

Gist of

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Agro based industries



Agro-Industries to Increase
Farmer's Income

Textile and Clothing Industry:
Challenges and Opportunities

**Agro-Based Industries
in India:**
An overview

Agro-Based Industries:
Unfair Trade Practices and Remedies

Perspectives of Dairy Industry
in India

INCREDIBLE RESULTS

CSE 2018 Results

11 Ranks in Top 50

28 Ranks in Top 100

183 Ranks in the Final List



Rank 11
Pujya Priyadarshni



Rank 16
Dhodmise Trupti Ankush



Rank 21
Rahul Jain



Rank 24
Anuraj Jain

CSE 2017

5 Ranks
in top 50

34 Ranks
in top 100

236 Ranks
in the final list



Rank 3
Sachin Gupta



Rank 6
Koya Sree Harsha



Rank 8
Anubhav Singh



Rank 9
Soumya Sharma



Rank 10
Abhishek Surana

CSE 2016

8 Ranks
in top 50

18 Ranks
in top 100

215 Ranks
in the final list



Rank 2
Anmol Sher
Singh Bedi



Rank 5
Abhilash Mishra



Rank 12
Tejaswi Rana



Rank 30
Prabhash Kumar



Rank 32
Avdhesh Meena

CSE 2015

5 Ranks
in top 50

14 Ranks
in top 100

162 Ranks
in the final list



Rank 20
Vipin Garg



Rank 24
Khumanthem
Diana Devi



Rank 25
Chandra Mohan
Garg



Rank 27
Pulkit Garg



Rank 47
Anshul Agarwal

CSE 2014

6 Ranks
in top 50

12 Ranks
in top 100

83 Ranks
in the final list



Rank 4
Vandana Rao



Rank 5
Suharsha Bhagat



Rank 16
Ananya Das



Rank 23
Anil Dhameliya



Rank 28
Kushaal Yadav



Rank 39
Vivekanand T.S.

CSE 2013

5 Ranks
in top 50

62 Ranks
in the final list



Rank 9
Divyanshu Jha



Rank 12
Neha Jain



Rank 23
Prabhav Joshi



Rank 40
Gaurang Rath



Rank 46
Udit Singh

KURUKSHETRA - DECEMBER 2019 ISSUE

AGRO-BASED INDUSTRIES

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1. Introduction

Agro-based industries consist of processing, preservation, and preparation of agricultural produce for the intermediate and final consumption. The thrust on doubling the farmer's income has pushed the government to promote the Agro-based industries across the country through the implementation of various schemes and policies.

Benefits of Agro-based Industries:

- The agro-based industries provide competitive advantage both within and outside the country.
- They absorb the surplus rural labor and address the problem of large-scale unemployment in rural areas.
- The agro and food processing industry is labor-intensive, hence turning it into a major export industry will create vast employment opportunities.
 - The employment will mostly be in the rural areas where the industries are located (to be near the source of raw materials, especially perishable agricultural produce).
- These industries also provide profitable diversification in the rural areas which ensures an all-round industrial growth in the rural areas.
- The development of the Agro-based industries has the propensity to stabilize and make agriculture a lucrative option to take up.
- The agro-based industries have a high potential as foreign exchange-earners too.

Current Scenario:

- **The Textile and Clothing Industry** has the potential to grow expeditiously and contribute to the government's aim of becoming a 5 trillion USD economy.
 - It can also prove to be helpful in shifting surplus labor from the agriculture sector to more productive industrial activities.
- The government is also taking various measures to promote the **Dairy Industry** which consists of milk production, collection, processing, and marketing of milk.
- The **National Bamboo Mission (NBM)** provides a new direction and impetus to realize the significant potential of the bamboo.
 - The mission has a multidisciplinary and multidimensional approach to promote the production, processing, and marketing of bamboo and its products.
- The **Jute Industry** is also expanding considerably fast.

Prevention of unfair trade practices:

- The government has to intervene on a regular basis to provide a level-playing field in the domestic market such that, the domestic industries don't fall victim to unfair trade practices such as "**Dumping**" or "**Subsidies**".
- The **Directorate General of Trade Remedies (DGTR)** is a **quasi-judicial body** that works to protect Indian businesses from unfair trade practices.

Conclusion:

- It is high time that the policymakers and industry leaders recognize agriculture in connection with the industries as a competitive, value-adding business sector and facilitate the development of agro-based industries.

- The government has to intervene periodically to ensure that the domestic markets do not fall victim to unfair trade practices.



2. Agro-Industries to Increase Farmer's Income

The 68th Round of **National Sample Survey Office (NSSO)** survey on employment estimated that about 48.9 percent of workers' major livelihood support came from agriculture. While a price-led growth of agriculture, as a means of enhancing income is not sustainable; the only way to infuse agro-industrialization in the urban-rural continuum is by following the cluster approach.

Current Scenario

- India is miles ahead on its agenda of **zero hunger and food security to all** with a 47.57 times increase in various food items from 1950-51.
- The marketed surplus of commodities has been increasing, demanding more post-harvest management and processing.
- The country's high-value commodities production growth is faster than the staple food items.
 - This is very satisfying from a nutritional security point of view but opens up the challenges for agro-based industries to absorb the additional products that cannot be consumed fresh/raw.
- It is time to change the vision and approach of the past which **traditionally viewed agriculture and industry as two separate sectors**.
- **Investment in infrastructure** comprising of electricity and communication would reduce the agribusiness costs and induce the private sector to invest in agro-processing units, e.g. Cold storage facilities, refrigerated transportation etc. Development of agro-processing industries should be viewed as **the industrialization of agriculture** and a joint process leading to a new industrial sector.
- **Institutional arrangements** which provide farmers easy access to the markets, and reduce the marketing and transaction costs can go a long way in promoting high-value agriculture.

What are Agro-based Industries?

