

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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1. Village Stream Linking: Innovative Scheme in Gulumb Village in Maharashtra 2
2. Fertilizers Trade: Amid India-China Tensions 4
3. Emerging Problems for Farmers in Jharkhand 6

Compiled and Edited by
Centre for Management in Agriculture
(CMA)

Indian Institute of Management
Ahmedabad

Contact: Prof. Ranjan Ghosh
Co-ordinator, or
Prof. Poornima Varma
Chairperson CMA, or
Nicky Johnson
Research Associate
cma@iima.ac.in
Phone: +91-79-7152-4651

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Village Stream Linking: Innovative Scheme in Gulumb Village in Maharashtra

Key highlights

- A large section of the farming community in India has been struggling to survive, given various challenges faced by the agricultural sector. Due to rising costs, fluctuations in farm incomes and limited resource base, it becomes difficult, especially for small and marginal cultivating households to maintain higher levels of income over a period of time.
 - One of the important causes of fluctuations in farm incomes is fluctuating yields due to non-availability of adequate rainfall and irrigation facilities. In times of drought situations, yields decline, and farmers often suffer on account of not only crop loss but also unremunerative prices leading to negative net returns.
 - Village Gulumb in district Satara in Maharashtra depicts an example wherein collaborative efforts for overcoming recurrent drought situations culminated into a novel idea of linking the village stream to a stream from another village which is situated at the bottom of a hill. It is claimed that this linking of two streams at the village level is one of its kind in the state and perhaps in the country as well. This work was completed in the year 2018.
- Out of the 400 households surveyed in January - February 2020 for the reference year 2018-19, around 76 percent of the households were landowners. The major crops cultivated in the village were jowar, wheat, sugarcane, beans and oilseeds. It was observed that out of the total area cropped by the sample households, 40 percent of the area was unirrigated. Water scarcity was reported as one of the main problems faced by households involved in cultivating.
 - The survey revealed the difference in yields of a crop on irrigated and unirrigated land, thereby also indicating a difference in the income that would be earned. Whereas the average yield of jowar on irrigated lands of sample households was 4.2 quintal (qtl) per acre, the corresponding yield on rainfed areas was 3.37 qtl per acre. The yields in case of groundnut and soybean were 4.35 qtl per acre and 6.25 qtl per acre respectively. In the case of rainfed pieces of land, the yields were 2.31 qtl per acre and 3.90 qtl per acre for groundnut and soybean respectively.
 - Discussion with the villagers and village officials also revealed that due to the recurrent droughts in the five years before 2018-19, a dire need was felt to find a solution to this problem of water scarcity and make the village drought-free. The meetings between the villagers, the water supply department and zilla panchayat officials led to the emergence of the idea of linking percolation tank and the stream in Gulumb to the storage tank in nearby Chandak village situated at the bottom of a hill. Due to the linking, surplus water in the latter would flow towards Gulumb and satisfy needs of Gulumb villagers.
 - The collaboration between villagers, civil society organizations, industries around the village and the government led to the collection

Observations

- A study was undertaken in Village Gulumb of Wai taluka of Satara district which is one of the southern districts of Maharashtra to understand the socio-economic dynamics of the village and the changes which have taken place in the village over a period of time. As per Census 2011, the village had 769 households, and a population of 3192 and around 53 percent of the total main workers were cultivators, and 21 percent were agricultural labourers. Thus, more than 70 percent of the total workers were dependent on agriculture for livelihood.

of the required amount of fund needed for completing the work. A fund of more than 80 lakhs was raised for this purpose through a joint effort. The important feature of this fund was the contribution of the villagers to the fund. A collection chamber was constructed near the

Chandak storage tank from where the water was taken to Gulumb percolation tank through a pipeline (Figure 1). Thus, the two tanks at a distance of around 1130 meters in two different villages were joined through a pipeline. The streams linked to the tanks thus got connected.

Figure 1: Percolation tank and pipeline carrying water in Gulumb village



Source: Mrs. Alpana Yadav, ex Sarpanch, Village Gulumb

- The villagers reported that due to adequate monsoon during the survey year, i.e. in 2019-20 (after successive years of droughts/ inadequate rainfall), Gulumb village received adequate water. It was hoped by the villagers that this water and recharge of groundwater due to this would be helpful in providing adequate water to the village at least for two years.
- The success of such schemes would mean one step towards the transformation of the village economy and the agricultural sector.

