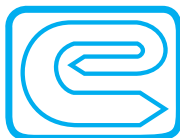




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Agricultural Schemes in India

Indian agriculture has undergone substantial economic policy reforms since independence. The reforms and subsequent policy interventions largely concern growth rate of agricultural output, food security, nutrition, regional equity, price stability, farm income and impact on trade. Some of the recent interventions in the sector by the Government of India to make the sector more remunerative and attain sustainability are discussed briefly

Pradhan Mantri Kisan Samman Nidhi (PM-KISAN)

The aims of this scheme is to supplement the financial needs of the farmers in procuring various inputs to ensure proper crop health and appropriate yields, and commensurate with the anticipated farm income. Under this scheme all the small and marginal landholder farmer families across the country having cultivable land holding upto 2 hectares are eligible for a benefit of ₹ 6000 per annum per family payable in three equal installments of ₹ 2000, every four months. The amount is proposed to be directly credited into

the bank accounts of eligible farmers. The proposed allocation for the scheme for the year 2020-21 was ₹ 54,370.15 crore.

Rashtriya Krishi Vikas Yojana (RKVY)

Rashtriya Krishi Vikas Yojana (RKVY) was launched as a flagship scheme of the Department of Agriculture, Cooperation & Farmers Welfare (DAC & FW) in 2007-2008 to incentivize States to draw up comprehensive agriculture development plans, taking into account agro-climatic conditions, natural resources and technology for ensuring more inclusive and integrated development of agriculture and allied sectors. The Scheme has been revamped as Rashtriya Krishi Vikas Yojana – Remunerative Approaches for Agriculture and Allied Sector Rejuvenation (RKVY-RAFTAAR) proposed to be implemented from 2017-18 to 2019-20 with major focus on pre and post-harvest infrastructure, besides promoting agri-entrepreneurship, innovations and value addition. The budget estimate proposed for this scheme for the year 2020-21 is ₹ 3700 crore.

Pradhan Mantri Krishi Sinchai Yojana (PMKSY)

Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) has been formulated with the vision of extending the coverage of irrigation and improving water use efficiency 'More crop per drop' in a focused manner with end to end solution on source creation, distribution, management, field application and extension activities. PMKSY has been formulated amalgamating ongoing schemes viz. Accelerated Irrigation Benefit Programme (AIBP), Integrated Watershed Management Programme (IWMP) and the On Farm Water Management (OFWM). For the year 2020-21, the annual allotment of ₹ 4000 crore has been earmarked by the Government of India under the 'Per Drop More Crop' component. A Micro Irrigation Fund with a corpus of ₹ 5000 crore has also been created with NABARD during the fiscal 2020-21.

Pradhan Mantri Fasal Bima Yojana (PMFBY)

The Pradhan Mantri Fasal Bima Yojana is the scheme for crop insurance. It is under implementation in various States and Union Territories since the Kharif season of 2016. Under the PMFBY, a uniform maximum premium of 2% of the sum insured is paid by the farmers for all Kharif crops and 1.5% for all Rabi crops. In case of annual commercial and horticultural crops, the maximum premium to be paid by farmers is 5%. The balance of actuarial premium is being

borne by the Government of India, equally shared both by the State and the Centre. Both governments are mandated to provide full insured amount to the farmers against crop loss on account of natural calamities. There is no upper limit on Government subsidy.

E-NAM

National Agriculture Market (eNAM) is a pan-India electronic trading portal, which networks the existing APMC mandis to create a unified national market for agricultural commodities. This platform is envisaged to bring in significant efficiencies in the buying and selling of food grains, reducing the differences in regional inflation and also ease of the burden of procurement on the exchequer. The share of eNAM in total food grain procurement was estimated at 14.4% during 2018-19.

Share of eNAM in Total Food Grain Procurement

Year	Total Food Grain Production (+oilseeds) Tons	Share of eNAM
2015-16	141,790,000	0.00%
2016-17	159,853,600	5.82%
2017-18	161,472,500	5.84%
2018-19	162,196,000	14.40%

Source: Ministry of Agriculture; Acuite Knowledge Center

Reference:

- Ministry of Agriculture

Global Coffee Industry

Overview

Coffee plant is woody shrub, which is generally grown in subtropical and tropical climates. Coffee beans are seeds obtained from these plants. There are two major types of coffee consumed globally: Arabica and Robusta. About two thirds of world production comprise of the Arabica variety and one third of the Robusta variety. Coffee is among the most traded commodity around the world and the market of coffee was estimated at US\$ 100 billion during 2018.

