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Natural farming: HP farmers to train their counterparts in other states

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Himachal Pradesh farmers, who have scripted success stories in natural farming over the last three years and are fully adept in this non-chemical, low cost and climate resilient technique, will shortly be sent as 'master trainers' to train farmers in other states of the country.

This was disclosed by Gujarat Governor, Acharya Devvrat at the 'Prakritik Kheti Utkrisht Kisan Sammelan' organized by Prakritik Kheti Khushhal Kisan Yojana (PK3Y) here on Thursday.

Acharya Devvrat said Himachal Pradesh had taken the lead in the entire country in natural farming and lauded the Himachal model of natural farming. "The Prime Minister has announced that natural farming would be promoted in the entire country in the interest of farmers and



farming. For this, the farmers of Himachal Pradesh would be prepared as resource persons for training farmers in other states," he said.

Devvrat asked the PK3Y officials to devise a course for such farmers who will go out of state as 'master trainers' so

that they know each and every detail of the technique, the preparation of farm inputs and the related issues and can answer the questions raised by others in the field effectively and convincingly.

He appreciated Himachal Chief Minister, Agriculture

minister and other officers associated with natural farming in the state and particularly mentioned that State Project Director and Secretary, Agriculture, Rakesh Kanwar and Executive Director of PK3Y, Professor Rajeshwar Chandel, who is now Vice Chancellor of Dr YS Parmar University of Horticulture and Forestry, Solan have shown exemplary commitment to make natural farming a success in Himachal.

"I had started the campaign for natural farming and had motivated farmers when I was Governor here. When I left the state to take over as Governor of Gujarat, 50,000 farmers were in natural farming. After that, more than 1.20 lakh more farmers have taken up this technique in the state, which is a very good progress," he said.

Acharya Devvrat said chemical farming is responsible for climate change to the extent of 24 per cent. "If we adopt the chemical free technique of

natural farming, it will help preserve the environment and agriculture for future generations. It will also check various diseases, whose incidence is increasing due to the use of chemical fertilizers and pesticides," he said.

He said the demand for natural produce has increased after Covid-19 pandemic and people are now aware of the value of nutrition rich chemical free food. He said the farmers should adopt natural farming technique with honesty, so that they are able to provide nutrition rich chemical free produce to the consumers.

He said the time has come when the farmers of Himachal Pradesh should try to build up faith as 'family farmers' rather than the need of having 'family doctor'. He said the natural farming technique can save land, cows, environment and water and it will increase the income of farmers. He called for a tie-up between the State

Marketing Board and PK3Y to provide a better market platform for the natural produce in Himachal Pradesh.

Himachal Pradesh Agriculture minister, Virender Kanwar said the hill state has marginal and small landholders and the farmers here use more chemicals to increase productivity.

But this has badly affected the soil quality and its ill effect is visible on human health also. He said in view of this, the state government had started the Prakritik Kheti Khushhal Kisan Yojana (PK3Y) with the guidance of Acharya Devvrat, who was then the Governor of Himachal Pradesh. "We have seen good results of this Yojana in four years and we are heading towards becoming a Chemical Free State." He said it was a matter of joy that farmers of other states are also getting associated with the natural farming movement started by Himachal Pradesh.

CBI books 15 for illegal export of fertiliser

Searches in 3 states; two firms, their proprietors in Gujarat among accused; scam resulted in loss of Rs 52.8 crore to exchequer

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The Central Bureau of Investigation (CBI) on Friday conducted simultaneous search operations in 15 locations in Gujarat, Rajasthan and West Bengal as part of an investigation into a nationwide scam that resulted in a loss of Rs 52.8 crore to the exchequer. The CBI on June 15 registered a case against 15 accused including private companies based in the three states

and their directors, proprietors, partners and others in connection with the scam.

Sharad Morarji Kakkad, Proprietor of M/s Sharad Agro Centre in Deesa and Nitin Kumar Shah, Partner of M/s Kusum Traders in Vadodara in Gujarat were among the accused.

