

Agro-Economic Alerts

Aiding the future of India's farmers and agriculture



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For kind attention of:

The Hon'ble Prime Minister's Office,
the Ministry of Agriculture and Farmers' Welfare,
and all others interested

Emerging Critical Situations and Threats in India's Agricultural Economy

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Area Decline in Aromatic Bhagalpuri Katarni Paddy in Bihar

Key Highlights

- Bhagalpuri Katarni rice is an aromatic short grain rice having a unique taste. Grown natively in Bhagalpur and Banka districts, Bhagalpuri Katarni rice is not only demanded in Bihar, but throughout the country.
- The production of aromatic rice in Bihar is mainly concentrated in Bhagalpur and Magadh divisions. Bhagalpur (historically pronounced as Anga Pradesh/Janpad) has remained a traditional fragrant rice growing area where the varieties, namely (i) Katarni, (ii) Tulsi manjari, (iii) Badshahbhog, (iv) Ghoraiya Katarni, (v) Br-9, and; (vi) Br-10 are common. These are photoperiod sensitive, tall and susceptible to lodging, several diseases and pests.
- Land areas situated at the banks of the Chandan (river) and its subsidiary rivers flowing through Banka and Bhagalpur districts are used for growing Katarni paddy-a local variety of uniquely fragrant Katarni.
- In May 2018, Bhagalpuri Katarni paddy was tagged with Geographical Indication (GI) tag, applied by Bhagalpur Katarni Dhan (Paddy) Utpadak Sangh (BKDUS) and facilitated by Bihar Agriculture University (BAU), Sabour, Bhagalpur. Due to its unique quality, it has immense domestic demand and export potential as well.

- Interestingly, the soil of particular villages under Jagdishpur, Sabour, Sultanganj and Sanhoula blocks under Bhagalpur district and some areas under Rajoun and Amarpur blocks of Banka district (Bihar), have specific micro-nutrients, which are responsible for unique fragrance in Bhagalpuri Katarni paddy.
- Despite its uniqueness, Katarni rice is facing threat of area decline. Its area declined from around 1500 hectares in 1950s or 1960s to 200 hectares in 2020. Since 1991-92, there has been significant decrease in the area under Katarni rice cultivation mainly due to increased irrigation costs, higher productivity of other varieties, silting of fields due to 1995 flood, excavation of sand from Chandan river, declining demand in local, as well as global markets due to adulterated varieties in the market.

Observations

- As a case study, Katarni Paddy cultivation in Bhadariya gram panchayat of Amarpur block (Banka district) can be seen in Figure 1 given below. The length of Katarni Paddy plants is about 4.5-5 feet on an average and they tend to fall on the ground with a slight blow of winds.

Figure 1: Katarni Paddy Field



Source: AERC Bihar and Jharkhand

- The area under Katarni declined to around 10 acres (i.e., 80.39%) by the year 2020 in the villages of the panchayat. Some of the significant factors responsible for sharp decline in area under Katarni paddy are its lower productivity (7.20 quintals/acre, or 18 quintals/hectare at an average).
- On the other hand, average productivity of Sonam paddy and Sonam coarse paddy (combined) in the villages of Tardih gram panchayat has been estimated at 10.93 quintals/acre or 27.32 quintals/hectare.
- It is to be noted that Sonam paddy is very much similar and fitting in size, look and color to Bhagalpuri Katarni paddy/rice. So, it can be easily debased with Katarni rice by mixing some scent while milling.
- Katarni paddy has a duration of four to four-and-a-half months and, by the time it is harvested and sowed, the time of Rabi crops is almost over. Thus, Katarni paddy growers have to face losses in the form of leaving land areas unused for the Rabi season as a whole.
- Katarni paddy plants are tall and hence, susceptible to pests and diseases. About 20-25 percent of the crops get destroyed in the form of non-fruiting if there is a fast blow of winds. Consequently, farmers do feel disinterested in growing Katarni paddy.
- Other significant reason for decline in areas under Katarni paddy is that it is sown late and also harvested after harvesting of Sonam, other varieties of HYV paddy. So at sowing time, Katarni paddy fields are surrounded by paddy fields of other varieties sown.
- Before harvesting of Katarni paddy (which is generally harvested by December end), its fields are surrounded by land areas sown with Rabi crops. In this way, access to Katarni paddy fields becomes impossible. In view of these disquieting circumstances, farmers have become disinclined towards growing Katarni paddy.