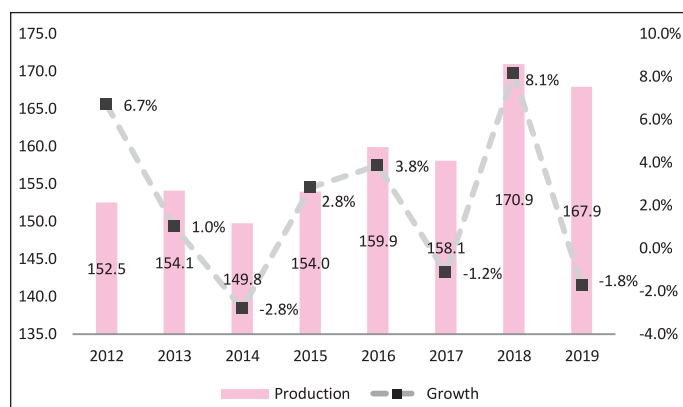
Production

Global Scenario

The global coffee production during Coffee year (October to September) 2018 was estimated at 171 million bags (of 60kg each)¹, witnessing a year on year growth of 5.2%. As per the preliminary estimates the global production of coffee is expected to fall by 1.9% to 167.9 million bags during coffee year 2019.

Out of the total global coffee production, Arabica variety constitutes around 58.8%, while the rest is

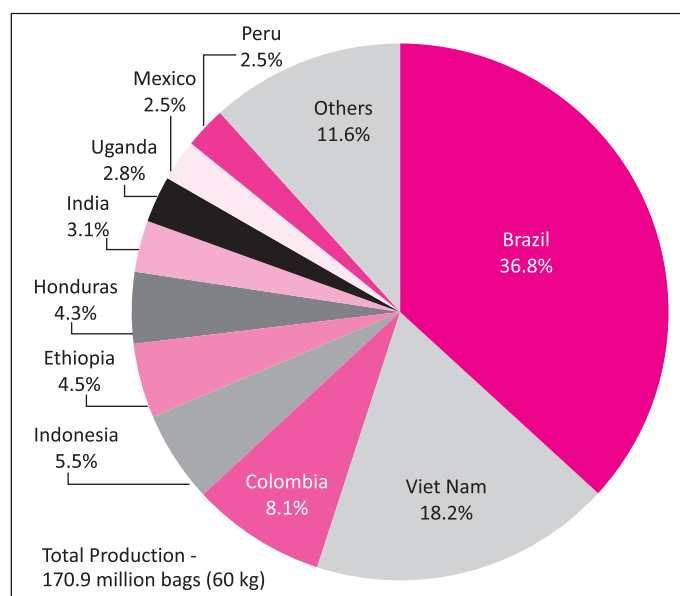
Global Coffee Production (million bags of 60kg)



Source: International Coffee Organization

Robusta. Brazil has been the leading producer of coffee, with 36.8% of total production in crop year 2019. Other major coffee producing countries include Vietnam (18.2%), Colombia (8.1%), Indonesia (5.5%) and Ethiopia (4.5%).

Major Coffee Producing Countries (2018)



Source: International Coffee Organization

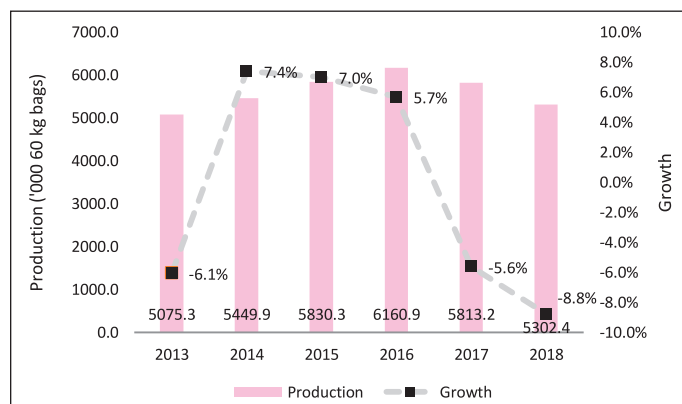
Indian Scenario

The production of coffee in India was estimated at 5.3 million bags in 2018, witnessing a decline of 8.8% from the previous year value of 5.8 million bags². The production of coffee was highest in the year 2017, with 6.1 million bags. The production of coffee in India is concentrated in the hill tracts of South India, with Karnataka producing around 68.7% of total coffee in India. Karnataka was followed by Kerala with 22% of production and Tamil Nadu with 5.6% of total coffee production.

