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THE HINDU

Eco-friendly technologies fetch better results in rice production

Farmers were able to harvest the crop without using any chemicals. There were no pest or disease incidences.

Kuttanad, referred to as rice granary of Kerala, forms a unique ecologically fragile bio-geographical unit that is located mostly in Alappuzha district in Kerala.

The vulnerability of the system is attributed to the problems of water logging and soil acidity along with climatic variations. Crop damage due to summer rains and flood during monsoon in the low lying fields called padasekharams are quite common.

This uniqueness in bio-geography and associated social factors and institutions has earned it a Globally Important Agricultural Heritage System (GIAHS) status by FAO in 2013.

Unique place

"The heritage status also strives for ecological restoration and sustainable development of the water-logged system which is under increasing stress due to environmental pollution caused by indiscriminate use of chemical fertilizers and chemicals," says Dr. P. Muralidharan, senior scientist and programme coordinator at the institute.

To address these problems, demonstrations were conducted in Alappuzha hosted by Central Plantation Crops Research Institute (CPCRI) in Muttar village of Veliyanad block under the National Innovations on Climate Resilient Agriculture (NICRA) project for four successive crops from 2011-2015.

Farmers were encouraged to take up demonstration packages on optimization of seed rate and plant population through the use of drum seeder, site specific acidity -nutrient management (SSNM) based on soil, testing, and eco-friendly pest and disease management and placement of trichocards for the control of major pests.

Area covered

More than 100 farmers participated in these demonstrations which covered an area of 74.2 hectare over four years.

Through regular field visits, farmer field schools, and interactions the crop situation from sowing to harvesting was monitored continuously.

According to Dr. Muralidharan, by using paddy seeder (drum seeder) the seed requirement came down to 30 kg from of 100-120 kg a hectare thus reducing the cost on seed purchase to almost 25 per cent.

Since the seeds were sown in uniform lines, plant population was optimum, the number of productive tillers was high and good aeration in the crop stand which resulted in reduced susceptibility of pests and diseases.

Further the plants had strong root anchorage in the soil which helped them survive lodging during harvesting stage due to summer showers and wind.

"Another point is the time taken for harvest by the combined harvester was reduced by 40-50 per cent due to the uniform population and non-lodging feature achieved by drum seeding.

All these factors put together reduced the cost of cultivation by about 10-20 per cent," says Mr. M.S.Rajeev, specialist at the Kendra.

No pests

Farmers were able to harvest the crop without using any chemicals. There were no pest or disease incidences in these plots and farmers were satisfied with the methods used.

Usage of chemical pesticides and fungicides reduced by 90 per cent and those who regularly used plant protection chemicals, the amount spent for pesticides and fungicides reduced to 50 per cent compared to the previous crop, according to him.

Better yield

While the traditional broadcast crop yielded an average five to six tonnes per hectare, by adopting this package of technologies farmers could harvest six to seven tonnes per hectare with reduced inputs.

The better yield and reduced cultivation cost led to an overall net profit of minimum Rs.12,500 per hectare. Beneficiary farmers acted as master farmers to spread this package of technologies to others of the adjoining villages.

For further details interested farmers can contact Dr. P.Muralidharan, programme coordinator on mobile: 09496167382 and Mr. S. Rajeev, specialist, email: mailto: kvkalapuzha@gmail.com, mobile: 09446282080, phone:0479-2449268.

Minimum support price for cotton increased by Rs.50

Taking note of the distress to cotton growers from fall in cotton prices, the Centre, on Wednesday, announced a hike of Rs.50 per quintal each in the minimum support price of medium- and long-staple cotton for 2014-15. It authorised the Maharashtra State Co-operative Cotton Growers Marketing Federation to undertake MSP operations.

The Cabinet Committee on Economic Affairs (CCEA), chaired by Prime Minister Narendra Modi, also decided to restore the cuts in MSP for procurement of sub-standard wheat from farmers, who had suffered crop damage in rain and squall hit States. The Centre will reimburse the amount of value cut imposed on the wheat being procured by the Food Corporation of India (FCI) and State Government agencies in Gujarat, Haryana, Madhya Pradesh, Punjab, Rajasthan and Uttar Pradesh under relaxed quality norms. So far, 158.61 lakh tonnes of wheat have been procured against a target of 169.29 lakh tonnes purchased in the corresponding period last year. In the case of cotton procurement, the CCEA gave its ex-post facto approval for engaging the Federation to procure cotton as a sub-agent of the Cotton Corporation of India (CCI) during the 2014-15 cotton season. “This is aimed at safeguarding the interest of the farmers and avoiding any distress sale,” said an official spokesman.

The MSP for cotton was fixed at Rs.3,750for medium staple and Rs.4,050 for long staple for 2014-15.

The CCEA further approved an additional fiscal allocation under non-plan grant to meet the anticipated losses in disposal of cotton by CCI and the Federation for the year.

"The decision will enable in price support operations of 110 lakh bales (100 lakh bales by CCI and 10 lakh bales by the Federation) during the current cotton season and help stabilize cotton prices and alleviate farmer distress," the spokesman added.

The Federation will procure cotton from farmers in Maharashtra, in addition to CCI, on the same lines as CCI is doing. The Federation had earlier procured cotton under MSP as the agent of National Agricultural Federation (NAFED) in Maharashtra on the basis of agreement between central agency, NAFED and the Federation.

State govt. to import 1 lakh tonnes of fertilizers

The State government plans to import about 1 lakh tonnes of fertilizers in the third week of May, ahead of the Kuruvai season, starting in June.

It is part of its "pre-positioning of fertilizers" initiative to ensure free availability of fertilizers, K.C. Ravichandran, Joint Registrar of Cooperatives, Tiruchi, told *The Hindu* here on Wednesday.

The new initiative assumes significance in the background of shortage of fertilizers, particularly urea, last year. The supply of urea from domestic companies is expected to be less during the current year too. The fresh arrival will be stocked in buffer godowns well in advance, he said.

The Tamil Nadu Cooperative Marketing Federation (TANFED) will do the procurement. It has asked Joint Registrars of Cooperative Societies to send their district-level requirement after compiling Primary Agricultural Credit Society-level demand for three months from June. The State government has earmarked Rs.150 crore for procuring fertilizers.

New saline-tolerant hybrid rice variety developed

Rice cultivators in the brackish water paddy tracts of the northern districts of the State, especially Kattampally here, can now cultivate a new saline-tolerant hybrid organic rice variety developed as part of the organic plant breeding programme of the Regional Agricultural Research Station (RARS) at Pilikkode in Kasaragod. The new rice variety, named Ezhome-4, was released exclusively for cultivation in the brackish water ('kaipad' in local parlance) ecosystem which is being revived in different parts of the northern region, especially in the Kattampally region here.