A CBI statement about the case said that Muriate of Potash (MOP), a restricted item that can only be exported with the Government of India's (GoI) permission, was allegedly shipped out of the country as Feldspar Powder (Industrial Salt) to

overseas buyers.

The statement said that imported MOP is supplied via M/s Indian Potash Limited (IPL) to farmers through its authorised dealers at subsidised rates and later a subsidy is claimed from the GoI.

The probe found that to cover up the illegal export of MOP, a fictitious purchase of Feldspar Powder through dealers in Rajasthan and Kolkata was allegedly shown in the books of these accused firms.

The statement said the accused hatched a conspiracy from 2007 to

2009 to illegally export MOP. They were aided by unknown officials of the Customs Department and M/s Indian Potash Limited who fraudulently helped them purchase and export 24,003 MT of MOP under the guise of Industrial Salt/Feldspar Powder. This resulted in a subsidy loss of Rs52.8 crore (approx) to the GoI, it said.

Those who were booked in the case and whose premises were searched on Friday include M/s Saraf Impex Pvt Ltd, Kolkata; Pravin Saraf, Director of M/s Saraf Impex Pvt Ltd;

Dinesh Chandra Agarwal, Proprietor of M/s Shivam Chemicals; Kailashpuri Goswami, Proprietor of M/s Kailashpuri Chemicals & Minerals Industries; Shantilal Mali, Proprietor of M/s Sandeep Suppliers and M/s Ramdev Chemicals Suppliers & Contractors; Sumerpur Goswami, Proprietor of M/s Krishna Agro Agency; Vijay Singh Gohil, Partner of M/s Jay Bhawani Roadlines; Brijesh Jayram Nath, Proprietor of Swastik Shipping Services; Ashok Babulal Agarwal, Partner of M/s Kumar & Brothers, Dholpur, among others.

Tomar to take up industry's demand on reducing GST on pesticides with FM

PTI ■ NEW DELHI

Agriculture Minister Narendra Singh Tomar on Thursday assured the agrochemicals industry that he would take up the industry's demand to reduce GST on pesticides to 5 per cent from 18 per cent with the finance minister.

Addressing the '11th Agrochemicals Conference 2022' organised by FICCI, the minister stressed on the need for crop diversification and said farmers should grow more



horticulture and costly crops.

On the industry's demand to reduce GST on pesticides, Tomar said the matter related to this subject is being dealt by the GST Council. "I will meet and apprise the Finance

Minister about your demand," he said. Tomar said he would take up the issue with the finance ministry on behalf of the industry but a final decision on this would be taken by the GST Council.

The minister was responding to the demand made by FICCI Crop Protection Committee Chairman R G Agarwal that the GST should be reduced to 5 per cent from 18 per cent, as it is in the case of fertilisers. This will bring down the cost and promote usage of crop-protection chem-

icals. Tomar also emphasised on making agriculture profitable by increasing production and crop productivity, besides reducing input cost as well as post-harvest crop losses.

He highlighted that the Centre has launched many programmes in the last eight years to boost agriculture sector and double farmers income. Tomar said the Centre, along with States, is making efforts to provide new technologies to farmers. The government is in the process to set up 10,000 FPOs (farmers producer organ-

isations) to improve income of farming community, he added.

The minister said country is self-sufficient in foodgrains production while the government is making efforts to boost oilseeds and pulses output in a mission mode. He spoke about the need to undertake research in agriculture sector in the field of new seed varieties to improve crop yield.

Talking about fertilisers and pesticides, Tomar said there is a need to promote balanced use of these crop protection products. He agreed

that there is no unjudicious use of fertilisers and pesticides in India but asked industry to work on alternative products as farmers are also taking interest in organic as well as natural farming.

Tomar said government and the industry should work together to create awareness among small and marginal farmers about benefits of agrochemicals. The minister said Krishi Vigyan Kendras (KVKs) are working in this direction but there is a need to make concerted efforts.