¹International Coffee Organization

²International Coffee Organization

Coffee Production in India



Source: International Coffee Organization

Trade

Global Scenario

The global export of coffee was estimated at US\$ 29.8 billion in 2019, witnessing a decline of 1.2 % from the previous year value of US\$ 30.1 billion. Brazil, which is the largest producer of coffee, also holds

Major Exporters of Coffee in the World (US\$ billion)

Country	2015	2016	2017	2018	2019	Share
Brazil	5.6	4.9	4.6	4.4	4.6	15.3%
Switzerland	2.0	2.0	2.3	2.4	2.5	8.4%
Viet Nam	2.4	3.0	3.1	2.9	2.5	8.3%
Germany	2.2	2.3	2.6	2.5	2.4	8.0%
Colombia	2.6	2.5	2.6	2.3	2.4	7.9%
Italy	1.4	1.5	1.6	1.7	1.7	5.8%
World	30.4	30.3	32.5	30.1	29.8	100%

Major Importers of Coffee in the World (US\$ billion)

Country	2015	2016	2017	2018	2019	Share
USA	6.0	5.7	6.3	5.7	5.8	19.2%
Germany	3.7	3.6	3.8	3.5	3.2	10.6%
France	2.4	2.4	2.8	2.8	2.7	9.0%
Italy	1.8	1.7	1.8	1.8	1.6	5.3%
Japan	1.6	1.4	1.4	1.3	1.2	4.1%
Canada	1.2	1.2	1.3	1.2	1.2	3.9%
World	31.1	30.4	33.3	31.9	30.5	100%

Source: ITC Trade Map

the leading position in global coffee exports with a share of 15.3% in global export of coffee. Coffee exports by Brazil was estimated at US\$ 4.5 billion in 2019. Other major exporting countries includes Switzerland (8.4%), Viet Nam (8.3%), Germany (8%), Colombia (7.9%) and Italy (5.8%)³.

The United States of America was the largest importer of coffee with estimated imports of US\$ 5.8 billion in 2019, increasing marginally from the previous year export of US\$ 5.72 billion. The US has a share of 19.2% in the global coffee imports. Other major coffee importing nations are Germany (10.6%), France (9%), Italy (5.3%), Japan (4.1%) and Canada (3.9%).

Indian Scenario

India's export of coffee was estimated at US\$ 502.7 million in 2019, witnessing a decline of 2.5% from the previous year value of US\$ 515.4 million in 2018. The import of coffee was estimated at US\$ 119.2 million in 2019, which decreased by 11.9% as compared to US\$ 135.3 million in 2018. India has a positive trade balance in the trade of coffee and the trade surplus was US\$ 383.5 million during 2019.

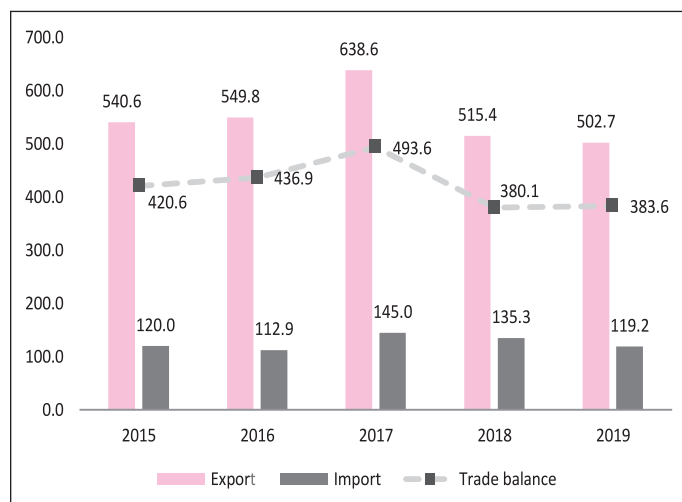
Italy was the leading export destination for coffee from India. Export of Indian coffee to Italy was estimated at US\$ 140.3 million in 2019, a share of 27.9% in India's total coffee export. Other major coffee export destinations include Germany (16%), Belgium (8.9%), Jordan (4.5%), Kuwait (3.1%) and Libya (2.9%).

Viet Nam is the leading source for import of coffee by India. During the year 2019, import of coffee from Viet Nam was estimated at US\$ 62.8 million,

³ITC Trade Map, HS Code 0901

a share of 52.7% in India's total import of coffee. Other major import sources include Kenya (14.4%), Indonesia (13.2%), Côte d'Ivoire (7.7%), Uganda (5%) and Tanzania (3.1%).

India's Export, Import and Trade Balance of Coffee (in US\$ million)



Source: ITC Trade Map

Impact of COVID on Coffee

Due to the COVID 19 pandemic, the global coffee sector has been subjected to both - supply and demand shock. Since March 2020, with the spread of the pandemic globally, the prices of coffee has

witnessed a high volatility due to the supply chain disruptions. Initially, there was an increase in the prices of coffee, which was followed by a persistent decrease in price that may foreshadow the likely cooling of coffee demand as a result of the recession and continue affecting many coffee importing countries. Hence, the covid-19 pandemic may impose a significant additional challenge for the global coffee sector that has experienced a prolonged period of low prices.