- **Famine Enquiry Commission (India), 1994** defined an agro-based industry as "those industries which are involved in supplying the farm with agricultural inputs besides handling the product of the farm, may be termed as agro-based industries."
- Broadly the agro-industries are classified as food and non-food industries.

Income and Employment Opportunities

- The contribution of cropping and animal husbandry in the total income of the farm households is only 35 percent while wages and service contribute to more than 50 percent in the average monthly income.
- One of the critical areas that can enhance the income of rural households is the provision of higher opportunities in agro-based food and non-food activities.
- **The Annual Industrial Survey, 2016-17** showed that the agro-industries contribute about 36 percent of the industrial employment. Substantial employment is generated in production agriculture and supply chain.
- Agro-food processing industries have the potential to generate directly significant employment in production activities and also indirect employment through its forward and backward linkages.
- These industries would help in reducing post-harvest losses and wastes. They would also help in using the by-products more efficiently. This can increase rural income by fetching better prices to producers and also ensure consumer welfare by increasing the availability of agricultural consumer goods.

Food Processing Industry

- Food Processing Industry is one of the major employment intensive segments that contributed to 11.69 percent of employment generated in all registered factory sectors in 2012-13.
- Although most of the technology is readily available in the country, it is not being extensively adopted because the economic incentives are often missing, or institutional arrangements for collection, processing and marketing of the byproducts may be lacking.
- The next category of agro-based food processing is concerned with processing and packaging in order to provide easy transportability and marketability of some food products.

- This would increase the income of farmers, especially small farmers and landless agricultural labourers in rural areas.
- It would help in extending the storage life of seasonal food products.
- It would also help in reducing the post-harvest losses and would provide a stable income to the growers by eliminating the seasonal fluctuations in income.

Issues with the Food Processing Industry

- The food processing industries cover a wide range of activities utilizing farm, animal and forestry-based products as raw materials.
- Due to these wide ranges of activities, there is a lot of diversity in the nature of problems and issues relating to different agro-food processing industries. It is, therefore, difficult to envisage an overall technology policy framework covering various agro-food processing industries.

Food Processing Policy of India

- The Ministry of Food Processing Industries brought out the **Food Processing Policy of India** in 2018. The policy includes the best practices across the world.
- The Government has emphasized to make India a **Global Food Factory** and **Global Food Market** and thus opened up immense opportunities for the food processing sector.
- Several initiatives have also been announced for ushering zero post-harvest wastage by creating a national food grid and national cold chain grid.
- Increasing focus is also being given to supply-chain related infrastructures, such as cold chains, abattoirs and food parks.
- Reforms such as allowing 100 percent Foreign Direct Investments (FDI) in multi-brand retails will have a long lasting impact.

Conclusion:

- The agro-industries are gaining importance due to the impressive growth of high-value commodities alongside rising incomes, in the recent years. It has a larger scope for acceleration in the future, given the thrust on doubling farmers' income.
- Above all, the policies that facilitate the development of the agro-processing industries will go a long way towards creating demand at lucrative prices for high-value commodities and other non-food agro-produce.

3. Textile and Clothing Industry: Challenges and Opportunities

Current scenario:

- The **Textiles and Clothing (T&C)** sector contributes to about 10 percent of industrial production, about 12.5 percent of the export earnings and about 2 percent of GDP.
- The **National Household Survey 2017** carried out by the Textiles Committee estimates overall market size to be of USD 163.70 billion.
- The T&C Industry has the potential to grow significantly and contribute to the Government's ambitious target of achieving a USD 5 trillion economy by 2024-25.

T&C Industry is uniquely positioned in creating virtuous cycle: Macro Perspective

- The T&C industry is found to play a catalytic role in shifting the surplus labour from agriculture sector to more productive industrial activities. T&C industry is mainly driven by export demand as domestic demand is usually limited.
- One of the main reasons for this ubiquitous characteristic of the textile industry is the high proportion of wage component in the overall value of output.
- The wage fund generated releases significant income in the hands of the workforce to create demand for goods and services and accelerates the cycle of economic activities in associated areas.

The key growth driver in many economies

- The role of exports in accelerating the GDP, and the relation of textile and clothing exports with GDP growth rate and per capita income level of selected economies like South Korea, Hong Kong, China and Vietnam confirms positive contribution made by exports in general and T&C exports in particular.

Cost Comparative Advantages of India

- The international experience shows that the window for growth of textiles and clothing industry is opened till the per capita income reaches a threshold level and beyond that, the industry relocates out of a high-cost location.
- The present per capita income of India, is Rs. 1,26, 406 (2018-19), which indicates that the window for the an accelerated growth of textile and clothing exports is open for the next 15-20 years.

Growth Potential of T&C Industry

- India is well poised to gain from world trade in textile and clothing. A part of the gain may come from the relocation of textile industry especially cloth manufacturing outside China in sync with China's increasing per capita income.
- Another way to assess the growth potential of the industry is by its correlation with fiber consumption. India's textile fiber consumption has recorded a growth rate of about 5 percent Compound Annual Growth Rate (CAGR).
- This scenario corresponds to achieving about 10 percent share in world trade of textile and clothing by 2032.

Initiatives to realize Growth Potential

- Ministry of Textiles presently provides support to the T&C sector under different schemes for technology up-gradation, infrastructure, R&D, Technical Textiles and Capacity Building.

The areas of concerns are:

- **Technology Up-gradation Fund Scheme (TUF)** - is a credit linked subsidy scheme, which was introduced in 1999 to catalyze capital investments for technology up-gradation and modernization of the textile industry. The present scheme is known as **Amended TUFs (ATUFS)** and was launched in January 2016. The modernization of weaving and processing segments continues to be an area of concern.
- **Fabric Sector:** India suffers from weak global competitiveness in terms of quality, scale and price of fabric

segment of India's textile value chain.