Cabinet approves computerization of primary agriculture credit societies

STATESMAN NEWS SERVICE
NEW DELHI, 29 JUNE

The Cabinet Committee on Economic Affairs (CCEA), chaired by Prime Minister Narendra Modi, on Wednesday approved Computerization of Primary Agricultural Credit Societies (PACS) with the objective of increasing efficiency of PACS, bringing transparency and accountability in their operations; facilitating PACS to diversify their business and undertake multiple activities/ services.

This project proposes computerization of about 63,000 functional PACS over a period of five years with a total budget outlay of Rs 2516 crore with Government of India share of Rs 1528 crore.

The Primary Agricultural Cooperative credit societies (PACS) constitute the lowest tier of the three-tier Short-term cooperative credit (STCC) in the country comprising of approx 13 crore farmers as its



members, which is crucial for the development of the rural economy. PACS account for 41 per cent (3.01 crore farmers) of the KCC loans given by all entities in the country and 95 per cent of these KCC loans (2.95 crore farmers) through PACS are to the Small and Marginal farmers.

The other two tiers viz State Cooperative Banks (SCBs) and District Central

Cooperative Banks (DCCBs) have already been automated by the NABARD and brought on Common Banking Software (CBS).

However, the majority of PACS have so far been not computerized and still functioning manually resulting in inefficiency and trust deficit. In some of the states, stand-alone and partial computerization of PACS has been

done. There is no uniformity in the software being used by them and they are not interconnected with the DCCBs and SCBs. "Under the able guidance of Amit Shah, Minister of Home and Cooperation, it has been proposed to computerize all the PACS throughout the Country and bring them on a common platform at National level and have a Common

Accounting System (CAS) for their day to day business," an official statement said.

Computerization of PACS, besides serving the purpose of financial inclusion and strengthening service delivery to farmers especially Small & Marginal Farmers (SMFs) will also become nodal service delivery point for various services and provision of inputs like fertilizers, seeds etc.

The project will help in improving the outreach of the PACS as outlets for banking activities as well as non-banking activities apart from improving digitalisation in rural areas. The DCCBs can then enrol themselves as one of the important options for taking up various government schemes (where credit and subsidy is involved) which can be implemented through PACS. It will ensure speedy disposal of loans, lower transition cost, faster audit and reduction in imbalances in payments and

accounting with State Cooperative Banks and District Central Cooperative Banks.

The project comprises of development of cloud based common software with cyber security and data storage, providing hardware support to the PACS, digitization of existing records including maintenance support and training. This software will be in vernacular language having flexibility of customisation as per the needs of the States. Project Management Units (PMUs) will be set up at Central and State levels. District Level Support will also be provided at cluster of about 200 PACS. In the case of states where computerization of PACS has been completed, Rs 50,000/- per PACS will be reimbursed provided they agree to integrate with/adopt the common software, their hardware meets the required specifications, and the software was commissioned after 1 February, 2017.

India@75: Need farmer-friendly policies to boost agriculture



Dr. C.D. Mayee

A renowned agricultural scientist & currently President, South Asia Biotechnology Centre, New Delhi

AGRICULTURE sector of India is vital for national economy as half of the population still is engaged in crop agriculture and allied fields. Contrary to popular perception, India's agriculture is a grand success story. With 11% of total global agriculture, India ranks second in the world in agriculture production as the leading producer of several commodities including food grains, cotton, cane, horticultural crops, dairy poultry aquaculture and spices. Agriculture production in 2019 was valued at USD 459 billion and the country's global trade in agriculture produce fetches more revenue than the services or even manufacturing. Agricultural GDP rose from USD 101 billion in 2001 to USD 459 billion in recent years showing remarkable growth and that too with substantial reduction in the workforce in agriculture. As the economy grew, the workforce engaged in this sector sharply declined from 60% in 2000 to 41% now. Still the current agricultural production has been ever increasing touching new heights; food grains 303 MT horticulture 334 MT, cotton 37 million bales of 170 kg each, milk 188 MT, fish, 13 MT, poultry 04 MT and 103 billion egg production, have been all records. In fact, except vegetable oils, India is not only self-sufficient but now planning for surplus management of agricultural produce. The real test of resilience of Indian agriculture is seen during the Covid-19 pandemic and subsequent lockdowns for nearly two years when all other sectors experienced setback, agriculture is the only sector that showed buoyancy registering a growth of more than 3% in GDP.