This was one of the two new hybrid organic varieties commercially released by the RARS under the Kerala Agricultural University (KAU) recently. According to RARS researchers, Ezhome-4 is the result of the series of hybridisation programmes conducted in 2002. “The new variety is equally suited for saline-prone naturally organic Kaipad paddy tracts and non-saline flooded tracts during first crop season and also for ordinary wetlands,” T. Vanaja, Principal Breeder and Investigator under the programme told *The Hindu* .

“It gives high yield in traditional kaipad tracts as well as in newly rejuvenated Kattampally tracts,” she added. It gives an average yield of 5.1 tonne/hectare in the medium saline organic kaipad ecosystem with an average straw yield of 10 tonne/ha, Dr. Vanaja said. The other new organic rice variety, ‘Jaiva’ is for ordinary non-saline wetland tracts.

Dr. Vanaja said that the organic rice variety was first put forward in an international conference on organic agriculture system when a paper on it was presented. She said that the paper was also published in the international Journal of Organic Farming in 2013. ‘Jaiva’ is also the result of the hybridisation programme conducted 13 years ago, she said adding that the variety was successful in experimental trials in farmers’ fields. Its average grain yield is 5.2 tonne/ha and straw yield is nine tonnes/ha under organic management. The research on the two new varieties spanning over a period of 13 years had been carried out at the RARS and in the Pepper Research Station at Panniyur here.

‘Seeds available in abundant quantity in market’

Mahanteshappa, Joint Director of Agriculture, has said that BG-1 6918 cotton seed was an old variety of cotton, and the Mahyco Company had stopped the production of that seed variety and in its place it has introduced a new variety called BG-2 7912 cotton seeds. Farmers who had got good yield after using the BG-1 6918 variety were trying to buy the same though its manufacturing has stopped. Taking advantage of the situation, a few traders were getting that variety from Tamil Nadu and selling the seeds at a higher price. Selling seeds at exorbitant rates is a serious offence, he said, adding that the department had warned traders several times that action would be taken against them if they sold seeds at high prices.

According to Mr. Mahanteshappa, all seeds including the new variety of cotton seeds are available in the market in abundant quantity.

Tomato cultivation under fertigation method

Tomato is one of the major crops cultivated in Chinnagottigallu mandal of Chittoor district, A.P. It is cultivated in an area of 267 hectares with average yield of 45-55 tonnes per hectare.

The crop is cultivated throughout the year under drip irrigation system. Even though drip system is adopted, some farmers are using fertilizer doses indiscriminately through soil application for crop production.

Some of them are applying excessive dose of water soluble fertilizers along with drip irrigation as recommended by local private companies.

Cultivation cost

As a consequence, cost of cultivation has been increasing indirectly with heavy doses of fertilizers since farmers are investing more either for daily application of water soluble fertilizers through drip irrigation or for soil application of complex fertilizers.

In such conditions, tomato crop sometimes could not assure guaranteed profit to the farmers due to downfall of market prices especially at the time of market glut.

Frontline demonstrations on fertigation in tomato has been undertaken by RASS-Krishi vigyan Kendra in different villages of Chinnagottigallu mandal under NABARD lead crops project with an objective of enhancing crop productivity with lower doses of fertilizers.

This technological intervention has brought about not only considerable reduction in cost of cultivation with lower doses of fertilizers and but also led to higher crop yields.

Intervention

As a latest technological intervention, fertigation schedule with 50 per cent recommended doses of fertilizers was demonstrated in a large scale adoption. KVK has given water soluble fertilizers such as 50kg urea, 25kg multi-k and 25kg calcium nitrate free of cost for demonstration purpose.

Technical knowhow was also provided on foliar application of micronutrients, IPM practices (yellow sticky traps, trap crop, border crop).

Result a 33.3 per cent yield increase was obtained in the demonstration plot saving about Rs.1,37,500 on expense on inputs.

(Mr. P.S.Sudhakar and Mr. S.Sreenivasulu, both subject matter specialists, Horticulture, RASS-KVK, Tirupati, mobile: 9908836684, email: rasskvk@gmail.com)

60pImport duty on sugar hiked

The Union Cabinet on Wednesday, decided to hike the import duty on sugar to 40 per cent from the current 25 per cent to check the slide in domestic prices of the sweetener and enable the industry to clear cane arrears to the tune of Rs.20,099 crore.

This is in line with the demand raised by the industry, cane growers, and State governments with whom the government recently held a series of meetings. However, no decision was announced on the demand to create a buffer stock of three million tonnes of sugar on government account.

The meeting, chaired by Prime Minister Narendra Modi, also decided to waive 12.6 per cent excise duty on ethanol blending for the next sugar season. The saving will be passed on to the sugar industry/distilleries. It is mandatory for millers to produce five per cent ethanol from molasses for blending with petrol.

At the same time, the government has decided to end duty-free raw sugar imports. Under the Duty Free Import Authorisation (DFIA), exporters of sugar could import duty free permissible quantities of raw sugar for subsequent processing and disposal. To prevent offloading of sugar made from such duty free imports in the domestic markets, the DFIA scheme for sugar would be withdrawn.

The government has reduced to six months the period for discharging export obligations under the Advanced Authorisation Scheme for sugar to prevent possibility of any leakage of such sugar in the domestic market.

The government steps are to improve the price sentiments relating to sugar, said an official spokesman.

The last few years have witnessed over-production of sugar as compared to domestic requirement. This has depressed sugar prices with the mills having been constrained for liquidity, facing difficulties in clearing cane dues owed to the farmers and impacting incomes of 50 million sugar cane farmers. Similar conditions of subdued prices prevail in the global markets.

Sugar shares gain

Following the Union Cabinet decision to increase import duty on sugar to 40 per cent from 25 per cent, sugar stocks registered gains in an otherwise dull market.

The gainers included Bannari- amman Sugar Rs. 895 (6.67 per cent); Dhampur Sugar Rs. 31 (2.21 %), Sakthi Sugars (1.85 %), Andhra Sugars (1.24 %) and Triveni Engineering (4.14 %).

Market players felt that the measures would significantly change adverse price sentiments in respect of sugar and would improve the liquidity in the industry, facilitating the clearing of arrears to sugarcane farmers.