As per a survey conducted by International Coffee Organization, the impact on production remained ambiguous as different countries have different production cycles and many countries were not severely impacted by COVID 19. The impacts on coffee production might become more visible in the second half of the year, when more countries enter the harvesting season or liquidity constraints at farm level may lead to reduced input use.

References:

- International Coffee Organization
- ITC Trade Map

Regenerative Agriculture

Introduction

The agriculture sector is among the largest emitters of Carbon dioxide (CO₂), which is held responsible for most of the climatic changes that are seen today. Agriculture along with forestry and other land use, is held responsible for around 25% of all human-created Green House Gas (GHGs) emissions. The world's soils store several times the amount of carbon as in the atmosphere, acting as a natural carbon sink. The stocks of soil carbon have been decreasing due to factors, such as overgrazing and the conversion of native landscapes to croplands. Here regenerative agriculture comes into picture where one of the goal is to use some of the carbon that plants have absorbed from the atmosphere to help restore soil carbon.

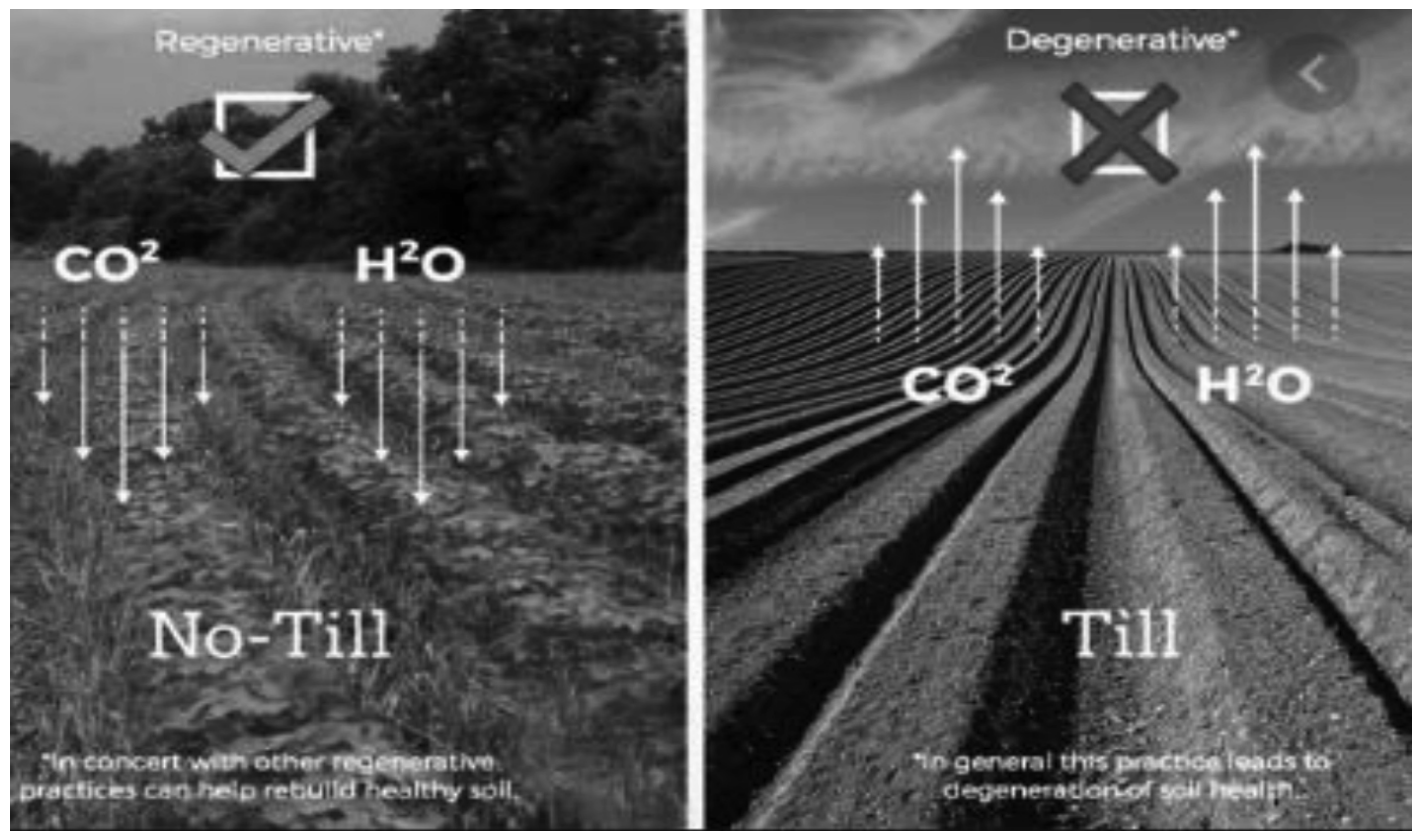
Regenerative Agriculture describes farming and grazing practices that, among other benefits, reverse climate change by rebuilding soil organic matter and restoring degraded soil biodiversity – resulting in both carbon drawdown and improving the water cycle⁴. Regenerative Agriculture is not a single activity but a system of farming principles and practices that increases biodiversity, enriches soils, improves watersheds, and enhances ecosystem services. Besides, it also offers increased yields, resilience to climate instability, and higher health and vitality for farming communities. The system is a result of decades of scientific and applied research by the global communities of organic farming, agro-ecology, Holistic Management, and agroforestry.