FOOD SECURITY ALARMS

India's population is likely to touch 1.7 billion by 2020. Thus, the growing population poses a challenge to food and nutritional securities when there is pressure on land due to urbanization, improved standard of living, changed food habits etc., generating great demand for diversified agricultural commodities. These challenges are further exacerbated by declining soil health, low nutrient content, occurrence of new biotic stresses and frequent droughts and floods due to climate change. In recent years the unprecedented change in the climatic conditions has posed a serious threat to crop, animal and fish productivity. Climate change will impact the lives of the people in India mainly due to erratic rainfall and raised ambient temperatures. The latest example of fall in the expected wheat output by nearly 8 MMT due to terminal heat in March during grain filling stage in North India this year has set alarm bells in the corridors of power and the first panic reaction was immediate ban on wheat export. India's performance on key malnutrition indicators is also not satisfactory. To meet these challenges, it is estimated that the country must prepare for increasing land productivity by 4 times, water productivity by 3 times and labour output by 6 times. All this has to be achieved with low carbon emission technology, no ecological footprints but simultaneously doubling the farmers income, rather making the farming remunerative to farmers which has emerged as a major challenge of current production system. Today's paradox is that on one hand the country is planning for management of surplus production, but on the other the farmers are driven to poverty as they are unable get sufficient returns of their produce.

OPTIONS TO SALVAGE THE SITUATION

Globally agriculture sciences are experiencing series of innovations and development of technologies that could mitigate the effects of climate change, better the yields, reduce the effects of salinity drought, flooding and biotic stresses etc. For example, the science of genomics has seen exploratory changes where many crops are improved through genomics-



assisted breeding, transgenics, and now through the CRYSPEr-Cas 9 technology. In cotton, the first transgenic crop has brought the Indian cotton production at the top level in the world. However, our policies were a hindrance to promote the technology further as in the last 20 years we have neither allowed the commercialization of such products nor permitted free research in the area.

The genome editing technology is the latest addition to the tool box of crop, animal improvement. The technology is being used to overcome myriads of intractable problems and could be a game changer in mitigating the production challenges. In India, several rules and guidelines and policies notified under the Environment Protection Act, 1986 have been in place. However, the implemen-

tation of those were politically stymied the growth of genetically engineered crops. Recent developments by Government to ease the certain provisions of EPA Rules 1989 for genome editing products have been welcomed by scientific community as they feel that it will pave way to create crop cultivars tolerant to climate change, drought, salinity and other biotic stresses.

Besides the seed technologies, refining integrated crop management systems like resource conservation, innovations in irrigation application, sustainable intensification, prevention of post-harvest losses, new crop protection techniques and modern communication tools including social media, ICT for updating the farmers in rural areas are important for mitigating the challenges of fu-



ture agriculture. Use of drones in managing the exodus of locust in India during the rainy season 2020 have induced the planners to permit the use of drones in agriculture for crop protection, survey and nutrient management. A related development is mechanization for precision farm operations and labour saving. Micro-irrigation, sensor technologies have potential to use optimum inputs of nutrients and water. Saving the harvested produce itself is addition to food availability and hence harvesting technologies of fruits and vegetables, storage, logistic and financing infrastructure should become priorities in India.