- **Infrastructure and Logistics:** The Scheme for **Integrated Textile Parks (SITP)** was launched in 2005 to neutralize the weakness of fragmentation in the various sub-sectors of the textiles value chain, and the non-availability of quality infrastructure. This continues to be an area of concern.
- **Cotton Sector:** The **Technology Mission of Cotton (TMC)** by 2012 achieved a reduction in trash content in Indian cotton. Cotton fiber production, productivity and quality need focused attention.
- **Environmental Concerns:** The major challenges faced for the processing of textiles are the availability of water, effluent treatment and disposal of the treated water and solid effluents.
- The high growth potential of technical textiles remains to be tapped.
- Low Foreign Direct Investment (**FDI**) in T&C Sector is a concern in addition to lack of commensurate growth in the textile machinery sector in India.

What is the Significance of the Policies?

- Facilitated by globalization forces under **World Trade Organization (WTO)**, reduction in import tariffs and easy movement of capital and intermediate goods, a very high level of cross border integration across each segment of the textile value chain has emerged.
- This makes it necessary for each segment of the textile value chain to be globally competitive. Such an approach becomes more relevant due to the fact that global value chains are becoming more knowledge-intensive, and therefore, the advantages created at the end product exclusively through various policy supports and other means have found to be ineffective.

Issues faced by the industry:

- **Cotton continues to be the fiber of privilege especially in wearable segments.** This calls for focused efforts to increase the cotton productivity, cotton quality and even branding of the Indian cotton to fetch a premium.
- The electricity prices for the industry, with cross-subsidy burden of about 15 percent to 20 percent and other factors, compare unfavorably in India.
- On the export front, the relatively higher tariff rates faced by the Indian exporters in most of the major markets vis a vis competing exports from Bangladesh, Vietnam and similarly positioned countries calls for further cost competitiveness.
- The challenge in this direction is to further simplify the ease of doing business and to remove disadvantages on account of input factors including logistics.
 - Further, the **WTO** ruling against India in a crucial trade dispute with the U.S., ordering all export promotion schemes to be stopped within the next four months has thrown a challenge to expeditiously come out with WTO consistent measures at the earliest.
- Growth of **Man-Made Fiber (MMF)** in India is a must to increase global share in T&C exports.

Way Forward:

- An invigorated textile and clothing industry is best suited for the Indian Economy and can provide the necessary impetus to shift towards value-added industrial activities and achieve higher per capita income level.
- India needs to work with an approach of holistic development of the complete textile value chain, acknowledging its integration with a global value chain at each stage.
- The actions of utmost priority should be:
 - Achieving 10-15 percent share in the world textile and clothing trade and thereby channelizing trickle down impact towards rural sector through cotton connections.
 - Shifting of the disguised unemployed workforce in agriculture and allied sectors towards more productive usages in industrial activities.

4. Agro-Based Industries in India: an Overview

54.6 percent of India's population is still engaged in agriculture and allied activities. Low income from the primary farm produce and lack of investment in the processing and agri-value chain has caused a rapid reduction in the farm profits and the occupation has come under severe pressure.

What are Agro-Based Industries?

- Agro-industry encompasses not only the activities that utilize raw materials sourced from agriculture but also those that provide inputs for modern agronomic practices.
- Based on the input-output linkages and the interdependence between agriculture and industry, agro-industries can be of two types:
 - **Processing industries or agro-based industries and,**
 - **Input supply industries or agro-industries.**

Why should the Government promote Agro-based Industries in India?

- India has the world's 10th largest arable land, 20 agro-climatic regions and 15 major climates. The harvest & post-harvest losses for agriculture commodities are high.
- There is an opportunity for the overall growth of the agricultural economy, as only 2 to 3 percent of agri-commodities are processed.
- It is high time that the policymakers and industry leaders recognize agriculture in connection with the industry as a competitive, value-adding business sector that has a positive development impact and significant contribution to economic growth.
- The requirement of today is a comprehensive approach, integrating the development of villages with agro-industries, with larger involvement of farmers in processing their own produce.

The government initiatives taken include:

A. Food Processing and Beverages:

- The Ministry of Food Processing Industries implements various Central Sector Schemes to boost food processing industries and value addition activities. It has recently re-structured its schemes under the new Central Sector Scheme-**Pradhan Mantri Kisan Sampada Yojana (PMKSY)**.
- The scheme components include setting up of:
 - Mega Food Parks
 - Integrated Cold Chain and Value Addition Infrastructure
 - Food Safety and Quality Assurance Infrastructure
 - Human Resources Development and Institutions

B. Textiles Industry:

- Government has rolled out a number of initiatives such as:
 - Scheme for Integrated Textile Park
 - Integrated Processing Development Scheme
 - Group Workshed scheme
 - Common Facility Centre and Amended Technology Up-gradation Fund Scheme
 - Scheme for the Development of the Power loom Sector (Power-Tex)
 - **SAMARTH**-The Scheme for Capacity Building in the Textile Sector (**SCBTS**)
 - Comprehensive Handloom Cluster Development Scheme (**CHCDS**)
 - Rebate of State and Centre Taxes and Levies (**ROSCTL**) etc.

C. Jute Industry:

- The Government has attempted to modernize the Jute mills by increasing their productivity and bringing in modern technology and equipment.
- **National Jute Board's** schematic interventions, inter alia, provide capital subsidy to jute mills to address their issues and challenges at hand.

D. Khadi & Village Industry:

- Ministry of Micro, Small and Medium Enterprise's (MSME) Khadi and Village Industries Commission (KVIC) promotes the setting up of various post-harvest agro and food-based micro industries like processing of pulses & cereals.
- Through **Prime Minister's Employment Generation Programme (PMEGP)**, KVIC tries to generate self-employment opportunities through establishment of micro-enterprises in the non-farm sector.