Mela serves as eye-opener on dwindling Kangayam cattle population

The 1,000-odd years old cattle mela at Kannapuram, near Kangayam, featuring genetically pure Kangayam cattle, which came to a close this week, is yet another wake up call for the different stakeholders to reformulate the strategies to save the breed from extinction.

This year, nearly 14,700 Kangayam cattle, which include 3,400 cows and remaining bulls/ oxen/ calves, were traded at the fair.

"It is a bit disappointing to hear the figures as nearly 1,00,000 cattle used to be traded about 15 years ago at this same event. It shows that the breeding has come down. However, a good sign is that the farmers who brought the cattle got prices as high as Rs. 1.37 lakh for a pair of oxen showing that the breed still has the potential to fetch premium value," K.S.M. Karthikeya, managing trustee of Senapathy Kangayam Cattle Research Foundation, which is involved in in-situ breeding of Kangayam cattle for six decades, told *The Hindu* .

According to Mr. Karthikeya, the ban on jallikattu and rekla race brought down the demand for Kangayam cattle.

"On the breeding front, the decrease in the acreage of 'Korangadu', a typical grazing area of Kangayam cattle, which contain about 29 species of trees and shrubs, and lack of adequate incentives to breed the native cattle species are causing the population to come down," some of the cattle farmers opined.

Conservationists like Mr. Karthikeya were of the opinion that the government should try to support marketing of milk from Kangayam cows separately through the network of Aavin and encourage zero budget farming using dung and urine of the cattle which could act as organic manure.

Encroachments near Suramangalam Uzhavar Sandhai removed

The city police removed all the encroachments near the Suramangalam Uzhavar Sandhai for free flow of traffic. The operation was continuing for the past 10 days.

The temporary stalls put up by the traders on the road side have been pushed back, giving adequate space for the movement of pedestrians and the vehicles. The parking of two-wheelers near the main entrance of the Uzhavar Sandhai was also hindering the movement of the visitors. The police have also regulated the parking of vehicles. The continuous presence of the police in the vicinity of Suramangalam Uzhavar Sandhai during the peak hours has thwarted the attempts of the traders to resume their business from the road side again.

The police action has been widely welcomed by the consumers, farmers and road users alike. “The encroachments were posing lot of difficulty to the common people. The police presence has brought the necessary change and much relief to the visitors and farmers. This arrangement should be continued”, says M. Ranimaindan of the adjacent Old Suramangalam and a regular visitor to the Uzhavar Sandhai.

Meanwhile, the issue of encroachments near the Uzhavar Sandhais in the district was raised in the recent farmers’ grievances day meeting.

K. V. Vetrimani of Kottavadi, who raised this issue, welcomed the steps taken for the removal of encroachments near the Uzhavar Sandhais in the city. He pleaded for similar action in all the sandhais in the district. V. R. Rajamanikkam of Veeranam complained about the unhygienic conditions prevailing inside the sandhais. The farmers start arriving at the sandhais from the villages by 4 a.m. itself. But there are no adequate toilets inside the markets. Moreover, frequent power shutdown before the break of dawn affects the farmers.

Mr. Rajamanikkam pleaded for more public toilets inside the sandhais and also uninterrupted power supply during the market working hours.

District to get two FPOs soon

The stage has been set for forming Farmer Producer Organisations (FPOs) in Dakshina Kannada, with two of them expected to be in place within the next two months.

One FPO each is to be formed in Bantwal and Belthangady taluks.

FPO is an important initiative taken by the Union Department of Agriculture and Cooperation for promoting and strengthening member-based institutions of farmers. In its 2013-14 budget, the Union government announced a maximum matching grant of Rs. 10 lakh per registered FPO to enable them to get working capital from financial institutions. In the budget, the government set aside Rs. 50 crore for the purpose, in addition to announcing creation of a Credit Guarantee Fund in the Small Farmers' Agribusiness Consortium, under the Union Ministry of Agriculture, with an initial corpus of Rs. 100 crore.

In the FPO concept, farmers, who are the producers of agricultural products, can form groups and register themselves under the Indian Companies Act. These can be created both at State, cluster, and village levels. It is aimed at engaging the farmer companies to procure agricultural products and sell them.

Supply of inputs such as seed, fertilizer and machinery, market linkages, training and networking and financial and technical advice to its member farmers are also among the major activities of FPO.

Yogesh H.R., Deputy Director, Department of Horticulture, told *The Hindu* that steps had been taken to form farmers' interest groups in villages as a first step in forming FPOs in Vitla hobli, Bantwal, and Kokkada hobli, Belthangady. Each farmers' interest group should have 100 members and a FPO should have a membership of 1,000 farmers. He said that 10 farmers' interest groups would make one FPO.

He said that Small Farmers' Agribusiness Consortium would be the nodal agency to monitor the forming of FPOs.

A non-government agency has been selected for forming the FPOs in the district under the department. The two FPOs are expected to be ready within two months.

Unlike members of cooperative societies, farmer members of FPOs would have more freedom, he said. The department of horticulture and the NGO would guide them in managing the FPO for three years. Later they would have to manage it on their own, he said.

Aavin "refuses" to buy "substandard" milk

A group of milk producers from Vallanaadu and Ottapidaaram in neighbouring Tuticorin district poured 960 litres of milk on the road at V.M. Chathram on the city outskirts on Wednesday afternoon after Aavin, which was hitherto procuring milk from them, refused to procure it anymore saying their milk "did not meet stipulated standards".

The milk producers said they were selling milk to Aavin at the rate of Rs. 27 per litre and were giving over 3,000 litres of milk every day to Aavin through their respective cooperative societies. When milk production went up in this region, a few private traders, after registering their names with Aavin as ‘associate members’, were selling milk at the rate of Rs. 25 per litre.

“Since Aavin has managed to get milk at a lesser price, the officials refuse to buy it from the cooperative societies at a higher price,” alleged M. Harichandran of Eechchantha Odai near Vallanaadu. Aavin officials said that as milk production in this region went up to 85,000 litres a day, 41,000 litres of milk was sold to the consumers here and the remaining 44,000 litres of milk sent to Thiruvananthapuram and Chennai.

“Since our Commissioner has ordered to buy only milk with 4 per cent fat content and 8 per cent ‘solids not fat’ content, we’re keen on maintaining the quality being procured by Aavin and selling quality product to our customers after processing it in our plant. Whenever our procurement staff happen to find “substandard” milk or milk that doesn’t meet the stipulated standard, they don’t buy it,” said a senior official of Aavin here.