For further details, contact:

Jayanti Kajale, Professor,
jayanti@gipe.ac.in, Mob: 9975153718
Agro Economic Research Centre, Gokhale
Institute of Politics and Economics, Pune.

Actions suggested

- For ensuring the sustainability of the project, systems should be instituted for proper maintenance of the structures constructed.
- Diversification of cropping pattern towards less water-intensive crops should be encouraged.
- Such innovative schemes suited to the socio-economic and geographical status at the village/ micro level can be promoted. A collaborative effort from various stakeholders needs to be ensured.

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Fertilizers Trade: Amid India-China Tensions

Key Highlights

- In India, millions of farmers use fertilizers to increase the yield on crops like cotton, sugarcane, rice and wheat. Fertilizers now is an integral part of Indian agricultural systems, and the industry has shown robust growth in the last five decades.
- India imports a bulk of major commodities from China. India's import includes iron and steel products, telecom products, and a lot of finished products like air conditioning, refrigerators, and fertilizers. In terms of fertilizers, China exports of fertilizers to India was US\$1.57 Billion during 2018.
- The ongoing conflict between India and China may deteriorate trade relations and can have an impact on consignments. Increasing reports of delays and long waiting time in the anchorage in custom clearance have incurred a huge

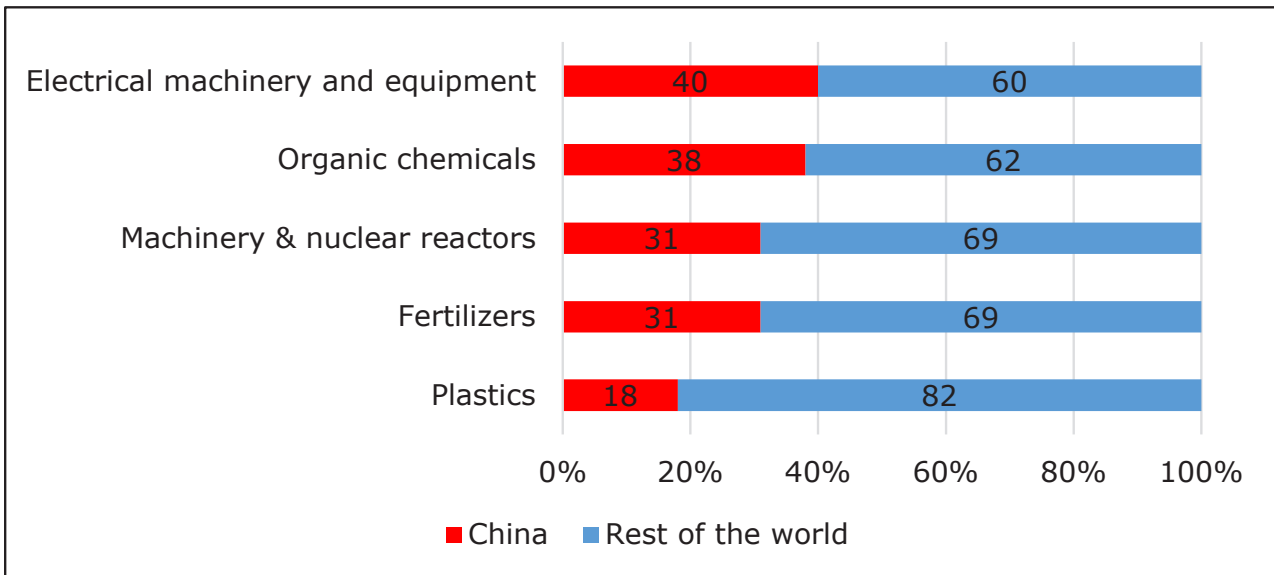
loss for china based trade firms and now are a bit hesitant to ship further consignments. It may have significant impact on India's fertilizer industry.

- It is important to understand the trends and foresee any further implications for our fertilizers industry participants.

