

## **Current status of vegetable seed industry in India and future prospects**

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### **Introduction**

Seed is a key component among all inputs for sustainable crop production. It is estimated that quality of seed accounts for 20-25% of productivity. The importance of quality seed has been realized by mankind long ago. The need for a good viable seed for prosperity of human race is mentioned in *Rigveda* of ancient India. It is mentioned in the Primeval Manusmriti as “SubeejamSukshetreJayateSampadyate” which literally means “A good seed in a good field will win and prosper”. Albeit there have been few private seed industries dealing with production of vegetable seeds, the growing of crops especially for seeds in an organized fashion to maintain quality in terms of genetic and physical purity is realized for first time during green revolution period with the establishment of National Seeds Corporation (NSC) in 1963. It is setup by aiming at promoting healthy development of seed industry in India. The principle responsibilities of NSC are establishing an adequate system of quality control inspection for scientific processing, storage and marketing of seeds. Currently there are about 850 seed companies (mostly seed producers) operating in India in 2014, of which about 50 have capacity in crop breeding research. It also undertakes the responsibility of multiplication of seed of pre released varieties and production of foundation seed of varieties. The SRR in vegetable crops has gone from 20 percent in eighties to >90 percent.

At present the total Indian traded seed market is Rs. 20,000 crore. Out of this total vegetable seed market including Open Pollinated varieties is Rs. 4000 crore. Out of 110 hybrids released by AICRP, 60 percent are from Pvt.

Sector. Indian seed Industry is currently occupying the 5<sup>th</sup> position. During the past 5 years the Indian Seed Industry has been growing at a CAGR of 12% compared to global growth of 6.7%. Few mile stone events in seed policy by Govt. of India are below.

1. The Seeds Act, 1963
2. National Seeds Project
3. New Seeds Policy, 1988
4. PPV & FRA, 2001
5. The Seeds Bill, 2004

The overall market value of the global vegetable seed market increased roughly 6% from 2009 to 2010 to an estimated \$ 4 bn USD. With continued growth and new shifts occurring within regions and production practise, the industry required accurate and applicable data to market effective and critical decisions. The global seed sector outlook 2025 for major vegetable crop spices such as Brassica (Cabbage, cauliflower, broccoli), cucurbits (Muskmelon, watermelon, cucumber, squash), corn (Baby corn, sweet corn), Legumes (Pea, beans), leafy vegetable (Lettuce, spinach), Root – Bulb (Carrot, radish, onion), and Solanaceae (Pepper, eggplant, tomato) is a dynamic capture of semi-annual long range (10-15 year) forecasting data for global vegetable seed market. These crops provide a unique perspective of a complex global sector of agriculture with significant growth opportunities. The Indian seed industry is the fifth largest seed market in the world, accounting for 4.4 % global seed market after the US (27%), China (20%), France (8%) and Brazil (6%). In terms of global trade, India is self sufficient in seed of vegetable, flower, fruit and filed crops. It is expected that market size of Indian seed will grow at a rate of 11% per annum to \$ 3.2 bn till 2016 financial year on account of governments continued focus on improving seed replacement rate.

Vegetable seeds are the fastest growing category within the overall seed market. Vegetable play a major role in proving an affordable balanced died.

Globally, vegetable seeds market has grown consistently over the past 5 year on account of rising worldwide population, expanding middle class and shifting eating habits with growing consumption of green vegetable in the diet.

### **Potential of vegetable seed production in India**

India is endowed with several advantage making it competitive for production of open pollinated varieties and hybrid vegetables seeds for domestic and foreign companies and meeting domestic and international seed quality standard. With the liberalization of seed policy in 1988 in India, the private companies grew fast and currently, there is 60:40 ratio between the private and public sector. There are more than 200 private seed companies of which over 30 per cent have global partner. The role of 13 state owned corporation has declined and they now deal with government notified products. Vegetable seeds accounts for about 18 per cent of the total production of certified seeds. In the public sector, there are 15 state seed corporations, 22 state seed certification agencies and 104 state seed testing laboratory in addition to the National Seed Corporation of India.

With low cost labour availability and environment suitability for quality, vigorous and bold seed production, all kind of vegetable seeds can be produced in India for domestic and export market which will not only save foreign exchange instead earn it besides empowering rural poor with skill, generate employments and income. Private sector instead prefers to import than to empower and develop entrepreneurship among our own small holder farmers.

### **Global Perspective**

High quality seed production and export is the best choice, since it does not require additional investment by the government. Seed industry can expand on its own, both in domestic and export trade, once we have market friendly regulations and encourage more investigation. In future, the vegetable seed sector is expected to be active and dynamic with hybrid varieties developed indigenously for domestic markets and commercial farmer and superior open

pollinated varieties produced for the benefit of marginal farmers and homestead gardens.

### **PVP pattern in public sector**

India's Plant Varieties and Farmers' Rights (PPV&FR) Act of 2001, the establishment of the PPV&FR Authority in 2005, and the commencement of varietal protection application processing in 2007 have helped to some extent in providing the IPR environment needed to incentivize private investment in the seed sectors. The objective of this legislation was to provide an effective system for the protection of farmer's rights which would also stimulate investment for research and development both in public and private sector for the development of new plant varieties by ensuring appropriate returns on such investments. In total, about 1700 varieties developed by the ICAR were eligible for registration under PPVFRA, but only about 50 per cent of these varieties were protected.

### **Factors promoting vegetable seed industry in India**

- 1) Ever Increasing Demand
- 2) Varied Agro Climatic Conditions
- 3) Cheap labour availability
- 4) Vast Domestic and International market

### **Influence of vegetable seed industry on economy**

- 1) Income generation
- 2) Employment generation
- 3) Foreign Exchange Earning

### **Role of Public & Private Seed Sector**

The private sector has started to play a significant role in the seed industry over the last few years. At present, the number of companies engaged in seed production or seed trade is of the order of 400 or 500. However, the main focus of private seed companies has been on the high value low volume seeds and market for low value high volume seeds of cereals, pulses and oilseeds is still dominated by the public sector seed corporations. Private sector companies have a significant place mainly in the case of maize and sunflower and cotton. However, in the case of vegetable seeds and planting materials of horticultural crops, the private sector is the dominant player. As the private sector has not been enthusiastic about entering into seed production of high volume low margin crops of wheat, paddy, other cereals, oilseeds and pulses, the public sector seed corporations will continue to remain dominant in cereals, pulses and oilseeds for many more years to come. At present 15 State Seeds Corporation and 2 National level seeds Corporations.

### **Constraints in vegetable seed industry**

- 1) High Cost and Vague Market Demand
- 2) Perishable Nature of Seed
- 3) Problems linked with contract farming
- 4) Climate, Pest and Disease related problems
- 5) Stringent seed policies and laws

### **Conclusion**

- ▶ Vegetable seed business will ever have huge scope to success and will play an important role in economy in countries like India
- ▶ Making available quality seeds to the farmers in time and in sufficient quantity at reasonable prices
- ▶ Policy making and implementations shall be free from political motivations

- ▶ Strengthening of public sector in R&D is needed to compete with private seed companies so as to provide good quality seeds to the farmers at cheaper rates

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