50 rural youth groups get assistance for mechanised farming

Fifty rural youth groups have been formed in Vellore district during 2014-15. Each group has been given funds to the tune of Rs.10 lakhs to enable them to buy modern agricultural machinery and hire them to farmers. This scheme has been introduced to encourage mechanisation in agriculture and solve the problem of shortage of agricultural labour, said R. Nanthagopal, Collector of Vellore district. He was addressing newspersons during a press tour organised by the agriculture department to observe the agricultural activities in different parts of the district on Tuesday.

The Collector said that the Rs.10-lakh assistance comprised a government grant of Rs.8 lakh, the remaining Rs. two being contributed by the group itself. On the whole, Rs.five crores has been spent on the scheme, of which Rs. four crores is the government grant.

Equipment

With this assistance, the groups have procured equipment such as tractors, cultivators, rotavators, weeding implements, power sprayers, digging equipment and sowing equipment through the agricultural engineering department. The members of the groups have been provided three-month training on the operation of the agricultural equipment. The fund has enabled the members of the groups to improve their economic conditions by hiring the equipment to farmers needing them, the Collector said.

Presspersons saw the production of vermi-compost in the 8.5-hectare plot of Balan, a farmer in Kollakottai village in Arimalai village panchayat in Madhanur panchayat union.

The farmers have been enabled to form earthworm compost beds with a 50 per cent subsidy from the Department of Horticulture.

This bed enables the farmers to produce vermi-compost under the shade of the bed without the need to construct a thatched or concrete shed.

One hundred farmers in Vellore district are currently engaged in production of vermi-compost in such beds. Of the total cost of Ra.16,000 involved in forming the earthworm compost beds, the government gives Rs.8000 as grant.

Mango saplings

It has been decided to grow mango saplings on the 10-acre plot of Vasantharaj for demonstration purposes. Besides, small/marginal farmers are provided 100 per cent grant for installation of micro irrigation equipment, while the other farmers were given 75 per cent subsidy for the purpose.

Work on installation of the equipment is in progress in 505 hectares, according to the Collector.

Presspersons also saw the land of Krishnan in Vellakuttai village panchayat in Alangayam panchayat union where he was using an agricultural pumpset operating on solar energy.

Solar power

He had installed the pumpset at a cost of Rs.5.15 lakhs, with 80 per cent government grant.

Producing 4800 watts of power with the solar panel set up for the purpose, the farmer is able to energise his 6 HP pumpset-cum-motor.

Another technology which the agriculture department has adopted in Vellore district to facilitate recharge of groundwater is the installation of recharge shafts in 300-foot-deep borewells at a cost of Rs.50,000 under the Integrated Watershed Agriculture Scheme.

This shaft facilitates the recharge of groundwater in the borewells in the downstream areas of check dams with the help of the rainwater flowing down the hills.

Such a recharge shaft has been erected in Ilavambadi village panchayagt in Anaicut panchayat union.

Warning against misuse of subsidised fertilizers

Collector V. Rajaraman has warned against use of subsidised fertilizers for purposes other than agriculture. In a statement issued here on Wednesday, he said that it was a crime under Section 25 of the Fertilizer Control Order to use subsidised fertilizers meant for agricultural use.

Technical grade urea, DAP and potash could be bought from industrial dealers at market rates for other uses, the Collector said.

Transportation

He also warned against transportation of VAT-exempted fertilizers to other States, where the prices were high.

Imprisonment

Smuggling to other States and application of subsidised fertilizers for industrial purposes would attract imprisonment for seven years under the Essential Commodities Act, he said.

People with special needs given know-how on food technology

The Mysuru-based Central Food Technological Research Institute (CFTRI), a premier food research laboratory of the Council of Scientific and Industrial Research (CSIR), has taken a maiden step to empower persons with special needs to become successful entrepreneurs.

The institute on Wednesday reached out to the communities that don't have the same accessibility like the majority in society through the network of prominent volunteering organisations here.

Members of three such organisations saw the technologies developed by the institute at a workshop on "Enabling the Specially-Abled with CSIR-CFTRI technologies" on the institute campus.

Technologies that are user-friendly and successful to implement were demonstrated before persons with disabilities so that new opportunities open for them and they become successful entrepreneurs.

Technologies used in the preparation of papad, paushtik atta, sambhar powder and malted weaning food were demonstrated. These technologies can be adapted easily by the NGOs for supporting their livelihood towards a healthy society, according to the CFTRI.

Sharath Chandra, Director, Centre for Human Genetics, Bengaluru, inaugurated the workshop.

CSIR-CFTRI Director Ram Rajashekaran, CSIR-800 Coordinator Renu Agarwal and CISR-800 Convener M.N. Shashirekha were present.

In all it was a special moment for the members of Mathru Mandali Shishu Vikas Kendra, Asiana and the Mysore District Parents' Association for the Empowerment of the Developmentally Disabled (MDPAEDD), which are working for empowering persons with special needs, when they went around the sprawling campus and saw the technology that can be replicated commercially.

According to the institute, the workshop was aimed at developing their skillset for creating sustainable enterprises in future. The institute said it considers this an opportunity to network with all segments of the population for bringing them to the mainstream for the overall betterment of society.

"We have always felt a sense of social responsibility and wanted to work for the cause of people with special needs. I am sure the participants will benefit from the workshop. We wish that more number of companies and organisations replicate this initiative and contribute towards the betterment of special people" said Ram Rajashekaran.

One of the aims of this workshop was to give the persons with disabilities an impetus to be independent. By using scientific technologies, they will not only become independent and optimistic but it will help them raise their self-esteem, Ms. Renu Agarwal said. The use of hygienically, efficient and better processing techniques of CSIR-CFTRI with high nutrition will definitely help them be entrepreneurs, she added.

Free training on environmental studies at GITAM

GITAM University Remote Centre will organise two-week short term training program (STTP) on Environmental Studies at its HTP campus from June 2 to 12. According to N Shiva Prasad the programme is being organised in association with IIT Bombay under National Mission on Education through ICT funded by MHRD, Government of India. Engineering, diploma, post-graduate science institutes and Humanities faculty are eligible to attend this training program. There is no course fee for participation. The eligible faculty can register through online on or before May 20th . Interested visit www.it.iitb.ac.in/nmeict or call to Dr. S. Phani Kumar (76809 00988) or Dr. P.V.Nagendra Kumar (98853 57559).

Everyone needs a safety net, no one likes crop insurance

Two years ago, Satbir Singh took a crop loan ahead of the sowing season for wheat as he normally did earlier also. But after having borrowed Rs 2 lakh, this 10-acre farmer from Dadupurl village in Nilokheri tehsil of Karnal discovered a sum of Rs 3,740 added to his repayment liability — as premium for so-called crop insurance.