EXPORT PUSH NEEDED

India has done remarkable job in enhancing the agricultural production in nearly all the key areas. However, the current challenges of doubling the farmer's income are still illusive. Of many excellent suggestions the one of enhancing export of agriculture produce is bound to benefit farmers. There is global opportunity of USD 284 billion of textile and another USD 443 billion of clothing that's knocking of our door. When it comes to textiles and clothing, India's export of USD 40 billion lags far behind China's USD 259 billion. India is now behind Bangladesh and Vietnam in textiles exports. This is the story of textile alone, consider all agri export what are all the opportunities exists for export. There is an urgent need to increase volume and value of agri-export facilitated under the newly launched Agri Export Policy (AEP) 2018 targeting the doubling of agri-export to US\$ 60 billion by 2022. In 2021-22, India garnered additional US\$ 8.4 billion from agri-export to achieve export worth US\$ 41.8 billion. Can India spearhead export to US\$ 60 billion by 2022-23, an arduous, but possible target for Indian policy makers, farmers, processors and exporters. Accomplishing the set target of USD 120 by 2030 would be

a testimony of India's will and capability to transform farm sector and harness true export potential of agriculture, and contribute significantly to the goals of doubling farmers income and Atmanirbhar agriculture.

RESEARCH, DEVELOPMENT AND POLICY ISSUES

Research and development in India after independence has helped risen the per capita production and has gone a long way easing the pressure on meeting the food and nutritional requirement. The impressive contributions made by agricultural scientists in the past has been acknowledged time and again. Unfortunately, the system is under stress with lack of clarity on focus and financial resources. Our past experience should be enough for us to keep faith in our R&D systems. The internal rate of return on investment in agricultural research is estimated to more than 42%, which is much higher than any other sector. The gap in financial commitments made in the beginning of the plan and now annually is widening and hence restricting for taking the research programmes to logical conclusions. The Government of India need to make farmers-friendly policy and legal changes to ease the farming business. If the impending challenges before increasing productivity and profitability are to be mitigated, then suitable marketing reforms, policies of input management, risk management, extension service changes need to be properly placed. The agriculture policies must accelerate all-round development and economic viability in comprehensive terms.

India @75 has done remarkably well in enhancing production in nearly all key area of agriculture to keep hunger at bay. Not only as a food secure nation but a reliable partner in agri-commodity export, India has earned a status in world agriculture. Current challenges, however, calls for comprehensive review of policies and R&D investments for meeting the expectations of farmers so that by India @100 we are the most proud nation.

India's water security under threat

Increasing the efficiency of water use especially in the agriculture sector is of utmost importance

A NARAYANAMOORTHY

Water-related battles have been on the rise not only in India but most parts of the world. The Food and Agriculture Organization (FAO) warns that two-thirds of the world's population will face severe water shortages in 2025.

In 2011, some farmers were even killed following protests against the Maharashtra government decision to give water from the Bhayna Dam to Pimpri-Chinchwad Municipal Corporation near Pune. Why is the fight for water increasing now? Are the water reserves in our country declining?

Data from the Ministry of Water Resources show the amount of water that can be used per year is 1,123 bcm (billion cubic meters). Of this, 690 bcm can be drawn from surface sources (rivers, tanks, etc) and 433 bcm from groundwater.

But the demand for water has multiplied due to the ever-increasing population and rapid changes in agriculture and industrial development. The Central Water Commission has projected that the country's total water requirement will increase from 634 bcm in 2000 to 1,093 bcm in 2025 and further to 1,447 bcm in 2050. That is, India's total water demand will exceed its utilisable water reserves very soon.

This does not mean that there is no water scarcity at present. Water scarcity is already rampant in different regions of the country. According to Falkenmark's water stress index (the world's most widely used index for estimating water scarcity), where the water availability is less than 1,700 cubic meter per capita per year, there is water scarcity.

Per this criterion, about 76 per cent of the people in India are cur-

rently facing water scarcity. That is, out of the total 20 major river basins classified by the Central Water Commission, only nine have no serious water scarcity at present.

Sector-wise water use

To overcome the scarcity, how much water is being used currently by different sectors needs to be known. Of the total 634 bcm of water used in 2000, approximately 85 per cent was for agriculture, 7 per cent domestic, 2 per cent industry, and the rest for other uses.

