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GLOBAL COMPETITIVENESS - A CHALLENGE FOR SUSTENANCE AND EXCELLENCE



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AGRICULTURAL AND AGRO INDUSTRIES - NEXT GENERATION REFORMS TO MAKE INDIAN AGRICULTURE GLOBALLY COMPETITIVE

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PROLOGUE

India still lives in rural areas and half of Indians still depends on agriculture. Though agriculture contributes only 14 percent of Gross Domestic Product (GDP), it feeds 1.27 billion people. Hitherto agriculture is only a livelihood for many farmers, but it gets transformed in to Agri- business. Changing consumer behavior forces the government and entrepreneurs to invest more on food industries for value addition of agricultural produces. Farmers have started adopting market led production and strategies to minimize risk and uncertainty. Innovative methods of farming and mechanization reduce the traditional over dependency on manual workforce. Development interventionists are playing a vital role to educate the farmers to see agriculture as profitable agribusiness enterprises. This concept paper tries to expose the status of agriculture and suggests measures to strengthen the sector globally competitive.

Key Words: Agricultural and Agro industries, natural resources, soil erosion.

Natural Resource Management

Natural resources such as Land, water, soil and biodiversity have direct link with agricultural production. Unfortunately, land and water being finite, Agricultural production is possible only by increasing productivity. Only 55.5% (182.46 million ha) of total land in India is being used for agricultural purposes. Moreover average land holding size which was about 1.33 ha in 2000-2001 has declined to 1.16 ha during 2010-2011. Diversion of agricultural land to non-agricultural users, misuse of irrigation facilities, depleting aquifers and irrigation sources, salination of fertile lands and water logging influences agricultural production. Agricultural lands are diverted for industrial, housing, transport, and recreation facilities. Less availability of water for irrigation, higher frequency and intensity of inter and intra-seasonal droughts and floods, low soil organic matters, soil erosion, less availability of energy, coastal flooding are also affecting agricultural production.

Farm Inputs and Management

Agricultural production is also based on quality farm inputs such as seeds, chemical fertilizers, organic manure, pesticides, farm machinery and equipment, laborers, credit and insurance, pricing policy and marketing infrastructure. The government initiative ensures adequate quantity of hybrid seeds, for all cross-pollinated crops. However, there is market potential for quality seeds in the international market, which could

be explored. The government has also realized the importance of genetically modified crop/plants so as to incorporate the desired traits more quickly and more reliably than through conventional methods of breeding. Despite the protest of environmentalist against use of chemical fertilizers, consumption of nitrogenous (N), phosphatic (P), and potassic (K) fertilizers use has increased tremendously. As an alternative, organic farming is also encouraged and scientist started doing research on this line to increase productivity.

Pest management is still a major problem in India. Need based and judicious use of chemical pesticides is legally permitted in India. However, day-by-day protests are mounting against pollution in soil, water and air, pesticide residue in food. India is slowly mechanizing its agricultural operations. Scarcity of agricultural laborers is addressed through farm machineries for all agricultural operations. It is worth to mention here that the largest manufactures of tractors in the world is India (5, 35,210 in 2011-2012). However, small land holding is a major problem for mechanizations. In India except in states like Kerala, agricultural laborers are traditionally leading a low standard of living and paid less. Over dependency on agricultural and non-availability of other job opportunities, large disguised unemployment and low productivity are the causes for low wages.

Timely and adequate credit support to agriculture at affordable cost positively affects

productivity and income generation. Multi-Agency approach to agricultural credit through different schemes works better. However, credit gap exists still and many small and marginal farmers are in the clutches of moneylenders. Risk Management in agriculture is possible through agricultural insurance and it is being implemented by the Agriculture Insurance Company of India Ltd. (AIC). However, the method of calculating the loss is an issue and needs to be settled.

Technology transfers to farmers are being carried out by the state agricultural departments and

central government as well. NGO's and universities are playing a vital role in this respect and the TNAU experiment namely 'Farm Crop Management System (FCMS)' is worth mentioning. Moreover, ICT intervention in agriculture needs special mention and the kisan Call Centre (KCC) works well throughout the country.

Agricultural Production

Despite the decreasing trend in area under production of cereals, India recorded positive growth during the 11th plan period.