Regenerative Agricultural Practices

Various practices are undertaken in the regenerative agriculture system. A few practices include:

- 1) **Minimum/No tillage:** Ploughing and tillage aggravates soil erosion and suspends large amounts of carbon dioxide into the atmosphere. They can also lead to the kind of bare or compacted soil, which restricts the growth of important soil microbes. By adopting low- or no-till practices, farmers minimize physical disturbance of the soil, and with other regenerative practices, enhances soil aggregation, water infiltration and retention over time, which helps in creating healthier, more resilient environments for plants to prosper, as well as keeping more and more carbon where it belongs.
- 2) **Crop Rotation:** It has been observed that if the same plants are grown at the same location repeatedly, it disturbs the balance of nutrients in the soil and the necessary nutrients for plant growth may dry out. But if the farmer grows crops of different nature strategically on his land, it will replenish the lost nutrients in the soil, which could help to restore the plant/soil microbiome to promote liberation, transfer, and cycling of essential soil nutrients. This in turn helps in avoiding crop diseases and pest problems.
- 3) **Crop Diversification:** Different nutrients are released by different plants via their roots. By planting different types of crops at the same time, it helps in infusing the soil with varied rich nutrients. The varied nutrient in dense soil helps the farmers in increasing the yield and productivity.
- 4) **Cautious use of Fertilizers:** In addition to minimizing physical disturbance, regenerative agriculture practitioners also often seek to be

⁴Regeneration International



cautious about chemical or biological activities that also can damage long-term soil health. Misapplication of fertilizers and other soil amendments can disrupt the natural relationship between microorganisms and plant roots.

- 5) **Well-managed grazing:** Well-managed grazing practices helps in improving plant growth, increased deposit of soil carbon, and overall land productivity while greatly increasing soil fertility, insect and plant biodiversity. These practices not only improve ecological health, but also the health of the animal and human consumer through improved micro-nutrients availability and better dietary omega balances.
- 6) **Cover Cropping:** Cover cropping is a key practice adopted by regenerative farmers between growing seasons to keep the soil covered and protected from erosion or run-off, as well as to help replenish minerals and maintain healthy soil structure through the constant presence of a root system.
- 7) **Agro Forestry:** woody perennials (trees, shrubs, palms, bamboos, etc.) are deliberately used on the same land-management units as agricultural crops and/or animals, in some form of spatial arrangement or temporal sequence. Incorporating trees into farmland benefits everything from soil health to crop production to the climate.

Indian Scenario

The regenerative agriculture relies on using natural substances and discourages the use of chemical and fertilizers. Farming in India has been mostly based on naturally occurring substances like cow dung and urine, mulch, soil aeration and biomass. There has been an increased focus on the organic farming in India and in the next five years, the Government of

India envisages to cover 20 lakh hectares under any form of organic farming, including natural farming. Out of the expected total land under organic farming, 12 lakh hectares of land is under Bharatiya Prakritik Krishi Paddhati Programme (BPKP).

Also the Paramparagat Krishi Vikas Yojana launched in 2015 to promote organic farming among small and marginal farmers has in the last four years covered 7 lakh hectares and 8 lakh farmers⁵. The states of Andhra Pradesh, Karnataka, Himachal Pradesh, and Kerala have adopted the idea of Natural Farming widely. Andhra Pradesh alone has brought 2 lakh hectares under natural farming under this scheme. The regenerative agriculture system could help in the transformation and renewal of Indian agriculture, which in turn could help to avoid excessive and wasteful use of water, prevent farmer indebtedness, and contribute to mitigating greenhouse gases while supporting farmer incomes and their ability to adapt to climate change.