E. **Animal Husbandry, Dairying and Fisheries:**

- The government implements a variety of schemes such as:
 - Dairy Entrepreneurship Development Scheme
 - Dairy Processing and Infrastructure Development Fund
 - Supporting Dairy Cooperatives and Farmer Producer Organizations
 - Integrated Development and Management of Fisheries
 - Fisheries and Aquaculture Infrastructure Development Fund to promote agro-based industries in this sub-sector.

Conclusion:

- The inherent advantages of agri-industries are:
 - Optimal utilization of local agri-resources.
 - Mobilization of investment on a large scale.
 - Creation of job opportunity.
 - Prevention of distress rural-urban migration and,
 - Reduction of disparity across sectors and regions.
- Agri-based industries conform to the notion of competitive advantage both within and outside the country. They play the role of a safety valve to absorb surplus rural labour and can address the problem of large scale unemployment/disguised employment in rural areas.
- The real challenge is the implementation of the schemes and the policy interventions by the Government so as to ensure an all-round industrial growth in rural areas without undermining the identity of the village, its socio-economic structure, agri-production systems and the basic agri-manufacturing characteristics.

5. Promoting Agro-Industries

Although the share of agriculture in India's GDP has been declining, it is still a highly important economic sector in India's agrarian economy and plays a very significant role in the all-round economic development of the country. It can play a strategic role in pro-poor growth strategies. The importance of agro-industry for employment is further emphasized by high and increasing levels of female involvement, especially in the non-traditional, high-value agro-chains.

Government Initiatives:

- The Finance Minister has focused on reviving traditional industries, with a cluster-based approach, through the **Scheme of Fund for Regeneration of Traditional Industries (SFURTI)**, for development of Khadi, village industries, and coir clusters. SFURTI is being implemented to boost the traditional industries and bamboo artisans.
- **A Scheme for Promoting Innovation, Rural Industry & Entrepreneurship (ASPIRE)** has been launched with an aim to create new jobs and reduce unemployment, promote entrepreneurship culture in India, boost grassroots economic development at the district level, facilitate innovative business solutions for unmet social needs, and promote innovation to further strengthen the competitiveness of the MSME sector.
- **Credit Linked Capital Subsidy Scheme (CLCSS)** is a facilitator of technology up-gradation of small scale industries.
- **Prime Minister's Employment Generation Programme (PMEGP)** started in 2008 as a credit-linked subsidy programme with an aim to generate self-employment opportunities through establishment of micro-enterprises in various sectors, including agro-based industries.
- The latest milestone is that the Government of India approved the **Pradhan Mantri Kisan SAMPADA Yojana (Scheme for Agro-Marine Processing and Development of Agro-Processing Clusters)**.

The Promoting Agencies of Agro-processing industries:

- Apart from Government of India, **Small Industries Development Bank of India (SIDBI)**, National Bank for Agriculture and Rural Development (**NABARD**), Khadi & Village Industries Commission (KVIC), National Agricultural Cooperative Marketing Federation of India Ltd (**NAFED**) are the major promoting agencies in the sphere.
- **NAFED** was established in 1958. Its objective is to organize, promote and develop marketing, processing and storage of agricultural, horticultural and forest produce; distribution of agricultural machinery, implements and other inputs; undertaking of inter-state, import and export trade; and to establish food processing units.
- SIDBI plays an important role by providing support to National Small Industries Corporation (NSICs) by leasing, hire-purchase, and marketing support to industrial units in the SSI and also extends financial support to State Small Industries Development Corporation (SSIDCs) for providing them source raw materials and marketing their end products.

Issues in the food-processing Industries:

- The growth of food processing industry may be hampered by:
 - Inadequate infrastructure such as stores, power and water services.
 - Limited government support.
 - Poor location.
 - Lack of appropriate technologies.
 - The lack of post-harvest facilities for drying, sorting, grading and packing.

Way forward:

- Primary processing of all foods and processing of perishable foods needs to be undertaken in, or adjacent to, the point of production.
- Thrust areas for research and development need to be identified and met with.
- More financial incentives and support needs to be provided to promote the modernization of the agro-processing industry and for establishing such industries in production catchments.

- Arrangements to supply market information to the farmer and agro-processors need to be put in place, and out of the box thinking of all the stakeholders should be encouraged.



6. Agro-Based Industries: Unfair Trade Practices and Remedies

Agro-based industries are a perfect example of mutually beneficial dependence between the primary and secondary sectors of an economy. It is well-established that in India, agro-based industries address important issues of poverty and unemployment by utilizing local resources.

What are the Unfair Trade Practises?

- Agro-based industries lose their competitive edge due to unfair trade practices adopted by exporters of other countries. Such practices manifest in two forms:
 - **Dumping**- It is observed that exporters from other countries often dump their products in Indian markets at rates cheaper than those at which they sell their products in their domestic markets.
 - **Subsidies**- Governments of those countries from where imports are sourced by India are observed to be providing subsidies to their exporters.
- In both cases, the competitive scenario is distorted and the domestic industry is at a loss.
- WTO member countries which are at the receiving end of such practices may impose anti-dumping duties (ADD) and countervailing duties (CVD), respectively, if dumping and subsidies cause injury to their domestic industry.
- Another related issue is that sometimes the cheap imports are found to be of low quality, thereby adding to environmental problems and hygiene-related issues.

Trade Remedies

- **India's Customs Tariff Act, 1975** and related **Anti-Dumping Rules and CVD Rules, 1995** provide the legal backing for Government of India to protect the domestic manufacturer against unfair trade practices of exporters of other countries.
- The Directorate General of Trade Remedies (DGTR) under Government of India's Department of Commerce is a quasi-judicial body. On the recommendation of DGTR, the enhanced duties are put into place by the Government of India's Department of Revenue.
- Another trade remedial measure distinct from an ADD or a CVD is a **safeguard measure** which may be resorted to by a government when there is a surge in imports of any commodity due to which a serious injury is caused to the domestic industry. In such a case, the affected country can impose a safeguard duty.