Table 1: Production of Food grains in recent years

Crop	Target	10 th Plan		11 th Plan					Increase Over base		
		2006-2007	10 th plan Ave.	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	11 th plan Ave.	Terminal year	10 th Plan Ave.
Add Production under NFSM											
Rice	10	93	86	97	99	89	96	105	97	12	11
Wheat	8	76	70	79	81	81	87	95	85	19	15
Pulses	2	14	13	15	15	15	18	17	16	3	3
Total Food Grains	20	217	202	231	235	218	245	259	238	42	36

Source: Government of India, State of Indian Agriculture 2012-2013

India is the second largest producer and consumer of rice in the world, accounting for about 22.3% of global production. However, while productivity of wheat has increased from 2602 kg/hectare in 2004-2005 to 2177 kg/hectare in 2011-2012, rice yield (3.38 tones/ha) is much lower than that of our neighbors such as china (6.55 tones/ha), Bangladesh (4.18), Indonesia (5.01) and Vietnam (5.32).

Coarse cereals such as jowar, bajra, ragi, millets and maize are predominantly grown in the rain fed regions. Though, there was a declining trend in its area coverage, productivity of coarse cereals has increased significantly from 1153kg per hectare in 2004-2005 to 1591 kg per hectare in 2011-2012. Pulses production has also increasing steadily. Unfortunately, production

Table 2: Value of Export of Horticulture commodity

Sl. No	Commodity	Value (Rs in Crore)		% Change
		2001-02	2010-11	
1.	Fresh Fruits & Vegetables	987.61	3944.46	299.4
2.	Floriculture	115.39	296.04	156.6
3.	Spices	1833.50	6840.71	273.1
4.	Cashew	2741.00	2809.00	2.5
	Total	5677.50	13792.20	142.9

Source: Government of India, State of Indian Agriculture 2012-2013

of oil seeds is not adequate to meet even half of our domestic demand and India imported 9.2 million tons of edible oils in the year 2011-2012. Sugarcane, cotton and jute are the other crops grown widely in India influences the agrarian economy.

Interestingly, horticulture sector is showing significant growth in area under coverage and production. Moreover, it contributes to export earnings as stated in the following table.

Animal Husbandry, Dairying and Fisheries

In India animal husbandry is part of mixed crop livestock farming system. This phenomenon supplements and compliments the agricultural income of the farmers, provides employment, draught power and manure. Due to the implementation of operation flood schemes, India continues to occupy the position of largest producer of milk in the world. The major food supplement namely meat production from cattle, buffalo, sheep, goat, pig and poultry is increasing significantly. Wool and egg production is also increasing tremendously. Both marine and inland fishing is growing and contributing 4.93 percent of the total GDP of agriculture and allied sectors. Moreover, India is the second largest producers of fish in the world.

Post-Harvest Management and Value Addition

Hitherto, farmers were concentrating on farm production and productivity. After liberalization,

consumers started demanding ready to eat foods with high quality. The government started giving importance for food processing industries and many domestic and foreign players have started their industries. Food processing industries ensures better return to the farmers, good quality products at fair price to the consumers. However, we need to strengthen our supply chain management, cold storages, financing, retailing and exports.

Agricultural Prices and Markets

Farmers should get input such as seeds, fertilizers, pesticides and machineries at subsidized rate. They should be in a position to sell their produces at a fair price at least to cover the cost of production. To ensure this, the Government fixes the Minimum Support Prices (MSP) particularly for paddy, cotton, wheat, jute and sugarcane. However, the farmers are free to sell their products to the private traders, if the market price is higher than the MSP. In case it falls below the MSP, the government intervenes and procures under the Price Support Scheme (PSS).

Intervention for Agriculture Growth

The federal government, state governments, state agricultural universities and many non-governmental organizations are playing vital role in increasing agricultural production and distribution of good quality food to the consumers. In this regard, many programmes are being implemented and of which the author lists some important schemes.

Selected programmers and schemes:

1. Integrated watershed Management programme (IWMP)
2. Accelerated irrigation Benefit Programme (AIBP)
3. CommandArea Development Programme (CADP)
4. Repair, Renovation and Restoration (RRR) of water Bodies
5. Artificial Recharge to Ground Water through dug wells
6. National Mission on Micro Irrigation
7. National Mission for Sustainable Agriculture (NMSA)
8. National Seed Mission
9. Integrated Pest Management
10. Kisan Credit card scheme
11. National Agricultural Insurance Scheme
12. National E-Governance plan in Agriculture
13. National Food Security Mission (NFSM)
14. Accelerated Pulses Production Programme (A3P)

15. Sugarcane Based Cropping Systems (SUBACS)
16. Technology Mission on Cotton (TMC)
17. Rashtriya Krishi Vikas Yojana (RKVY)
18. National Mission on Food Processing (NMFP)
19. Operation Flood Programme
20. State Agricultural Universities under the leadership of ICAR for undertaking agricultural research.