However, some major changes in water consumption have been projected to occur between 2000 and 2050. While the total water demand is projected to rise from 634 bcm to 1,447 bcm, agricultural demand is estimated to increase from 541 bcm to 1,072 bcm, domestic use from 42 bcm to 102 bcm, industrial demand from 8 bcm to 63 bcm, and the water needed to generate electricity from just 2 bcm to 130 bcm. This means that the consumption by agriculture will decline to 74 per cent from the current 85 per cent and the demand for industrial and other uses will increase manifold.

Two types of solutions are generally advocated to combat the increasing water scarcity. One is to augment the water supply, and the other is to save water. Some suggest that the water storage capacity could be raised by building new dams, tanks/ponds and others. Is this possible?

The water storage capacity cannot be raised as and when needed. The total water potential of a country is a more or less static. Dams built beyond potential limits will not only be economically unviable but can create ecological damage. For example, the total irrigation potential of our country is 139.90 million hectares, of which, around 85 per cent is already developed.



Drip irrigation can greatly help in efficient water use. G KRISHNASWAMY

Therefore, it is not possible to build new dams and augment the water supply, as the most easily possible irrigation potential has already been utilised.

Pointers to save water

Given the increased demand for water and declining water potential, it is necessary to make constructive efforts to increase its efficiency. Water has long been considered a free good and, therefore, water use efficiency is very low in all the sectors. Although pricing of water alone will not completely solve all water-related woes, its efficiency can be increased to a greater extent by fixing its prices on a volumetric basis.

There is a vast scope to increase its efficiency in the agricultural sector. In the widely used conventional surface irrigation method, water use efficiency is just 35-40 per cent. Approximately 60 per cent of the water is lost through conveyance and distribution.

But modern irrigation methods such as drip and sprinkler can not only save at least 50 per cent of the water but can also increase crop yields by 40-60 per cent, and lower cultivation costs and electricity consumption.

The MS Swaminathan Committee (2006) report, 'More Crop and Income Per Drop of Water', has underlined the importance of using drip and sprinkler methods of irrigation in crop cultivation. The report of the Task Force on Micro Irrigation' (2004) has estimated 70 million hectares as the total potential area for this method of irrigation.

At the end of March 2019, about 11.42 million hectares were under this modern irrigation system. Therefore, steps must be taken to increase the adoption of drip and sprinkler methods to save water.

About 18 million hectares are presently cultivated using canal irrigation. The report of the Committee on Pricing of Irrigation Water

(1992), set up by the Central Government, and the working group of medium and large irrigation projects constituted for the 11th and 12th Five-Year Plans underlined that water use efficiency is pathetic under canal irrigation.

By introducing a water accounting method in the canal command area during the mid-2000s, Maharashtra was able to increase water use efficiency substantially.

A similar water accounting method must be introduced in all the canal command areas across the country to improve water use efficiency.

Groundwater overexploitation

Of India's total irrigated area of 98 million hectares, groundwater accounts for about 65 per cent. The reports published by the Central Groundwater Board warn that the uncontrolled overexploitation of groundwater is not only depleting water rapidly but also causes various environmental problems. Appropriate pricing of electricity with judicious rationing of electricity supply may help save water for future use.

There are possibilities that the rapidly changing climate may reduce the spread of rainfall and exacerbate the current water scarcity further. In a country of 135 crore people, increased water scarcity can cause severe food shortages and increase the incidence of poverty as well. The opportunities to increase water storage are continuously shrinking, but the water demand has been increasing. Therefore, tough decisions have to be taken to avert the looming water scarcity.

The writer is a former full-time Member (Official), Commission for Agricultural Costs and Prices, New Delhi. Views are personal

Farmers urged to adopt technology, mechanisation for more yield

HYDERABAD

AGRICULTURE Minister Singireddy Niranjan Reddy on Tuesday emphasised the need of improving technology and mechanisation in the agriculture sector for improving the quality produce.