The Haryana government, then, was implementing a national agricultural insurance scheme that made buying of insurance compulsory for farmers taking crop loans from banks. Satbir was told that if his crop was destroyed, he would be entitled for compensation covering 40 per cent of his input cost.

That very year, the crop on two acres of his land suffered damage from inclement weather. Yet, Satbir's claim wasn't honoured.

This year, too, his wheat crop has been partially damaged, thanks to the untimely rains and hailstorms across the country's north-west grain bowl. But there is a minor consolation, as he would not have the premium added on to his loan repayment this reason. For that, Satbir is thankful to the Haryana government, which did not "notify" the Centre's insurance scheme for 2014-15.

COMMODITY WATCH

When global prices crash

Much of the current woes of Indian farmers can be ascribed to the crash in global prices of most agri-commodities in the last one year or so. Between March 2014 and March 2015, the FAO's benchmark Food Price Index (base year: 2002-2004=100) has fallen by 18.7 per cent from 213.8 to 173.8. The drop is even more — 27 per cent — when compared to the peak of 238 hit in February 2011.

LOW GLOBAL prices have impacted farmers in India in two ways. The first is by making exports more difficult — be it of cotton, basmati rice, maize, guargum, oilmeals, sugar, tea, or dairy products. The second is by rendering difficult any increases in minimum support prices (MSP) for crops, since that would risk misalignment with world prices and lead to even the prospect of imports.

THE COMBINATION of lower export demand and reduced scope for minimum support price hikes has meant that farmers are realising less from what are selling today. This is a far cry from the period between 2003-04 and 2013-14 when they benefitted from a global commodity boom, which resulted in both higher farm exports and steep MSP rises.

THE ACCOMPANYING TABLE SHOWS HOW GLOBAL PRICES OF MAJOR FARM COMMODITIES HAVE PLUNGED OVER THE LAST TWO YEARS.

COMMODITY	PRICE UNIT	CURRENT	YEAR AGO	2 YEARS AGO
Wheat*	$/bushel	4.76	7.09	7.17
Corn*	$/bushel	3.65	5.14	6.6
Soyabean*	$/bushel	9.77	15	14.09
Rice**	$/tonne	400	395	570
Palm oil***	$/tonne	588.33	816.75	750.04
Cotton°	Cents/lb	73.15	94.2	91.8
Sugar°°	Cents/lb	13.22	17.56	17.45
Coffee Arabica°°	Cents/lb	138.55	201.15	133.75
Rubber°°°	$/100 kg	177.65	207.05	288.2
Skim milk powder'	$/tonne	2,253	3,969	4,757

*Chicago Board of Trade, July futures; **White 5% broken, FOB Thailand; ***Bursa Malaysia Berhad quotes; °Cotlook 'A' Index; °°Intercontinental Exchange, July futures; °°°RSS-4 Grade, Bangkok; 'Fonterra GlobalDairyTrade auctions.

— HARISH DAMODARAN

"The insurance premium was an additional burden for us. When we don't receive anything when our crops are damaged, why opt at *all* for insurance?" he asks.

Haryana's agriculture minister, OP Dhankar recently declared that his government would very soon set up an exclusive Crop Insurance Corporation on public private partnership mode with the aim of covering *all* farmers in the state suffering crop damage due to adverse weather events.

But going by the experience of farmers with crop insurance so far, it may not have many takers. Satbir's is a text book case of why farmers aren't particularly keen on crop insurance. The claims are calculated on the basis of formulae that even banks and insurance companies would admit to be flawed.

Of 16.7 lakh farming families in Haryana as per the 2011 Census, only 2.14 lakh farmers were covered by the Modified National Agriculture Insurance Scheme (MNAIS) upto Kharif 2013, the last crop season for which it was notified by the Haryana government notified the scheme.

Under the scheme, the concerned insurance company, on receiving claims from individual farmers, conducted four crop cutting experiments through random sampling in their entire villages to estimate yields and assess losses. The processing of claims happened only when the entire village was seen to have suffered crop damage.

"It is not possible for the crop in an entire village to be uniformly destroyed. The fields of some farmers would have suffered more damage than those of others. This system of calculation was itself unfair", notes Sewa Singh Arya, president of the Haryana unit of Bharatiya Kisan Union (BKU).

But even this was an improvement. When the scheme was started in its original "unmodified" form in 2008-09, the unit for computing yield losses was at the block (tehsil) or sub-district level. It was subsequently brought down to a “cluster of villages”, before eventually coming down to the individual village level.

“Insurance has meaning only if damage is assessed for every acre. If a farmer has 10 acres and 2 acres of crop has got destroyed, he should be entitled to compensation for even that. Moreover, a 40 per cent pay-out against input costs is inadequate for a farmer who has lost everything, as has been the case this time”, adds Arya. According to Dhanpat Singh, Additional Chief Secretary (Agriculture) of the Haryana government, farmers resist insurance because they think it is a waste of money.

“They are not yet willing to accept the logic of having to pay premium if there is no crop damage. Though the premium itself is not much, farmers feel that way,” he admits.

Pawan Kumar, a farmer near Karnal, complains of having been forced to take insurance while availing of a crop loan. “I had a tiff with the insurance agency officials and managed to escape paying the premium,” he claims. There are other problems as well. The previous Congress government under Bhupinder Singh Hooda had roped in as many as 11 insurance companies to provide crop insurance across Haryana.

“Under the terms, the insurance companies were supposed to install 10 observatories across the state for monitoring temperatures and other weather-related parameters. However, they did not do so because the state government had not cleared their pending dues towards premiums”, said Dhanpat Singh.

THE HINDU BusinessLine

Cotton body lowers output estimate on unseasonal rain

Unseasonal rains in central parts of the country including Gujarat, Maharashtra and Madhya Pradesh has resulted in loss of about five lakh bales (of 170 kg each) of cotton this season to September.

The Cotton Association of India has estimated that the cotton output this year to drop to 391 lakh bales (lb) against 396 lb estimated in February.

The main reason for drop in the crop size by 5 lb is largely due to untimely rain in the central zone, said CAI in a statement. The Association has projected total cotton supply at 461 lb with opening stocks of 59 lb and imports of 11 lb. The total demand has been pegged at 310 lb including 274 lb from mills, 26 lb from small scale units and 10 lb for non-mills consumption. This leaves a surplus of 151 lb for export. However, it said, exports are lagging far behind compared to last year and there is only a limited demand for Indian cotton in the market, said Dhiren N Sheth, President, CAI, in a statement.