Conclusion:

- Given that most agro-based industries are in micro, small or medium enterprises and may not have the wherewithal to stand competition from cheaper or subsidized imports, the role of Government becomes all the more important.
- To assist the domestic industry, DGTR has recently set-up a **Help-Desk & Facilitation Centre**.
- Awareness generation amongst agro-based industries becomes a key ingredient in the successful utilization of available trade remedies and to protect them from unfair trade practices of exporters of other countries.

7. Perspectives of Dairy Industry in India

The Indian dairy sector, that includes milk production, collection, processing, distribution and marketing, plays a seminal role in the rural economy, second only to agriculture. Contrary to many developed countries, dairying in India is more than a business activity. It has a broader social and economic dimension.

Importance of the Dairy Sector in India:

- Over 71 million of 147 million households in the country depend on dairy for their livelihood.
- The livestock sector contributes nearly 26 per cent to rural income in case of poorest households and about 12 per cent in case of overall rural income.
- Dairying provides a **remunerative outlet** for family labour. Other than income generation and livelihood security, dairying also ensures nutritional security for the family addressing issues like malnutrition.
- Indian dairy sector uniquely characterised more by 'production by masses' rather than 'mass-production'.

The Scenario:

- Milk production in India was at 176.3 million tonnes during 2017-18 but, due to various socio-economic factors, there exists wide inter-state variability in milk production.
- The **per capita availability of milk is 375 grams per day** at all-India level, it varies between 71 grams per day in Assam to 1120 grams per day in Punjab.
- India is the world's **largest producer and consumer of milk** accounting for nearly 19 percent of the world milk production.
- Indian dairy sector is struggling with **low productivity of animals**.
- But, the vast diverse population of cattle and buffaloes offers great prospects for increasing milk production.
- Also, India is blessed with a huge biodiversity of 43 indigenous cattle breeds and 13 buffalo breeds.

Initiatives taken:

- The intervention of **dairy co-operatives** has increased the farmers' income, created employment opportunities, eased availability of credit to poor farmers, led to the empowerment of women, enhanced nutritional security, and also increased flow of new technology.
- Women members of the dairy co-operative societies are being encouraged to assume leadership roles.
- Despite immense utility and impact, dairy co-operatives are facing several constraints and challenges mainly due to the state co-operative laws. Hence, the Government of India has launched a central sector scheme in 2016-17, to support state co-operative dairy federations in providing stable market access to farmers.
- A corpus fund of Rs. 300 crore has been kept in perpetuity with **National Dairy Development Board (NDDB)** to provide a soft loan as working capital to dairy federations.
- The formation of **Farmer Producer Companies** in the dairy sector has mobilized farmers to enhance their capacity as producers and marketing professional.
- In order to boost dairy processing and infrastructure, a special fund (**Dairy Processing and Infrastructure Development Fund, DPDF**) was created during the period from 2017-18 to 2028-29. The project is being implemented by **National Dairy Development Board** and **National Dairy Development Corporation**.
- This fund is aiding the construction of an efficient milk procurement system by setting up chilling infrastructures, modernization of processing infrastructures, and adding manufacturing facilities for value-added products for the milk unions and milk producer companies.

- Besides this fund, additional cold chains and processing infrastructure is being created under Kisan SAMPADA Yojana run by the Ministry of Food Processing Industries, Government of India.

Organic Dairies: Opportunities Galore with Challenges

- Organic milk is free of pesticides, herbicides, antibiotics and growth hormones that are generally present in conventional milk although in residual quantities.
- Currently, being at nascent stage, organic dairies account for only one per cent market share.
- Producing organic farm-fresh milk is an expensive proposition due to the stringent rules and guidelines. Milking animals must be reared using the practices of organic farming and the milk must be certified in order to be marketed as organic.
- Milking animals may be allowed to graze only on pasture, be fed organic certified feeds and may not be treated with chemical drugs. Use of **growth hormones** is also prohibited which otherwise makes animal grow faster and produce more milk. Similarly, animals cannot be given antibiotics for treatment.

Challenges of Organic Milk production:

1. Grazing requirement makes milk more costly because it requires a certain acres of pasture land which is scarce.
2. Grazing cow produces less milk than one eating a grain diet optimized for milk production.
3. Maintenance and preservation of the quality of milk during entire supply chain is a challenge. As preservatives are not added in the organic milk, the milk can get spoiled within a span of eight hours. Hence, a quick and reliable distribution system should be in place before starting dairy operations.

- **Despite all these odds and challenges, organic dairies have emerged as a new and potential arm of the conventional dairy sector of India.**

Challenges

The key challenges faced by the Dairy Sector in India are:

- Low productivity of Indian bovines.
- Imbalanced feeding to animals.
- Limited access of milk producers to the organized sector.
- Age-old infrastructure operating on absolute technology.
- Lack of an organized credit system.
- Lack of manufacturing facilities for value-added products.
- Lack of efficient chilling infrastructure at the village level.
- Lack of penetration in smaller cities/towns in terms of milk marketing.
- Lack of efficient cold chain distribution network.

Plans for Prosperity

- The Union Government, in pursuance to its commitment for doubling farmers' income by 2022, prepared and implemented a holistic "**National Action Plan for Dairy Development for 2022**" in 2018.
- The **National Action Plan** envisions to increase milk production to 254.55 Million Metric Tonnes (MMT) by 2021-22 and 300 MMT by 2023-24.
- The Prime Minister has launched the '**National Artificial Insemination Program**' to cover the entire country with quality **Artificial Insemination (AI)** services. Various breed development interventions are being implemented under Union Government schemes, such as the **National Dairy Plan (Phase-1)** and **Rashtriya Gokul Mission**.
- A **National Bovine Genomics Centre for Indigenous Breeds (NBGC- IB)** is being set-up to pave the way for the systematic and fast-paced improvement of the precious indigenous animal resources using highly precise

gene technology.