Conclusion

A 2013 study published in Agricultural Systems showed that, compared to conventionally managed farms, regenerative farms could accommodate more cattle per acre, had lower cow and calf mortality, consumption of less feed, and use of fewer herbicides. Researchers also found that topsoil was deeper, more aerated, and densely covered with plants. There is great potential for India to reap the benefits of regenerative agriculture system, however, the process is in a nascent stage.

References:

- Regeneration International
- World Resources Institute
- AgFunder News

⁵Ministry of Agriculture and Farmers Welfare

Indian Sugar Industry

Overview

India is among the largest producers and consumers of sugar in the world. Sugarcane is used as the primary raw material for sugar production. The Sugar industry is estimated to have an annual turnover of over ₹ 1 lakh crore⁶. Sugarcane is used as the primary raw material for sugar production. As per FAO estimates, of the total global production of sugarcane was 1907.6 million tonnes during 2018, where Brazil (37.1%), India (18.7%) and China (5.4%) are the largest producers of sugarcane. The number of operational factories in the sugar industry in India was estimated to be more than 580 during 2018-19⁷. The sugar mills employs around half a million workers directly.

Production and Consumption

The sugar production in India in sugar season (SS) 2019 was estimated at 32.9 million tonnes, witnessing a decline of 0.3 million tonnes as compared to SS

2018. However, the production in SS 2018 was around 50% higher as compared to SS 2017. The domestic consumption was estimated at 26.1 million tonnes during SS 2019. The consumption witnessed a continuous increase during SS 2016 to SS 2019.

The number of sugar mills as well as their capacity has been increasing in India, in the recent years. The average size of the sugar plants has been increasing with addition of new plants with higher capacities and increase in capacities of the old plants. The average capacity of the sugar mills registered a CAGR of 2.86% during 2010-2019. The average actual capacity of sugar factories in operation in India was 4575 tonnes per day⁸ during the year 2018-19.

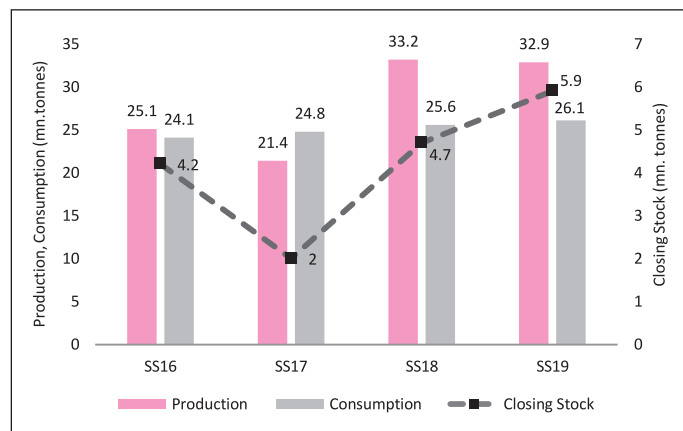
Average Capacities of Sugar Mills

Year	No. of Factories	Average Actual Capacity*
2010-11	527	3650
2011-12	529	3868
2012-13	526	4125
2013-14	509	4088
2014-15	538	4101
2015-16	526	4192
2016-17	493	4337
2017-18	525	4488
2018-19	532	4575

*tonnes per 24 hours

Source: India Sugar Mills Association

Production, Consumption and Closing Stock of Sugar



Source: CRISIL Research

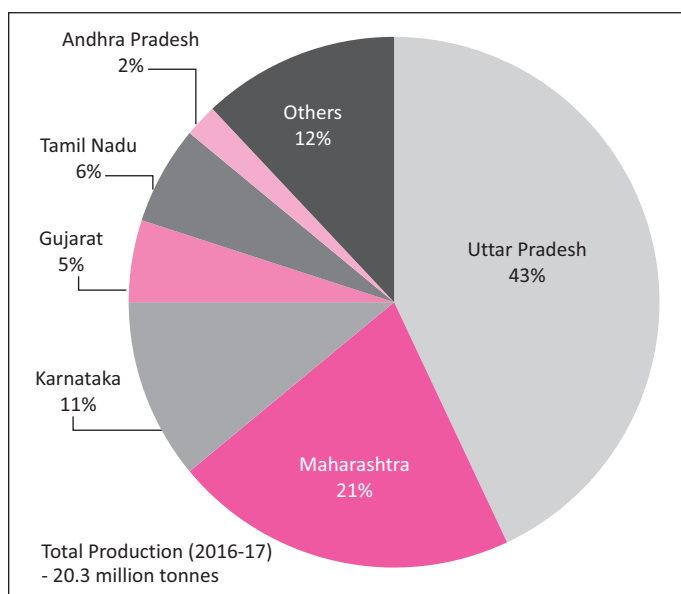
⁶India Sugar Mills Association

⁷India Stat

⁸India Sugar Mills Association

The sugar production in India is largely concentrated in the states of Uttar Pradesh, Maharashtra, Karnataka and Tamil Nadu. As per latest available data, Uttar Pradesh is the largest sugar producing state in India, constituting around 43% of total sugar production in India. Uttar Pradesh is followed by Maharashtra with around 21% of share in total production, followed by Karnataka with around 11.2 % share.

