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#### Research and Developments in Agro Sector – with special reference to Textile Industry

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**Abstract:** Agro processing sector has experienced expansion from starting with a handful of facilities which were mainly operating at domestic/cottage level. The strategies and its developments for this specific sector, the major problems faced on this sector developments and the export trends of agro sector of all the things will be known in this paper.

Key words: Textiles, Agro, Agro Process, Processing, Fibers, National.

**Introduction:** Textiles and clothing industries are important in economic and social terms, in the shortrun by providing incomes, jobs, especially for women, and foreign currency receipts and in the long-run by providing countries the opportunity for sustained economic development in those countries with appropriate policies and institutions to enhance the dynamic effects of textiles and clothing. Agroprocessing is now regarded as the sunrise sector of the Indian economy in view of its large potential for growth and likely socio economic impact specifically on employment and income generation.

#### **Strategies for Achievements**

- a. National plan for improvement and extension of agro-processing technology at farm, traditional small industry and modern industry levels should be prepared. The plan should take into account the diversity in resources and needs of different regions in the Country.
- b. Thrust areas for research and development should be identified and medium term research and development program should be prepared and implemented to support the national plan for improvement and extension of agro-processing technology at different levels.
- c. Infrastructure in the production catchments selected for agro-industrial development should be improved.

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- d. The national plan should provide for management of agro-industrial activities in the catchment area, both by private companies and individuals as well as cooperatives.
- e. Financial incentives and support should be provided on liberal scale to promote the modernization of agro-processing industry and for establishing new such industries in production catchments.
- f. Arrangements to supply market information to the farmer and agro-processor should be put in place.

# Research and Developments in Agro Processing Sector

- Development of processes and equipment for processing of pulses to produce dhal for higher recovery and better quality and development of driers using agricultural residues, by-products and solar energy.
- 2. Adoption and development of processes, and equipment for production of protein rich produces such as full fat soy flour, soy drink/ soy milk, soy paneer (TOFU) and soy fortified baked products.
- 3. Processes and equipment for production of high quality ground spices and spice mix, development of raw materials and processes for production.
- 4. Processes, equipment and pilot plants for production of various industrial raw material from lac including dyes and pharmaceutical products.
- 5. Improved technology for processing of jute sticks to yield jute fibre and impregnation, preparation of jute based textile materials and bags.
- 6. Control of stored grain insects by using chemical and physical methods, storage structures for on farm, trade, and process plant level operations.

Due to high export potential, R&D work has been initiated at some centers on pre-cooling, packaging, and transport of cut flowers and low cost designs of green houses. Agro-processing models have also been developed for some of the agro-climatic regions in the Country.

In the area of agro-processing of fruits and vegetables, development of tools and techniques for harvesting, pre-cooling of freshly harvested produce, minimal processing, controlled ripening, juice extraction, concentration and storage has been done.

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#### **Major Problems**

- a) low capacity utilization
- b) poor recovery of the finished product from the raw materials,
- c) problems of arranging adequate working capital and its management,
- d) low product quality and
- e) Unreliable assured power supply.

Strong R&D support will have to be continued to overcome these and many other problems to ensure that our agro-processing technology becomes competitive at the global level. As stated earlier, in spite of the problems, agro-processing technology in India has continued to make steady progress towards modernization. Information of the latest development trends in respect of major crops/crop groups.

#### **Processing Areas Related To Textiles:**

**Cotton Processing Technology:** Cotton is a natural textile fibre. Traditional cotton textile industry could not face onslaught of modern high speed spinning, weaving and surface finish technologies. Small scale textile industry supported by Swedish and Khadi and Village Industries Commission face serious labor problems also. Cotton seeds are valued as feed and oilseed and the stalks are used as fuel.

However, stalks yield excellent paper and pulp, particle boards and microcrystalline cellulose (MCC). Cotton hulls also yield good particle board and furfural. Cotton willow dust can be used for production of bio-gas. Cotton wastes can be used for mushroom production. There is scope for income and employment generation if cotton stalks are utilized for pulp and paper making.

**Processing of Jute:** Jute has the distinction of having ushered India into industrialization era. Both jute production and manufacture of jute-based products are highly labour intensive, concentrated mostly in Eastern India.

Mini jute carding and spinning mills have now been developed which allow decentralized production of utility items from jute but these are not popular yet. For each tone of jute, 2-3 tons of jute sticks are produced.

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Chemically these resemble hardwood. Sticks are traditionally used as fuel wood and low cost structural material. Jute sticks yield excellent particle boards and the technologies are now fully commercial. Jute sticks are a good feedstock for paper pulp. The sticks can also be used as fuel for steam and power generation.

**Export Trends and Opportunities:** India has been a traditional exporter of raw agricultural products like spices. Export of raw products has resulted in huge loss to Indian economy. After GATT agreement and WTO membership, processed products manufactured as per international norms only offered at competitive prices, can be exported. However, our processed products mostly do not meet the international standards. India's share in over US\$ 300 billion world trade in agricultural commodities is less than 1%. Agricultural exports used to be of the order of 30.6% of the total exports during 1980-81, which came down to 19.4% by 1990-91.

**Quality Control & Standards:** These industries cover a large spectrum of products of plants origin. Quality has got to be maintained for domestic as well as export markets. In this respect, a number of organizations have come up for the formulation of standards and for monitoring their quality.

**Conclusion:** Currently, it is at about 16% due to rapid growth in other sectors as well. Processed fruit and vegetable products have considerable export potentials and if it is properly utilized, growers, processors, traders as well as national economy will benefit. It requires correct assessment of world market, high quality of raw produce, high quality of processed product and competitive production cost.

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