Observations

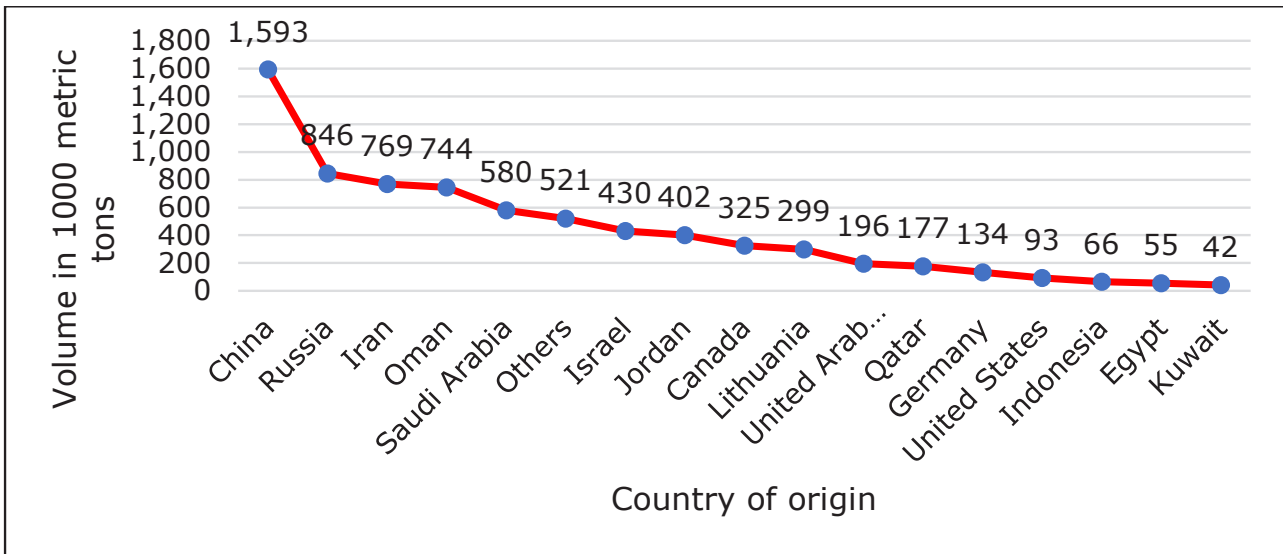
- As of 2019, the average share of imports for selected industries was at 30%, and the share of imports from China to India of fertilizers was 31% (See figure 1). Almost 70 percent of the country's trading was handled by maritime transport. It is also interesting to observe that, the highest share of country unloading fertilizers in the ports of India is by China (See figure 1 and 2).

Figure 1: Share of imports from China into India (2019)



Source: Statista, KPMG; Department of Commerce, Govt. of India

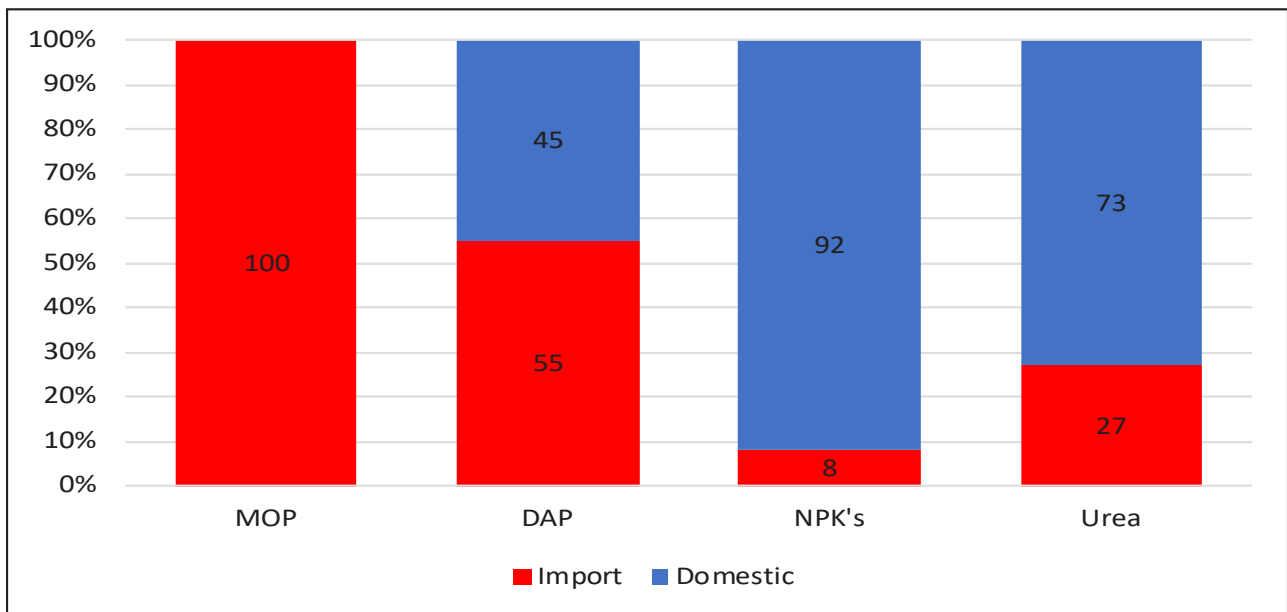
Figure 2: Fertilizers unloaded at major Indian ports (2019)