- The Union Government has implemented a comprehensive **National Dairy Plan (Phase- I)** with an objective to increase the milk production and to reduce spoilage of milk during handling and transportation.
- Government of India has launched an ambitious '**Dairy Entrepreneurship Development Scheme**' with an objective to promote entrepreneurship by generating opportunities for self-employment in the dairy sector. **NABARD** is the nodal agency to implement this scheme with financial support from the Union Government.

Conclusion:

- At present, India's share in global dairy trade is just one percent, which needs to be enhanced by technology infusion and quality management.
- There is a need for exclusive and dedicated efforts to transform the Indian dairy sector into a globally competitive enterprise with the welfare of farmers at the core.

8. Jute Industry: Scenario and Opportunities

Jute industry is one of the oldest textile industries directly or indirectly involving a large number of people. Among several natural fibres, jute is next to cotton as per availability is concerned. Diversification of process and product are the important aspects for self-sustenance of this industry.

Introduction: History and Present Scenario of Jute Industry- An overview

- Jute is believed to have originated from the Mediterranean region and later made its way to India. It has been popular for more than a century for its industrial applications mainly as packaging material in different sectors, agricultural and (geotextile applications and carpet backing.
- In 1854, the first jute mill/factory in India was established at Rishira, which is about 20 km north of Calcutta.
- After independence, India suffered a setback as most of the jute cultivated lands remained in Bangladesh and the jute industries were left in India.
- With the intervention of Science and Technology (S&T), India is currently self-sufficient to produce the jute required for the jute industries. However, the quality of Bangladeshi jute is superior to the jute grown in India, due to the availability of more free-flowing water.

Jute cultivating regions in India:

- The areas of Jute cultivation is confined to **West Bengal, Eastern Bihar, Assam, Orissa, Tripura and Andhra Pradesh**, where mostly **Mesta** (jute-like fibre and coarser than jute) is grown.

Problems Associated in Jute Industries:

- At present, there are only 60 jute producing mills in India. Most of these mills are along the Hooghly River, especially to the north of Kolkata.
- Most of these jute industries are producing conventional products like jute sacking and hessian as packaging material and to some extent carpet backing.
- Due to the frequent breakdowns and the usage of old primitive machinery, defective and inferior quality products are being made.
- No modernization has been made in machinery development and automation.
- There is stiff competition with the synthetic industry, as the synthetic materials are much cheaper.
- Jute industry suffers from a lot of different political interferences, labour problems, and shortage of jute fibre supply due to the low rainfall among other issues, challenging the sustainability of the jute industry.

Government Initiatives:

- According to the **Jute Packaging Norms and Legal Protection to the Jute Cultivators**, the Parliament of India had enacted the **JPM (Jute Packaging Mandatory) Act, 1987** with an objective to protect the Jute industry. As per this act, the food grain and sugar produced is reserved and mandatorily packed in jute bags manufactured every year.

Way Ahead:

- There is a need to increase the applications of jute in the country.
- India needs to work on its jute quality by adopting new technologies.
- The Government must take efforts in the Research & Development sector, to strengthen the jute industry by focussing on the implementation of newer technologies, diversified products and improved machinery through intensive modernization.

9. Bamboo Industry: Crafting the Livelihood of Rural People

Bamboo is a versatile crop. Around 80 per cent of bamboo forests in Asia lie in India, China and Myanmar.

Production of Bamboo in India:

- India has one of the richest bamboo resources in the world, second only to China in bamboo production.
- The annual bamboo production in the country is estimated at 3.23 million tonnes.
- However, the country's share in the global bamboo trade and commerce is only 4 percent.
- India was the net importer of bamboo despite having grown stock, both within and outside the forests.
- Mizoram has the largest bamboo cover in India as compared to the geographical area covered by other states; more than half of Mizoram's land has bamboo forests.

Significance of Bamboo:

- Bamboo is an integral part of our life and culture, as it is used in religious ceremonies, art and music.
- For tribal and forest dwellers "bamboo for living and living with bamboo" is still the norm. This offers an excellent starting point in increasing employment, income generation and improving the nutritional status of rural poor.
- Bamboo can provide the basis for expanding small and medium enterprise sector, & act as an effective mechanism for rural poverty alleviation and livelihood securities.
- A bamboo tree matures in 4 to 5 years whereas a hardwood tree takes almost 60 years to mature. Unlike hardwood trees, bamboo can be harvested without adverse effect on the environment.
- Bamboo releases 35 percent more oxygen than other plants and absorbs 20 per cent carbon dioxide from the environment. Scientific plantation of bamboo could dramatically improve air quality with the release of more oxygen and sequestering more carbon dioxide.
- Bamboo gained importance as a raw material not only for the cottage industry but also for the large scale industry.
- Bamboo has great potential for construction and structural materials. Pulp and paper industry and bamboo craft sector are the major users of bamboo resources.
- Bamboo is ideal for rehabilitating and repairing damaged soil, due to its unique ability to stitch and repair damaged soil.

Initiatives by the Government:

- **National Bamboo Mission (NBM)** which commenced in October 2006, is an initiative of the Government of India (GOI) to provide a new impetus and direction to enable the realization of bamboo's considerable potential.
- A restructured NBM has been approved by Government of India in 2018.
 - It focuses on the development of a complete value chain of the bamboo sector to link growers with consumers and to support the development of entire value chain plantation.
- **The Indian Forest Act, 1927** defined bamboo as a tree. It is the contradiction in the law, that had deterred the growth of bamboo plantations, particularly in the non-forest areas. To facilitate the benefits flow to the farmers, bamboo stock outside forest areas have been excluded from the definition of a tree by **amending Section 2 (7) of the Indian Forest Act, 1927 by the Government of India in 2017**.
- **TRIFED**, is an apex body, under the Ministry of Tribal Affairs, Government of India which opens establishments to train tribal people in using bamboo optimally for zero waste and to make agarbatti, matchboxes and even textiles. This would help in augmenting the income of the tribal communities and the opening of markets.