Major Sugar Producing States in India (2016-17)

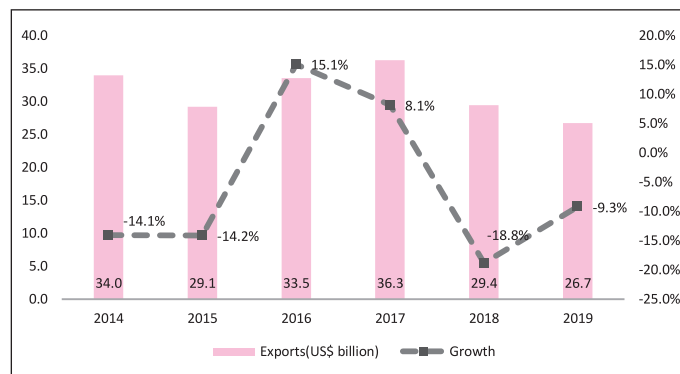


Source: CMIE Economic Outlook

Trade

The global export of sugar (HS1701, HS1702, and HS1703) was estimated at US\$ 26.7 billion in 2019. The global export witnessed a decline of 9.3% from the previous year value of US\$ 29.4 billion in 2018. The major exporters of sugar globally during 2019 were Brazil (19.7%), Thailand (11.8%) and India (7%). India was the third largest exporter of sugar in 2019. Share of India's sugar export, in global sugar export, increased from 3.6% in 2018 to 7% in 2019.

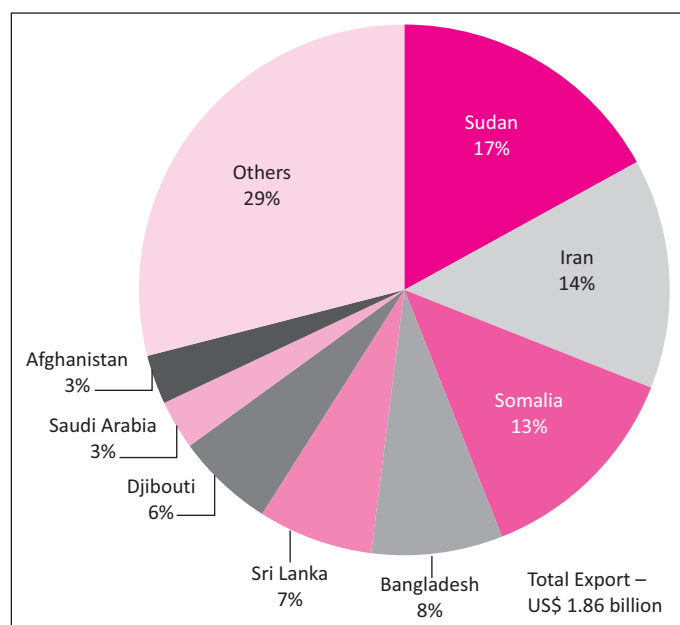
Global Export of Sugar



Source: ITC Trade Map

Export of sugar from India was estimated at US\$ 1.86 billion in 2019, which witnessed a steep rise of around 75% over US\$ 1.06 billion during 2018. Top export destination for India's sugar exports include Sudan, Iran, Somalia, Bangladesh and Sri Lanka. Sugar export to Sudan amounted to US\$ 310 million in 2019. Export of sugar to Iran was low for the years 2015-2018, and estimated at US\$ 2 million in 2018, which increased to US\$ 262.6 million in 2019.