Source: Statista, Basic port statistics of India 2018

- India is the largest importer of urea and DAP and approximately 2.9 million tonnes, worth \$854.56 million were imported from Chinese ports. In terms of DAP, Chinese producers dominate the supply since a decade. Indian farmers heavily depend on the use of DAP for higher yield, making the trade decisive.
- Almost 27 percent of Urea demand is met by imports. The share of import had increased from 22 percent in 2019 to 27 percent in 2020, due to few urea plants remaining shut under the lockdown.
- In terms of Phosphatic and Potassic (P&K) fertilizers industry, we are highly dependent on the imports. Despite having manufacturing units in India, the MOP (Muriate of Potash) is imported (See Figure 3).

Figure 3: Imported vs domestic mix for key fertilizers in FY20.



Source: Jessica Casey, World Fertilizer (2019)

- Availability and pricing issue is quite often observed in India, due to limited global suppliers and few domestic manufacturing units.

Actions Suggested

- India-China tension may affect trade relations. Give the highest dependency of Indian fertilizers companies on China, it is a correct time to have a close look at the economics of trade.
- Incentives can be created to reduce dependency on China. Organic and Nano fertilizers production in the country must be encouraged. India may look out for other markets like Saudi Arabia, Jordan, Morocco, and the United States to fill the gap.
- A disruption in the trade may have an impact on the entire agricultural supply chain, which

may lead to high volatility in prices. Although the inventory management with reference to fertilizers in India is efficient, revisiting terms of trade can help to identify and potential threats to India's fertilizer markets.

For further details, contact:

Nicky Johnson

Research Associate, nickyj@iima.ac.in,

Mob : 8758300236

Centre for Management in Agriculture, Indian Institute of Management Ahmedabad, Gujarat

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Emerging Problems for Farmers in Jharkhand

Key Highlights

- Jharkhand, which suffered due to COVID-19 and lockdown, may face another set of problems. There is a need for a robust and accurate plan to address the problems of the agricultural sector in Jharkhand. The state of Jharkhand has a geographical area of 79.72 lakh hectares (ha.), and the major part of which is a plateau and hilly regions.
- Major constraints of the Jharkhand state are:(a) Lack of irrigation facilities,(b) large rice fallow area (75% of net sown area), which remain uncultivable in rabi season due to lack of desired irrigation facility, (c) low remunerative upland rice production, (d) acidic soils and (e) low weed- replacement ratio.
- Summer crops (mainly vegetables) are grown by a few farmers in small in some districts of Jharkhand in low lands. However, at present, they are reluctant to grow it. The main reason behind such reluctance was that none of the shops (during 1st lockdown) sold seeds,

fertilizers and other required inputs. Besides, farm machines like combined harvesters, lied stranded on the roadside, as there were no one to operate them. Jharkhand state, which can be termed as mainly mono-cropped, a large number of reverse migrant workers, who had been working in different big and industrial cities, have resulted in using up of the savings remitted from outside the state.

- Farmers income remains substantially low in the state. Therefore, "Jharkhand Vision & Action Plan (2021)" plans to increase the income of farmers by 60% by the year 2020, and subsequently double it by 2022. After the COVID-19 pandemic, achieving the determined goal/ target seems to be a challenge.
- Based on recent telephonic interviews with some farmer, sellers and scientists, it came to light that vegetable selling by farmers of Lohardagga district, villages of Ormanjhi block near Ranchi), Barkakana, villages under Tamar block, viz. Bundu and other villages around the state capital of Ranchi and most important

industrial city Jamshedpur-were badly affected during mid-April 2020.