Actions Suggested

- Farmers should be encouraged, through market based incentives, to grow Katarni

paddy in GI areas of Bhagalpur and Banka districts for preserving the traditional aromatic variety of paddy.

- Scientists from Bihar Agricultural University can visit the fields, addressing the challenges and explaining the advantages from growing Katarni paddy Sabour, Bhagalpur followed by awareness programmes in the Katarni belt.
- Strict vigil on harmful practice of adulteration (by mixing Sonam rice with Katarni paddy) is urgently needed.
- After having received the GI tag, efforts should be made for propagation of Katarni Rice branding and marketing in domestic and international markets as well.
- Distribution of true-to-type seed of 'Bhagalpuri Katarni paddy' developed by BAU should

be ensured among the Katarni growers for preservation of its aroma.

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- ii. Interviewed Farmers; D K Sinha (Contact No. 9431395819), Praveen Kumar Ghosh (Contact No. 9199242626), Manogi Harijan (Contact No. 9973381262) and Dinesh Mandal.
- iii. Discussion with Sri Raj Kumar Panjiyara, BKDUS (Contact No. 8709420769).

Assam Fish Farming Needs Attention for Future Prospects

Key highlights

- Given that Assam is quite rich in natural water resource, it has a very high fishery potential. The water spread area of 4,820 sq. km. is covered by the rivers of the state, other natural water bodies like bills, ponds, etc., covers 2.86 lakh hectares of water area potential for inland fish production.
- There are eight private Fish Feed Mills in the state so far. The state has eight fishery training centers also. In major fish producing states, Assam was ranked at 12th with a production of about 3.27 lakh tone during 2017-18. In the same year, Assam's share in all India fish production was about 2.69 percent only. Three plan schemes viz., state plan schemes,

central sector plan schemes and externally aided schemes with its varied components are trying to raise the production of fish.

- A large gap was observed between the allocation and expenses in the fishery sector. For instance, the total allocation during 2016-17 was Rs.3763.05 lakh out of which expenditure was recorded at Rs.2590.62 lakh (i.e., 68.84 percent of the total allocation). The annual plan expenditure on an average in production of fish was worked out to be Rs.1.05 per kg only which is abysmal. On an average, the state has to import 12 to 14 thousand tons of fish in each year from other states to meet the shortfall in production, however, the production of fish has increased from 2.07 lakh tons in 2008-09 to 3.27 lakh

tons in 2017-18 with Annual Compound Growth Rate (ACGR) of 2.50 percent.

Observations

- On an average per capita per annum availability of fish from state's production as well as import stood at about 10.08 kg per annum in 2017-18. The overall share of Fishing & Aquaculture Sector to the Gross State Domestic Product (GSDP) of the state was found at 2.75 percent during the reference year from 2011-12 to 2016-17.

- The overall per kg per annum production of fish contributed Rs.163.13 to the GSDP of Fishing & Aquaculture. In Assam, there were 26,395 villages (2011 census) having 18.47 lakh (approx.) of ponds and tanks which is another potential for captive fishery. Recently, a new startup 'Biofloc' focused on rearing local and exotic breed of fishes in the state. It also brought forth employment opportunities. Figure 1 given below shows the fresh water local fish of Assam.

Figure 1: Fresh Water Local Fish of Assam



Source: www.sentinelassam.com

Actions suggested

- The fishery sector has enough scope to increase the contribution to the state GSDP for the plan allocation to be utilized properly. Government could take initiative to increase the fish productivity through quality fish seeds that suits the state's aquatic condition.
- Recurring floods in the state is a major constraint for fish growers as boundary of the captive pond is not safe from flood water. Unutilized public ponds and tanks in the state could be utilized fully through government intervention for fish farming.
- In Assam, there are 5.89 lakh Self Help Groups (SHGs) formed in the villages which are linked to micro finance facilities. Some of them could take part in fishery activities as well. A natural fish hub may be built for the endangered 82 indigenous species of fish of the state for conservation.
- Catching of broody fish in natural water bodies at the time of breeding season (April to June) may be prohibited as per existing legislation. Profit margin of fish farmers needs to be fixed matching the cost of production.
- The role of middle-men needs attention as

well. A better policy initiative could support the fish markets/sellers both at wholesale and retail levels to minimize their risk in marketing.