Way Forward:

- The rate of land degradation in the country should be arrested. A national programme of intensive bamboo plantation involving all stakeholders needs to be undertaken.
- The Indian Government needs to support the rural farmers to establish bamboo plantations in barren lands and slopes.
- The national housing scheme- Pradhan Mantri Awas Yojana (PMAY) should utilize bamboo as a construction

material.

- There is an urgent need to stop the illegal trading of bamboo, as the illegal bamboo exports to Bangladesh and Myanmar account for 13 percent of the country's requirements.



10. Business Opportunities in Agro-Based Industry

Significance of Agro-based Industries

- They are comparatively easy to establish and provide income in rural areas with less investment.
- They facilitate effective and efficient utilization of raw materials.
- They help in the transmission of industrial culture in rural areas bringing about a change in the outlook of farmers.
- The food processing and food preparation industries have tremendous export potential, and they are set up on a co-operative basis ensuring participation of the people in the development process.

Farmer Producer Organizations (FPOs):

- Innovative institutions such as Farmer Producer Organizations, Joint Liability Group came up due to the need to overcome the problems of unorganized small farmers who lack access to the resources and services.
- The FPOs act as an interface between the small farmers and the external world.
- It provides them with a voice, access to the market, bargaining power, economy of scale and better prices.
- The structure and organization of FPOs vary with each country depending on the legal framework and policies of the country.

Challenges faced:

- The Ease of Doing Business has to be improved. India ranks at the bottom for land, labour and capital, which are the basic parameters for an enterprise.
- Labour laws in India are extremely inflexible and restrictive.

I. Straw for Income

Causes for the burning of paddy straw:

- The combined harvester, which was introduced for paddy harvesting leaves stubble on the field.
- There is a narrow window between the harvesting of paddy and sowing of the next crop and using labour to cut the paddy straw delays the process of wheat plantation.

How prevent the burning of paddy straw?

- Farming mushrooms using straws.
- Utilizing the paddy straw for the compost.
- Wheat straw is expensive because of its demand in the brick kilns where it is used as a fuel.
- People also use straw as fodder because it is more nutritious than paddy.
- Other uses of paddy straw include the fuel pallets for thermal power plants and other biomass processing, cardboard making, etc.

Avoiding stubble burning could be a permanent solution to growing concerns about pollution and can be achieved through proper policy, institution and technology to support.

II. Soybean protein: A booming business venture

India has a unique advantage in meeting the import demand of soybean meal in the East and South-East Asian countries because these countries require smaller quantities in small-sized vessels, which are not available in the Western world.

Importance of Soybean:

- This is one of the cheapest sources of protein.
- Indian soybean protein after processing and extraction is very cheap compared to the world price.
- An abundance of cheap protein could help in the fight against malnutrition and secure nutritional security.

Promoting Soybean Exports:

- The farmers could increase acreage under the crop, provided they are assured of getting the government-assured Minimum Support Price (MSP) in the open market.

- It all depends upon the growth of oil meal exports and reduction in import of edible oils along with other international factors.
- Government of India needs to take appropriate actions to promote export of soybean protein and shun its import.

Poppy Seed Business in India:

- Poppy Seed has a plethora of applications, especially in the Pharmaceutical industry. The Poppy latex is used to derive Alkaloids such as Morphine and Codeine.
- India has heavily regulated the poppy seed business. However, in the recent times, an intense conflict has developed over the decision of the Central Board of Narcotics (CBN) to import poppy seeds in India from the exporting countries.
- The poppy cultivation in India is highly regulated by the CBN, which issues licences to the farmers to grow poppy plants.
- The Latex that is collected from the trees belongs to the Government, however, the seeds may be sold off in the market where they may fetch up to Rs 10,00,000 per quintal.
- The government could be importing poppy seeds to satisfy WTO statute which lists poppy seeds as a “free-to-import” commodity.
- The Indian Government has placed heavy restrictions on the import of poppy and other narcotic substances into the country.
- However, the farmers could be the ones suffering, being at the receiving end of this policy as the poppy seeds yield has gone down to 10-14 quintals per hectare for the past few years.
- The government should consider allowing the cultivation of poppy seeds on a larger scale to meet the growing domestic demand, while keeping a periodical check on its uses.
- This would help the farmers in obtaining a substantial income from poppy seed farming.

Conclusion:

- The need of the hour is a well-planned strategy for an agro-business idea based manufacturing operations. Such business usually requires small start-up capital, and, can yield a profitable venture in return.

11. Mission Indradhanush 2.0: Reiterating India's Commitment to Vaccines for All

The Immunization programme is a critical component of India's commitment towards "Universal Health Coverage". It is integral to India's efforts of reducing the burden of vaccine-preventable diseases and achieving universal care for children.

Universal Immunization Program:

- The "**Expanded Program for Immunization**" was later termed as the "**Universal Immunization Program**" (UIP) by the Government of India.
- India's immunization programme is the largest in the world, with annual cohorts of around 26.5 million infants and 29 million pregnant women.
- Despite steady progress, routine vaccination coverage has been slow to increase.
- The full immunization coverage is around 62 percent.

Challenges to Vaccination:

- The factors limiting vaccination coverage include:
 - Rapid urbanization.
 - Presence of large migrating and isolated populations that is difficult to reach.
 - Low demand from under-informed and unaware populations.
- Persisting challenges such as a vast population, poor sanitation and hygiene, and difficult geographical terrain make containing the outbreak of a disease and increasing access to vaccines difficult.

Effective Approaches:

- Involving the community.
- Seeking support from other Ministries and partner agencies.
- Establishing an organized surveillance system.
- Employing mass campaign management strategies to reach every unreached child for vaccination.

