poor as evidenced from the fact that only 56 per cent of the rice area has been brought under HYVs in NE hill states against 74 per cent in the country. Of the total quantity of improved seeds required by the farmers, roughly 40 per cent is met from within the region leaving a gap of 60 per cent in its present requirement. This gap is very likely to widen over time, as the percentage of adoption is sure to increase in near future. Except Assam, organised seed production programme does not exist in any of the NEH states. Majority of the farmers use locally available material or previous season's balance produce as seed (Patel, 2013).

### Prioritization and Policy Perspectives

Agricultural development strategy has to be evolved depending on resources, conditions and people's needs and priorities. Private sector participation can provide additional resources and create necessary environment to generate job opportunities, better utilization of resources and enhance credit flow impacting directly on farm sector development. With appropriately defined targets, clear outcomes, strategies and coordinated planning operated under well organized seed production and quality control system; the NER can become increasingly self-reliant in not only food and horticultural crops but the quality seeds also.

1. Establishment of organized seed production and quality control system to ensure the production of quality certified seeds.
2. Strengthening of extension functionaries and KVVKs for efficient dissemination of latest technological innovations.
3. ICAR, SAU and CAU to facilitate breeder seed production of HYV and their multiplication and distribution involving SHGs of Youths and establishing State-wise warehouse, centres for certified seeds, fertilizer, pesticides, farm-equipment depending on scale of operation, in co-ordination with NSC, NFC and Government agencies.
4. Farmers should be involved in seed production on co-operative basis to ensure self sufficiency in quality seeds.
5. Development of irrigation facilities and promotion of water-harvesting methods for assured water supply particularly in the rabi season.
6. Short term practical oriented trainings should be organized to train extension functionaries as well as youth to create awareness about importance of quality seed production and its scientific methods.
7. Making small operational holdings of farmers economically viable and profitable through forming farmer-SHGs, participatory approach and community action on cluster basis.
8. Establishing institutions for capacity building of farmers to adopt technology and centres at strategic locations to supply reasonably priced quality seeds, fertilizers, pesticides and farm equipment.
9. Creation of "single window" input delivery system in the rural areas to ensure timely supply of inputs.
10. Surveillance of major pests and diseases and adoption of timely control measures.
11. User-friendly information system through improved method such as on-farm trials, demonstration, training, farmer-participatory interaction programme along with programmes for updating knowledge and skill of field level officers.
12. To identify need-based programmes for overcoming technology gaps through extensive field surveys under diverse agro ecological and socio-economic situations.
13. Programmes to promote the development of cash crops like jute, sugarcane, maize, horticultural crops, etc.
14. Creating storage facilities particularly cold storage for perishable commodities.

15. Introduction of value-addition to agricultural produce through research and development activities.
16. Agricultural development programmes must take care of cropping pattern in the pre-and post-flood situations particularly in flood-affected areas including development of allied agricultural activities.
17. Improved crop cultivation practices for Jhumming in hilly areas.
18. Financial support for creation of agricultural infrastructure such as strengthening irrigation facilities, farm machineries, processing and storage facilities, rural roads and communication.
19. Marketing infrastructure to be created at the primary markets in rural areas and regulated markets in district level. The dominance of traders and middlemen to be reduced so that farmers

could directly sale their produce and get appropriate returns.

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