Observations

- Low footfalls of traders had left the vegetable growers in few problems. During the first lockdown period, traders in the state preferred to wait for the closing time, when farmers had no choice, but to sell their produces at much lower prices. It reveals that vegetable grower farmers of the state had to face income - losses. There is an urgent need of attention both at the state level and national level.
- In the case of Kharif farmers (2020), seeds could not be provided to them as per the target. Many districts lifted less quantities of seeds than the targetted ones. Out of the 24 districts of Jharkhand, except Chatra and Koderma districts, the percentages of seeds distributed (till the end of the 4th week of July 2020) fell short of the quantities of seeds allotted.
- The State Agriculture Department of Jharkhand gives the order for the supply of seeds. Large Area Multi-Purpose Cooperative Societies (LAMPS) and Primary Agriculture Cooperative Societies (PACS) make seeds available to farmers by charging them only 50% amount of the price. Later on, the seed companies submit claim for subsidy amounts. The State Agriculture Department had allocated about 26,597 quintals (qtl) paddy seeds for all districts in aggregate terms. Against this allotted quantity, the amount deposited with the seed company was for 19,105 qtl only. A considerable gap was noticed here in terms of farmers buying seeds.
- Out of the total quantum of paddy seed allotted, the districts obtained 18,813 qtl, which is 70.73% of the total allotted quantity. The quantity of distributed seeds out of the obtained quantity was 18,301 qtl, which is 97.28%. It has been noted that many districts did not even obtain half of the allotted seeds. As a result, farmers could not be provided with paddy seeds as per targets. Here, it is a matter of satisfaction that in districts namely: Chatra, Koderma, Bokaro, Ranchi, Deoghar

and Jamtara (6 districts only) seeds have been distributed as per targets.

- It has also been observed that a good number of districts did not show any willingness in obtaining the seeds of Maize and Urad. These factors and reluctant attitudes may lead to increase in lackadaisical attitude, which was already prevailing among farmers.

Actions suggested

- Farmers of Jharkhand who grew vegetables and faced losses during lockdowns, may be considered for one or other type of additional assistance by the government for inputs; plant protection measures, seeds, fertilizers, mechanized harvesting, threshing facilities (especially Kharif crops). These may be in the form of lower concessional prices and/ lower hiring charges. Emphasis on promoting organic farming should be given with the view to increase export demand for quality organic products.
- Beyond this, one of the key strategies would be to supplement the incomes of rural households with non-crop raising-based activities (NCRBAs). Such activities may include poultry, fishery, bee-keeping, animal husbandry, and agroforestry (in barren and unculturable wastelands).
- The Agriculture Department of Jharkhand has taken three districts for providing three days of Skill Training Programme in few districts. It could be used to help returned migrant workers to find temporary employment and must be expanded to other districts.
- Well chalked out efforts can be made to bring new areas under export-oriented vegetable crops. For example, French bean, Shimla chilli, and Peas can be promoted in areas of Ranchi, Lohardagga and Gumla districts. This would help in achieving target of seven times increase in area under vegetables by the year 2021, which is from 12,300 ha. to 82,000 ha.
- Incentives can be given for those LAMPSs, which would show better achievement performances regarding the distribution of seeds and other

inputs well before recommended sowing times. Emphasis needs to be given on improving soil health by promoting the use of bio-fertilizers and micro-nutrients.

For further details, contact:

Dr. Rajiv Kumar Sinha

Research Associate, rajiv.sinha1959@gmail.com,

Mob: 8434928440

Agro- Economic Research Centre for Bihar & Jharkhand, T. M. Bhagalpur University, Bihar

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CENTRE FOR MANAGEMENT IN AGRICULTURE (CMA)

Indian Institute of Management Ahmedabad (IIMA)

Vastrapur, Ahmedabad, Gujarat 380015

e-mail: cma@iima.ac.in | **Phone:** +91-79-7152-4650, 7152-4651, 7152-4652

Web: www.iima.ac.in