Addressing a convention organised at Acharya Jayashankar Agriculture University here, the Minister said that the agriculture sector is a lifeline for the Indian economy and it can still generate employment to a large number of people by unveiling new innovations and introducing the mechanisation at various levels. The Minister also asked farmers to focus on profit making crops than the



traditional crops and to follow new methods for producing the highest yield.

"There is an abundant demand for cotton across the globe but there is still a huge gap between the demand and supply. Despite India having a record level of cultivation area in about 3.20

crore acres, the country is still logging behind the quality production of crop compared to other countries," said Niranjan Reddy.

The Minister asked the officials to encourage a single pick variety of cotton and to sensitive them in this regard.

Services sector needs PLI-like support



**MANECK
DAVAR**

Former chairman, Services Exports Promotion Council

Quadrupling services exports over the next 7-8 years to reach a \$5-trillion economy is a herculean task and is certainly not achievable unless there is a strategic road map with the right government intervention

INDIA'S AMBITION TO reach a \$5-trillion economy is predicated on the growth of its international trade to \$2 trillion by 2030, equally contributed by merchandise and services. This translates into a three-fold growth, or almost 20% CAGR, over this period. The commerce ministry expects services exports to overtake merchandise and manufacturing, or at least be on par. This is possible only if services are viewed the same as manufacturing in terms of fiscal encouragement and incentives. Around 50% of services exports are accounted for by IT-ITeS, which continues to innovate and grow. The rest is the input from management, legal, accounting, logistics, travel and tourism, education, health care, and other sectors. Services sectors beyond IT require careful nurturing, especially capex-intensive sectors like hospitality, healthcare, and education.

Even though it comprises over 50% of the GDP, dwarfing agriculture and manufacturing, the services sector doesn't receive the recognition or the encouragement in the form of the incentives it deserves. One reason is the perception of the sector consisting of only IT. The IT sector has flourished because of minimal government intervention; ergo, the sector as a whole does not require any handholding. This is a fallacious perspective.

Take the case of exports. Last year, the government claimed that manufacturing and merchandise exports had crossed the \$400-billion Rubicon, an extremely cred-

itable performance considering the ravages of Covid. However, services exports had exceeded \$254 billion, an increase of over 20% year-on-year, despite the contribution being from just three sectors—education, healthcare, and travel and tourism (despite the latter getting reduced by more than \$20 billion because of travel restrictions in the pandemic).

As the then chairman of Service Export Promotion Council (SEPC), I predicted, after the first quarter of 2021, that services exports would surpass \$250 billion, hoping tourism would revive by the third quarter, but consecutive Covid waves erased that possibility. Despite this, achieving this milestone is a credit to all who harnessed our intellectual capital in services.

Further, merchandise and manufacturing exports are \$200 billion negative—we imported \$600 billion against exports of \$400 billion. Meanwhile, services exports were over \$100 billion, underlining the importance of ensuring that the growth trajectory in services exports is maintained. This year the deficit in merchandise exports-imports is widening due to the impact of rising crude prices. Yet, there is a huge imbalance in the incentives offered. During the reign of the Merchandise Exports Incentive Scheme (MEIS), merchandise exporters benefited to the

extent of over ₹40,000 crore in 2018-19, whereas under the corresponding Services Exports Incentive Scheme (SEIS), exporters could avail of only a tenth of that amount. Even though SEIS is under the Foreign Trade Policy, it was only through intense advocacy that a sum of ₹2,000 crore was earmarked for services exports for 2019-20, largely on compassionate ground as sectors like travel and tourism

had suffered immensely due to Covid restrictions. These incentives cannot be viewed as charitable hand-outs—they serve to make businesses internationally competitive and recognise contributions made by service providers. These incentives are temporary impetus providers, and it is imperative that there be a slew of economic measures with long-term effects and benefits for services.