Measures to make the Indian Agriculture Globally Competitive:

Based on the review, the author suggests the following measures to make the Indian agriculture globally competitive:

1. The government should encourage farmers to be prudent in use of power, water, land and conservation of soil.
2. The Universities should come out with more droughts tolerant crops/plants and water saving technologies.
3. We need all the available technologies to meet the demand for food. Hence, we should shed our prejudices against GM.
4. The government should break the monopoly trading of Nutrients by the producing countries.
5. The farmers should transform to organic farming and precision farming.
6. To solve the problems of farm laborers, youths should be encouraged to take up jobs in the agricultural sectors by forming labor pools. They should be trained to own and use machineries.
7. Agricultural Cooperatives should be really democratic institutions and strive for the supply of all inputs to farmers.
8. Self Help Groups should be encouraged to use their collective power to cultivate the lands collectively.
9. Agricultural Insurance should be part of agricultural systems. Farmers should be encouraged to insure their crops and cattle.
10. Agribusiness and Agri-clinics should be established throughout the country by the agricultural graduates to transform the agriculture into a business enterprise.
11. ICT intervention in agriculture is to be fully exploited since it is cost efficient. It helps the farmers to know the market, price and technology.
12. Production of fruits and vegetables should be encouraged. Farmers should not cultivate cotton where the soil is not suitable.

13. We should encourage agricultural export, but it should be value added products.
14. MSP should be given for all products. The government should monitor the demand and supply position of agricultural commodities which are influences the domestic price.
15. To support the food processing industries, government should invest more on quality storage facilities.
16. State governments should establish more farmers market like 'Uzhavar Santhai' in Tamilnadu. There is high potential for fattening industry and agriculture. The farmers should be going for integrated farming.
17. People should be encouraged to eat non-vegetarian food, which will bring down the food insecurity.
18. Commodity exchange should be permitted to operate freely so as to manage price risk of farm produces.

Epilogue

India stands first in the production of Cashew Nuts Shelled, Pulses, Rice bran oil, Safflower oil, Fruits, Spices, Coir, Ghee, Butter oil of Cow Milk, Buffalo milk, Indigenous Buffalo Meat, Starch of Rice, Cake Rice Bran, Bran of Barley, Bran of Millet, Sugar Refined, Pigeon peas, Safflower seed, Okra, Mango Pulp, Papayas, forage products, Coffee, Ginger, Other Bast fibers, Fat of Buffaloes, Milk Skim of Buffaloes, Buffalo Hide, Goat milk, Rice gluten, Millet, Sorghum, Chick peas, Areca nuts, Castor oil seed, Cake Safflower, Bananas, Mangoes, Mangos Guavas, Chilies and Peppers, Oil Essential, Buffalo meat, Butter of Buffalo milk, Buffalo Live Weight, Beeswax, Malt Extract, Flour of Millet, Flour of Sorghum, Sugar Non-Centrifugal, Beans, dry and oil of Castor Beans.

India is importing importing Palm oil, Soybean oil, Beans, Rubber, Cashew nuts, Sunflower oil, Peas,

Pulses, Almonds, Wool, Fatty Acids, Silk Raw, Palm Kernel oil, Lentils, Compound Feed, Dates, Apples, Beverages. India is exporting Cake of Soybeans, Maize, Rice, Cotton, Onions, Cake of Rapeseed, Sugar Refined, Molasses, Buffalo meat, Cake of Oilseeds, Oil of Castor Beans, Sugar Raw Centrifugal, Groundnuts Shelled, Sesame seed, Chilies and peppers, dry Mangoes, Mangos, guavas, Fiber Crops, Tea Tobacco, un-manufactured chick peas.

This phenomenon very clearly indicates the competitive advantage of our country with respect to many agricultural produces. The producers' particularly small and marginal farmers should get maximum share from the consumers' price. There must be a continuous monitoring of the actors in the value chain and they and their contribution should be judiciously rewarded. The transformation of agriculture in to agribusiness will address the issues. Hence, the federal government, state governments, universities, Non-Governmental Organization should work together for positive intervention.

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