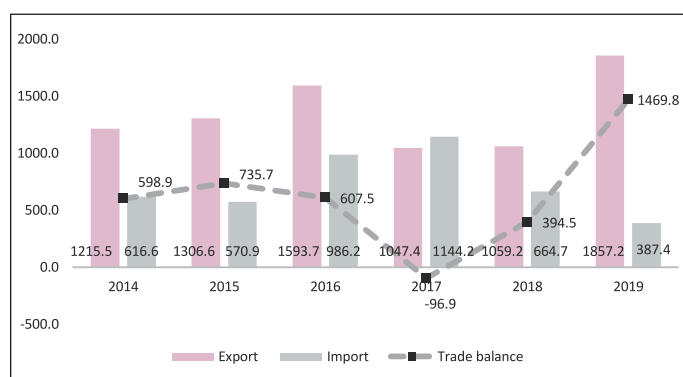
Major Export Destination of Sugar (2019)



Source: CMIE Economic Outlook

Import of sugar by India was estimated at US\$ 387.4 million in 2019. Imports fell by 41.7% during 2019 compared to US\$ 664.7 million during 2018. the net export of sugar by India was valued at US\$ 1.47 billion in 2019. Brazil was the major source of import for India during 2019, having a share of 66.2% of total sugar import by India. Brazil was followed by South Africa (9%), the Netherlands (6.1%), the US (5.7%) and Germany (4.5%).

India's Trade in Sugar (in US\$ million)



Source: ITC Trade Map

Outlook

With ongoing situation of COVID 19, both production and consumption are expected to witness a decline

for some time. Due to the pandemic, the production of sugar is expected to fall by almost 20%, but is expected to be above the consumption level during SS 20. There are two sources of sugar demand – direct household and bulk buyers. The consumption by household constitutes 35% share of the total consumption and the remaining 65% is consumed by bulk buyers, which includes restaurants, hotels, cafes, catering services among others. Due to shut down of these services in early phase of lockdown, and lack of consumers during the phased reopening, the demand for sugar in domestic market is expected to fall. The production and consumption of sugar are expected to rise during SS21, which may alter depending upon the COVID 19 scenario. The export of sugar is also expected to remain flat owing to the pandemic situation and higher prices of Indian sugar in comparison to the international market.

References:

- CRISIL Research
- ITC Trade Map
- India Sugar Mills Association

News Focus

₹ 700 crore ADB-funded project approved by government in Maharashtra

To give a fillip to the fruit and vegetable production in the state and make the sector more remunerative, the Government of Maharashtra has approved an ADB-funded ₹ 1,000 crore (USD 142.9 million) project The Maharashtra Agribusiness Network (MagNet) project, aims to help farmers across all districts in the state for the next six years. The incentives under the MagNet project is proposed to be extended to small and marginal farmers, of which 70% would be lent by Asian Development Bank and the balance will come from state government.

Source: Economic Times

Record procurement of rice, wheat in 2019-20 season

Procurement of wheat and rice by Government of India has set a new record in the 2019-20 season. The procurement of wheat was estimated at 38.97 million tonnes. However, it is still below the targeted value of 40.7 million tonnes. The procurement of rice was estimated at 50.5 million tonnes, which was 21% above the target set for the year. The high procurement comes in the backdrop of COVID 19 pandemic. This higher procurement have facilitated free distribution of grains under the PM Garib Kalyan Ann Yojana (PMGKY), which was implemented to address food security concerns during the pandemic.

Source: Financial Express

Locust attack in some parts of India

Swarms of locust affected crops in western India during mid-April and was considered as the worst locust attack in last 26 years. The swarms travelled several districts of Rajasthan via Sindh province of Pakistan. According to the Union Agriculture Ministry, swarms of immature pink

locusts and adult yellow locusts were active in Jaisalmer, Barmer, Bikaner, Jodhpur, Nagaur, Dausa, and Bharatpur of Rajasthan, and Jhansi and Mahoba districts of Uttar Pradesh during the period. The Food and Agriculture Organization (FAO) had also issued alerts on the locust attack in India. The menace was efficiently handled by the Locust Warning Organisation of Ministry of Agriculture, Govt. of India using latest technology and equipment, such as drones and bell helicopters. The immediate impact of the menace on Rabi crops was not severe as most of the standing crops were already harvested. However, controlling the infestation was crucial to protect the Kharif crops.

Source: Times of India

FAO launches Hand-in-Hand geospatial platform with large set of food data

The Food and Agriculture Organization of the United Nations (FAO) recently launched the Hand-in-Hand geospatial platform with a large and rich set of data on food, agriculture, socioeconomics, and natural resources. This envisages to help strengthen evidence-based decision-making in the food and agriculture sectors. It has over one million geospatial layers and thousands of statistics series with over 4,000 metadata records, bringing together geographic information and statistical data on over 10 domains linked to food and agriculture - from food security, crops, soil, land, water, climate, fisheries, livestock and forestry. It also includes information on Covid-19's impact on food and agriculture. The data has been sourced from FAO and other leading public data providers across the UN and NGOs, academia, private sector and space agencies.

Source: FNB News

The news items and information published herein have been collected from various sources, which are considered to be reliable. While every care has been taken for authenticity of the material published, Exim Bank accepts no responsibility for authenticity or accuracy of such items.

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