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Sugarcane Transportation and Harvesting Cost in Uttar Pradesh

Key highlights

- The state of Uttar Pradesh is the largest producer of sugarcane in the country, but is still lagging behind the states like Maharashtra with respect to sugarcane yield. As per the year 2017-18, the sugarcane yield in Uttar Pradesh has been 792.55 quintal per hectare against that of 921.66 quintal per hectare in Maharashtra.
- Sugarcane is the main cash crop for Indian farmers. It is significant for its final processed product-sugar, Gur-making and sugar mill associated distillery units among others. As per statistics released by Directorate General of Commercial Intelligence and Statistics (DGCIS), India has earned foreign exchange to tune of Rs.6,869 crores through export of 2,146 thousand tonnes of Sugar during the year 2016-17.
- The most important factors with respect to cultivation and production of this crop upliftment are remunerative prices, timely payment of all the dues to the cane growers by sugar mills, and the transportation and harvesting costs.
- Price fixation of the crop has always been a delicate issue. There have been instances of agricultural prices ruling very high during lean production and slumping down very low during bumper production.
- Commission for Agricultural Costs & Prices (CACP) provides data on various input costs such as land rent, irrigation, fertilizers, labour, seeds, etc. for sugarcane along with other crops. The detailed data on various costs is collected under 'Comprehensive Scheme for Studying the Cost of Cultivation of Principal Crops in India'. However, the data on transportation and harvesting costs is not collected under this scheme.
- Inputs provided by state governments, which are not based on a scientific survey, are the only source for the CACP. A reliable data base and scientific methodology needs to be developed and the present study is an attempt in this direction.

Observations

- During the last 5-year period, apart from a continuous rise in sugarcane production

and crushing in the state of Uttar Pradesh, the sugar recovery rate has also enhanced from 9.54 percent to 11.46 percent towards increase in sugar production.

- With respect to transportation of sugarcane to sugar mills, the mills have already given cane growers significant relief through establishing a purchase center to narrow down the transportation distance. The survey conducted during the course of this study suggests that it would be better to deduct the amount incurred by the sugar mills from the payments to be made to cane growers on a voluntary basis.
- Harvesting and transportation costs are regarded as key determining factors in sugarcane adoption by the farmers, as also for sugar's domestic consumer price and international export value.
- In Thailand, high cost of harvesting and transportation is one of the reasons for reduction in total amount of sugarcane production and farmers who had small fields and/or whose fields were located far away from the sugar factories tended to abandon cultivation.¹
- The development of India's largest rural Information Technology (IT) network; the Sugarcane Information System (SIS) by the Sugarcane Commissioner of Uttar Pradesh to overcome the problems associated with the existing cane supply arrangements is definitely a step forward in the erstwhile direction.

Actions suggested

- Provision of mechanized harvesting, loading/unloading facilities to sugarcane growers by the concerned sugar mills towards timely, quick and efficient harvesting operations would be beneficial. This facility could be made available on a repayment basis.
- At the beginning of the season, sugar mills face the problem of inadequate supply while during peak season they get cane supply even more than their crushing capacity and the cane suppliers also have to wait due to unending queues of vehicles. Thus, more efficient management of flow of trucks/tractor trollies and unloading operations by sugar mills could lower down the cost of production of sugar.
- Damage caused to the crop during transit which can lead to increased fuel consumption must be checked to minimize losses, overloading and speeding of the vehicles along with the condition of the road used for transportation.
- Provision of transport facility, on a voluntary basis, by sugar mills right from the farmers' fields to their gates on repayment basis could contribute positively towards both, sugarcane crop productivity and higher Sugar Recovery Rate.
- Charges for the services provided by the sugar mills to the farmers for entire harvesting operations (including cleaning and loading) and transportation of sugarcane on a repayment basis should be crystal clear so

¹ Kaewtrakulpong K. (2008). Multi-objective optimization for cost reduction of mechanical sugarcane harvesting and transportation in Thailand. A dissertation, the Graduate School of Life and Environmental Science, the University of Tsukuba, Japan.

that farmers may decide accordingly which mill to sell their cane produce to.

- Good quality and early variety sugarcane seeds could be provided by government towards enhanced aggregate production through higher crop productivity and higher Sugar Recovery Rate as per suggestions by

farmers during the course of study conducted in the sugar session 2018-19.

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