Coconut output down 10% last fiscal

Coconut production in major growing states in the country declined 10 per cent in 2014-15 compared with the previous year.

Crop production in Andhra Pradesh, Kerala and Karnataka declined, while production improved in Tamil Nadu, Odisha, West Bengal and Maharashtra, a statistical survey conducted by the Coconut Development Board (CDB) revealed.

Coconut production in Kerala decreased 17.48 per cent last financial year. Production dropped from 5,921 million nuts in 2013-14 to 4,886 million nuts in 2014-15.

Deficient rainfall and pest/disease were the causes reported for the decline in production. A sharp decline was observed in Idukki, Kottayam and Kollam districts. A significant increase in yield was observed in Alappuzha.

Kozhikode is the highest coconut producing district followed by Malappuram.

In Tamil Nadu, there was a slight increase of 3.90 per cent – from 4,668 million nuts to 4,850 million nuts. Production in Krishnagiri and Tirunelveli districts decreased, while it increased in Tiruppur, Thanjavur and Kanyakumari districts. Coimbatore is the largest producer of coconut followed by Thanjavur.

Production in Karnataka declined from 4,337 million nuts to 4,126 million nuts, down marginally by 4.87 per cent. Output dropped in Tumkur and Hassan as also in the coastal districts of Udupi and Dakshina Kannada.

The highest drop in yield was in Andhra Pradesh with the production declining to 781 million nuts in 2014-15 from 1,678 million nuts in 2012-13.

The decline is reported to be the after-effect of two cyclonic storms that lashed the Andhra coast in last two years. Production declined in all the four major coconut growing districts of East Godavari, West Godavari, Srikakulam and Visakhapatnam.

Coconut production increased 19.75 per cent in Odisha compared with 2012-13 output. The estimated production was 491 million nuts, while the production recorded in 2012-13 was 410 million nuts.

In West Bengal, production increased 11.34 per cent to 442 million nuts. Production in Maharashtra increased by 15.85 per cent to 187 million nuts. Output in Sindhudurg, Thane, Ratnagiri and Raigad increased.

Copra traders look to Indonesia for supplies

Copra shortage has forced coconut oil traders in Kerala and Tamil Nadu to look for alternate sourcing options to meet the demand.

Thalath Mahmood, Director, Coconut Oil Merchants Association (COMA), said that several traders – including some corporate companies engaged in branded coconut oil business – are now looking at sourcing copra from Indonesia, the Andamans and Lakshadweep. However, the quality of such copra is paramount and traders are reportedly waiting for samples before proceeding with.

Rising demand

He attributed the tight supply of copra to higher demand for coconut bi-products such as coconut powder, virgin coconut oil, desiccated coconut, etc. Apart from this, several powder manufacturing companies at Tiptur in Karnataka have started purchasing de-husked coconut from Kasargod at Rs. 32/kg to convert it into copra. The daily movement of cargo is estimated at 30-40 loads, he said.

Meanwhile, the coconut oil market both in Kerala and Tamil Nadu witnessed a drop of Rs. 200 a quintal at Rs. 13,800 and Rs. 13,200 respectively. Copra prices also moved southwards touching Rs. 9,900 (Rs. 10,100) in Kerala and Rs. 9,800 (Rs. 10,000) in Tamil Nadu. However, some corporates have started purchasing copra at higher prices from the open market in the last two days to meet their production requirements, he said.

Bharat Khona, former Board member, COMA, said that the loose coconut oil market in Tamil Nadu registered a decline at Rs. 1,850 for 15 kg from Rs. 1,950. However due to tight supply, copra arrivals have not picked up in both these States.

Rain-affected area more than doubles to 190 lh

The Agriculture Ministry has raised its estimates of the area affected by unseasonal rainfall and hailstorm between February-end and early April.

The revised figure on the basis of State-wise data has more than doubled from the April 16 estimate of 93.82 lakh hectares (lh) to189.81 lakh hectares (lh) as of April 24.

"The change is mainly because of the change in data with reference to Uttar Pradesh, Rajasthan and Bihar. The revised data is based on the information provided by State governments," said an official statement.

This is the sixth report published by the Ministry and the figures have deviated significantly for the three States mentioned, particularly for UP, where the damage estimate has increased from 29.64 lh in the fifth report to 95.17 lh.

For Rajasthan, the total area is now estimated to be 30.57 lh, up from 16.89 lh in the fifth report, while for Bihar it increased to 14.58 lh from just 1.86 lh estimated in almost each of the previous five reports.

The 'Agrarian Crisis' debate was taken up in the Rajya Sabha on Monday and Agriculture Minister Radha Mohan Singh provided the Upper House the revised figures.

WhatsApp turns a trading platform for Gujarat farmers

Online trading Farmers from across Gujarat, mostly from Saurashtra and central parts, find the system very beneficial

Rajkot-based agriculture entrepreneur Dinesh Tilva has turned popular social media app WhatsApp into a classifieds marketplace that allows farmers to trade goods such as grains, vegetables, seeds, irrigation equipment and tractors, among others.

He moderates all the ads and broadcasts them to nearly 1,500 contacts in his smartphone. Most of these contacts are farmers, while some are traders of fertilisers, seeds, farm equipment, while a few are agents dealing in land and property.

“I started this about two years ago and now I am connected to nearly 1,500 farmers and traders. They send me a post and I broadcast it through WhatsApp,” Tilva says, adding that such is the flooding of posts that every morning he has to format the app. Farmers from across Gujarat, mostly from Saurashtra and central parts, find the system beneficial for them.

“This practice is very convenient for us. If we wanted to buy a Gir-breed cow, it usually takes an entire day to locate one and if it isn’t fit, you just waste the day. But now, we can see the picture of the cattle and decide accordingly. It saves time, energy and money,” says Jagani of Kuvadva village.

“We get valuable information through this. It gives us the power to negotiate directly with the buyer or seller,” said Kher Vanrajsinh from Halvad, who recently posted an ad to sell 20 kg garlic.

Tilva says most farmers own entry-level smartphones which are compatible with WhatsApp. “Those who are unable to participate in the system are assisted by their peer or relatives,” says Tilva.

Tilva has also installed the app on his desktop computer and says he is a one-man army and does not charge for the service.