Initiatives by the Government of India:

- The Ministry of Health and Family Welfare had launched Mission Indradhanush (MI) in 2014, to target underserved, vulnerable, resistant, and inaccessible populations.
- The Prime Minister of India launched an **Intensified Mission Indradhanush (IMI)** with an ambitious plan to accelerate the progress and achieve 90 percent full immunization coverage (FIC). It intends to focus on districts and urban areas with persistently low levels of Immunization.
- It was an effort to shift the routine immunization into a **Jan Andolan**.
 - IMI has contributed to a significant increase in fully immunized children in 190 selected districts in India.
 - IMI showed that cross-sectoral participation can be effective in vaccinating children at the highest risk of infection.

Salient features of the Mission:

1. Immunization activity will be in four rounds over 7 working days excluding the RI days, Sundays and holidays.
2. Enhanced immunization session with flexible timing, mobile session and mobilization by other departments.
3. The enhanced focus would be given to left-outs, dropouts, and resistant families and hard to reach areas.
4. Focus on urban, underserved population and tribal areas.
5. Inter-ministerial and inter-departmental coordination.
6. Enhance political, administrative and financial commitment, through advocacy.
7. Intensified Mission Indradhanush immunization drive would consist of 4 rounds of immunization.
8. After the completion of the proposed 4 rounds, the states will be expected to undertake measures to sustain the gains from IMI, through activities like the inclusion of IMI sessions in routine immunization plans. The sustainability of IMI will be assessed through a survey.

Conclusion:

- With the launch of Intensified Mission Indradhanush 2.0, India has the opportunity to achieve further reductions in deaths among children under five years of age.
- It also gives India an opportunity to achieve the Sustainable Development Goal of ending preventable child deaths by 2030.



12. Reforms To Boost Agro Based Industries

The Indian Government is facilitating the development of the agro based industries through various schemes. The Ease of Doing Business is something that the Government still needs to work upon. The Industrialization began in the 20th century with cotton in the textile industry and sugar. Thus, these two form the corner stone of the agro processing industries.

A Peek into the History:

- The term “enterprise” was a generic term which was defined as small, medium and large scale by the quantity and the capital invested in the plants.
- The adoption of an industrial policy in 1956 was the first step towards promoting the industry in the country. There was, however, some reservation that was maintained with respect to the small and medium scale industries till 1991.
- Until the economic reforms kicked in 1991, the food processing industries were mostly undertaken by the small and medium scale enterprises.
- The economic reforms began with **licensing, improving the exchange rate and simplification of the registration.**
- The Indian economy was influenced by the **Nehruvian** and **Gandhian** philosophies after Independence.
 - Nehru believed in a **capital intensive industry** while Gandhi believed in **small-scale cottage industries.**
- The post-independence period witnessed huge investments in the capital industries along with promotional activities for the agro-based industries.
- The draft of the Third Five Year Plan had no policy to promote the middle scale industries as a major thrust was given to capital intensive industries and the small scale industries such as the Khadi and village industries by giving huge subsidies.

The reforms in the agricultural market:

- India never focused on agricultural reforms but focused only on the land reforms.
- Reforms for agriculture marketing were first promoted by the former Prime Minister Atal Bihari Vajpayee by designing a model **Agricultural Produce Market Committee (APMC) Act** in 2003 which provided for new market channels other than APMC markets like- the direct purchase, private wholesale purchase and contract farming.
- The Essential Commodities Act was liberalized, however could not be carried forward.

Schemes to Promote Agro-based Industries:

India hadn't been able to sustain the economic growth as the farmer's purchasing power had not improved much. The government is thus implementing a variety of schemes to promote the agro-based industries in India.

- **Foreign Direct Investment (FDI):** has been permitted at 100 percent in multi-brand retails and has been put on an automatic route for seed, dairy and animal husbandry among other sectors.
- **Pradhan Mantri MUDRA Yojana (PMMY):** is a scheme launched to facilitate the provision of loans upto 10lakhs to non-cooperate, non-farming small / micro enterprises.
- **The Stand Up India Scheme:** facilitates bank loans between 10lakh and 1 crore to at least 1 Scheduled Caste (SC) or Scheduled Tribe (ST) and at least one woman borrower per bank for setting up a Greenfield enterprise.
- **Gramin Bhandaran Yojana:** aims to meet the requirements of farmers to store produce, and agricultural inputs. The Scheme's aim is to prevent distress sale immediately after the harvest by providing the facility of pledge financing and marketing credit.
- **The Scheme of Fund for Regeneration of Traditional Industries (SFURTI):** This Scheme aims to organize traditional industries and artisans into clusters to make them competitive and provide support for their long-term sustainability and enhanced marketability of products.

- **The Credit Linked Capital Subsidy Scheme (CLCSC):** facilitated the technology up gradation of small scale industries by providing 15 percent upfront capital subsidy (up to Rs. 15 Lakh).
- **The Credit Guarantee Scheme for Micro and Small Enterprises (CGTMSE):** facilitates credit to the MSME units through collateral free loan up to Rs. 100 lakh for individual MSMEs on a payment of a guarantee fee to the bank.
- Other schemes which also play an important role are:
 - **Prime Minsters Employment Generation Programme (PMEGP)**
 - **Pradhan Mantri Kisan Sampada Yojana (PMKSY)**
 - **Scheme of cold chain**
 - **Value Addition and Preservation Infrastructure**
 - **Modernization of Abattoirs Scheme and more**

Challenges to set up an Agro-based Industry:

- **Land, Labour and Capital** are the three requirements to set up an enterprise, however:
 - Capital rate is the costliest in India with interest rates as high as 12 percent, thus many industries cannot afford to borrow capital.
 - Labour laws in India have remained inflexible and highly restrictive and India doesn't follow the policy of "Hire and Fire".

Conclusion:

- It is high time to push for more agri-reforms in India as the inflexible laws and difficulty in obtaining land or capital make setting up of agri-business in India highly difficult.

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