Pulses import surges to record 4.1 mt

Shipments zoom last fiscal as erratic monsoon, unseasonal rain hit domestic output

Imports of pulses have topped a record 4.1 million tonnes in 2014-15 fiscal as erratic monsoon affected production and the recent unseasonal rains affected the standing rabi crop as well.

According to official data, pulses imports breached the 2012-13 record high of 3.8 million tonnes during April-January period of the last fiscal valued at Rs. 14,978 crore. In the corresponding period of the 2013-14 fiscal, pulses imports were 3.17 million tonnes, valued at Rs.11,084 crore.

Bullish outlook

“Imports for 2014-15 are expected to touch 4.5 million tonnes,” said Pravin Dongre, Chairman of the Indian Pulses and Grains Association (IPGA), the apex trade body. “Imports are likely to remain high in the current financial year too,” he said.

The possibility of a weak monsoon coupled with rising domestic consumption are expected to aid imports this year. However, the global supply scenario may not support any significant increase in India’s imports from last year levels. Also, rise in prices in recent months could affect the shipments.

“Global prices have moved up by an average of 20-30 per cent in the last few months and are expected to remain firm,” Dongre said.

Domestic prices have also moved up in the recent weeks on concerns the recent unseasonal rain affecting the crop in key producing States of Madhya Pradesh and Rajasthan . “Kharif production was lower on delayed arrival of monsoon last year. Also, the rabi acreage was less, resulting in lower output,” said Ajitesh Mullick, Vice-President at Religare Commodities.

According to the second advance estimates, production of pulses for 2014-15 is estimated at 18.43 million tonnes, down by 1.35 million tonnes over previous year’s output. Chana production is pegged at 8.28 million tonnes against the previous year’s 9.53 million tonnes. The output of urad is expected to shrink to 1.61 million tonnesfrom 1.7 million tonnes.

Trade sources said the actual pulses output could turn out to be lower than the Centre’s estimates as the second advance estimates, put out on February 18 by the Ministry of Agriculture, have not factored in the crop losses caused by the unseasonal rain in recent weeks.

“Prices have firmed up by 10-15 per cent in the past one month on concerns of crop loss. They are likely to stay firm,” said Bimal Kothari, Vice-Chairman, IGPA. The country still relies on imports to meet the growing demand as pulses account for a major source of proteins for a large section of population. The rising income levels, especially among the middle class , are driving consumption, Kothari said. Importers have started contracting higher volumes for the current year. “We are looking to import more this year — about 30,000 tonnes as against 20,000 tonnes last year,” said Kothari, who is also the Managing Director of Pancham International, an importing firm.

Duty free

After edible oils, pulses form the second largest commodity in the country’s food import basket. India is the largest producer, consumer and importer of pulses in the world. The Centre has extended duty-free imports till September. Pulses imports, according to DGCIS, have increased from 1.3 million tonnes in 2004-05 to 3.8 million tonnes in 2012-13. In 2013-14, pulses imports declined to 3 million tonnes due to increased domestic production.

Meeting change in food habits

India needs to diversify its agriculture, break out of the cereals trap

Producing less of nutritional items — In million tonnes

India produces a lot more of cereals and a lot less of milk and vegetables
Food requirement over various age, gender and work categories and their production, March fiscal year-end, 2011

	Requirement	Production	Excess/(deficit)
Cereals and millets	153.7	283.0	129.3
Pulses	32.8	18.0	(14.8)
Milk and milk products*	166.3	121.8	(44.5)
Roots and tubers	72.9	146.6	(45.1)
Green leafy vegetables	41.0		
Other vegetables	77.8		
Fruits	44.2	74.9	30.7
Sugar	13.2	24.5	11.3
Fat	13.6	NA	NA

*in million litres

Notes: (a) The requirement of pulses is also met by non-vegetarian items like egg, meat, chicken and fish
Source: NIN, Census 2011, NSSO 68th round, Kotak Institutional Equities

The country's agriculture has mostly revolved around inputs required to make farming viable and successful.

But it is high time that agriculture is viewed from the perspective of the output that country wants from the sector.

Nutrition guidelines that the National Institute of Nutrition (NIN) lays down specify food calories and portions for individuals in various age, gender and work categories.

NIN guidelines go into great detail on the quantum of calories that Indians of various work-profiles and gender need and the food source from which such calories should come from.

Looking at the NIN-recommended portions of food for each category of people alongside data from census and NSSO, it is easy to determine the country's annual food quantity requirements.

It is worth noting that the peak recommended calorie requirements in India for men and women (3,490 and 2,850 calories respectively) are 15-20 per cent higher than those in the US (3,000 and 2,400).

This analysis hence quantifies the various types of foods that we need and hence what our farmers need to produce.

Of course, our agriculture is not closed for imports or exports but the country is – and strives to be – self-sufficient in agriculture.

We need to take a couple of assumptions into account here: (1) this calculation will assume that everyone in the country gets their recommended dietary allowance (we, of course, know that this is not the case and there is significant inequality in the availability of both the quantity and quality of food and calories) and (2) there is no wastage between production and consumption (and this too is not a very practical assumption).

Unfortunately, both these points are linked: if there were lesser wastage of food in the supply chain, fewer will go hungry or lose out on essential nutrients.

Having put in place the basic framework, we note that India currently produces a lot more of cereals than it needs and much less milk and vegetables (see table).

It is also evident that the country produces almost twice its nutritional requirement of fruits and sugar.

Fruits have been a large contributor to food inflation but the country seems to grow far more than it needs (exports cannot explain such a large difference).

This would underscore concerns about (1) harvests that never reach the table thanks to problems with quality, storage and transportation; or (2) simply be faulty data.

Historically, governments have found it easy to procure and distribute foodgrains.

The government keeps the support price of cereals high, which makes it remunerative for marginal farmers to produce them. Similarly, given that India's subsidised public distribution system (PDS) offers mainly cereals by way of food, perforce, it becomes the food of choice for low economic groups.

The country needs to break out of this cereal trap and diversify its agriculture.

As it becomes richer and a more services-dominated economy, its food requirement will dramatically alter and in turn, will and should impact its production profile.

This is predicated upon both: the changes in occupation structures as more people move out of agriculture and into services and the increasing prosperity of the citizens, making them demand more variety on their plate.

This calculation takes into account the food requirement for humans.

As the citizens become more prosperous and eat more meat, it will result in an increase in cereals cultivation for fodder.

Meeting the country's changing food needs calls for new thinking on agricultural infrastructure as well as incentives.

If India is to feed its burgeoning population, policies must allow price signals to work, make it easier for farmers to sell their insubstantial land holdings (via better property records and liquid markets), incentivise processing of horticulture produce and create strong supply chains.

The writer is Associate Director, Kotak Securities and A

Go long on MCX copper

Copper futures traded on the Multi Commodity Exchange (MCX) are continuing to trade in ranges between Rs. 369 and Rs. 390 over the last one month.

The contract recorded a high of Rs. 389.6 on Monday and is reversing lower. It is currently trading near Rs.386.

Though the sideways range remains intact, the down move this week seems to lack momentum.

The price action on the daily chart suggests that the contract could take support at Rs. 380 in the coming days.

A reversal from here will have the potential to breach the range above Rs. 390 and take the contract higher, thereafter.

Also the sharp reversal from Rs. 368 in the last three weeks which is denoted by long wicks on the weekly candle stick chart implies that that the contract is receiving strong buying support at every decline.

This leaves an increased possibility of the contract breaking the range upward rather than downward.

Having said this, a break and a rise above Rs. 390 towards Rs. 397 – the 200-day moving average resistance level is more likely to be seen in the coming days.

Traders with a short-term perspective can go long. Stop-loss can be placed at Rs. 378 for the target of Rs.396.

Dips to Rs. 380 can be used to accumulate long positions.

This bullish outlook will get negated if the contract falls decisively and records a strong daily close below Rs. 380 in the coming days.

In such a scenario, a fall to Rs. 375 and Rs. 370 is possible.

(Note: The recommendations are based on technical analysis. There is a risk of loss in trading.)

Business Standard

Indian agriculture's 'Gujarat Model'

As harbingers of agricultural distress become visible, turn to Gujarat for answers on how to address it

A bumper potato crop in Gujarat coupled with oversupply in international markets prompted a crash in prices earlier this year, to as little as Rs 4 a kg. Local farmers launched an effective protest, spilling potatoes across a highway to stall traffic. The state government intervened, providing extra cold storage to house the surplus and subsidies to enable the farmers to ship their bumper crop to other states where prices were higher. "The farmers here are very vocal and force the government to take decisions and the government takes decisions quickly," says D J Pandian, Gujarat's chief secretary. "We put in place (extra) cold storage very quickly."

The agrarian crisis unfolding in parts of India must be met with similarly speedy responses across the country if it is not to get worse. There has been a rush to opine that the solution is to move farmers out of their Steinbeckian misery to higher-productivity factory jobs. This is about as original as arguing that if you want to see the dawn, you must look east early in the morning. Of course, millions of farmers must make that transition - but the question is, how quickly can industry and the services sector create jobs to absorb them, and how quickly can they be trained for such jobs? The rational answer must be that it will take a couple of decades - if it happens at all.

In the meantime, the state and the Centre must invest in making agriculture more efficient in the way it uses water, seeds and fertilisers and in building storage chains even as India faces the trap of too many people trying to grow not enough food with too little land with ever more scarce water supplies. Writing in*The Indian Express*, the noted agricultural economist Ashok Gulati puts the problem forcefully, "Policymakers have to answer this crucial question: Is it acceptable to have an overall GDP growth of seven to nine per cent with less than two per cent growth in agriculture?"

How we respond to that question and how we make up for lost decades in transitioning to labour-intensive manufacturing will determine whether this country ends up a basket-case, or makes the arduous journey to levels of even moderate prosperity.

The good news in agriculture is that Gujarat and even Rajasthan show it can be done. These two states succeeded in the first decade of the 21st century in raising agricultural growth annually by 9.8 and 9.6 per cent, respectively. The bumper dividend of the Narmada waters notwithstanding, the success in Gujarat's agriculture has, in fact, been more notable than its success in manufacturing. Dilip Patel, who runs oil mills and yarn producing factories in Mehsana, ticks off a few of the government's initiatives: building small canals to deliver water to farmers' fields; the dispersal of farming knowledge as well as subsidies for better seeds and fertilisers through events like Krishi

Mahotsav; the use of Bt cotton; and the recent push on drip irrigation. Thriving rural cooperatives and excellent roads that extend into rural areas as well as a regular supply of electricity complete the picture.

The problem of the average landholding being just 1.15 hectares makes the challenge almost insurmountable, but with half the population dependent on agriculture, governments are going to have to try much harder to, say, introduce drought-resistant crops as water scarcity becomes ever more acute and reform our agricultural marketing mechanisms. The country also needs to redouble its efforts to improve the adoption of crop insurance - only about five per cent of wheat farmers had insurance in 2012. Recent reports in this paper and other business dailies show that farmers not only tend not to know about crop insurance, but that the system for rural finance (both for loans and insurance) is stacked against them. Loans in many cases require bribes, while those with insurance have found settling claims after the unpredictable weather of the past few months has been riddled with definitional issues or the classic bureaucratic runaround at which our government institutions are undisputed world champions. As Mr Gulati points out, instead of waiting for months for often corrupt village patwaris to pronounce on the extent of a farmer's crop losses, living in the 21st century affords us the opportunity to use satellite imagery to quickly approximate those losses. "There is available technology to capture each farm on a pixel, linked to farmers' accounts and unique identification numbers... if there is a hailstorm tonight in any area, within 24 to 48 hours... compensation money (can) be transferred to farmers' accounts," he writes. Now, that would be a life-affirming definition of financial inclusion.

Along with such carrots, state governments need to do better at halting the profligate misuse of water that has been widespread across so many of our farms. Gujarat instituted a ban, recently relaxed, on new borewells in the northern part of the state in 2004. India's water crisis gets worse with every year; fresh water per capita availability has declined from 3,000 cubic meters to 1,123 cubic meters over the past half a century, according to a recent charticle in Mint. Water riots are likely to be tomorrow's news story with the sickening regularity that farmer suicides are today's - and we will have those as well.

We have to give our farmers a better chance to avoid the lives of despair so many endure while recognising that even well-irrigated plots generally cannot feed their families because the average holdings are so small. On some crops, India's agricultural productivity lags not only Southeast Asia but also Ethiopia.

All of which does, in fact, point to the need to simultaneously create conditions for labour-intensive industries like clothing, toys and footwear to choose India over Bangladesh and Cambodia as they continue to exit China - instead of losing out to these countries. This government needs to embed more technocrats - from agri-economists, to experts on generating employment in low-skilled services and manufacturing, to Indian businessmen operating in China who have built labour-intensive manufacturing businesses outside India. The recurrent farmer suicides suggest we are early in a narrative that promises many more tragic endings. The generalists in the Indian Administrative Services and our easily distracted political class urgently need all the help they can get.