Quadrupling services exports over the next 7-8 years is a herculean task, and not achievable unless there is a strategic road map with the right government intervention. The burden cannot be only on the IT sector, which, at present, contributes around 55% of the total services exports. Clearly, other sectors will have to bring exponential growth to the table.

Consider international tourism. We attract 10 million tourists every year. This is underwhelming, considering the diver-

sity we offer. Prime minister Modi has exhorted the diaspora to insist that at least five of their acquaintances visit India. The goal should be to triple arrivals. For that, we need to embark on a crash program to enhance infrastructure. While the government can work on physical connectivity through public-private partnerships by building more airports and highways, it will require individual entrepreneurship to increase the hospitality quotient by adding more hotel rooms. The government provides attractive incentives, including direct taxation for green field projects in the manufacturing sector. The same blueprint requires to be initiated for the services sectors, especially in the building of hotels, hospitals, and universities, especially those attracting forex.

Policymakers have incentivised manufacturing by introducing the Productivity Linked Incentives (PLI) scheme with a well laid out process that ensures investment in capex, resulting in increased productivity and avenues for employment. A similar scheme for services can be introduced with substantial scope in areas like hospitality, education, and healthcare.

In these adverse times, if economic momentum has to be sustained and every effort has to be made to yield the desired result, then the perception of services, especially its exports, has to radically transform. This is also to ensure that, as a major economy, India's reliance should be on multiple horses in the race.

Services exports were >\$100 billion, showing that the growth trajectory in services exports is maintained

PM launches NIRYAT information portal to support importers, exporters

OUR BUREAU

New Delhi, June 23

The National Import-Export for Yearly Analysis of Trade (NIRYAT) portal where importers and exporters can get all necessary information related to foreign trade will provide real time data to stakeholders, Prime Minister Narendra Modi has said.

"From this portal, important information related to more than 30 commodity groups exported to more than 200 countries will be available. Soon, information related to district-wise exports will also be made available. This will also strengthen the efforts to develop the districts as important centres of exports," Modi said at the launch of the portal and inauguration of the Vanija Bhawan on Thursday.

The new Vanija Bhawan will significantly benefit people asso-



Prime Minister Narendra Modi views a model of Vanija Bhawan, in New Delhi, along with Commerce Minister Piyush Goyal

ciated with trade, commerce and the MSME sector, he said.

Increasing exports is important in the transition of a country from developing to developed status, Modi said. In the last eight years, India has also been continuously increasing its exports

and achieving export goals, he said. Despite the historic global disruptions, India's exports in 2021-22 crossed \$418 billion against the target of \$400 billion, Modi said. "Encouraged by this success of the past years, we have now increased our export targets

and have doubled our efforts to achieve them. Collective effort of everyone is very necessary to achieve these new goals," he said.

Better policies to increase exports, easing of processes, and taking products to new markets, have helped a lot. He said that today, every Ministry, every Department of the government is giving priority to increasing exports with a 'whole of government' approach. Be it the Ministry of MSME or Ministry of External Affairs, Agriculture or Commerce, all are making common efforts for a common goal.

"Exports from new areas are increasing. Even from many aspirational districts, exports have now increased manifold. The increase in exports of cotton and handloom products by 55 per cent shows how the work is being done at the grass root level", he added.

Sustainable development in agriculture

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High demographic pressure, a growing rural exodus and change in food production practices associated in part with urbanization and rapid deterioration of natural resources in developing countries are becoming drastic in scale. The improvement and modification of agricultural production systems in these countries are determining factors for their economic development. In addition, agriculture in developed countries is facing a period of uncertainty and change. Technology in farming has led to overpopulation associated with contamination and deterioration of soil, water and vegetation. Excessive use of fossil fuels and the gas emissions from global climatic change has influenced the sustainability of the natural production system.

instability and migration and represent a great challenge to us all. The fundamentals of sustainability in agricultural production systems could be summarized in 5 major elements: Political dimensions including economical, cultural and social issues, research and development as well as population control policy; Energy and inputs embracing energy resources, fertilizers, plant production, eco-farming techniques and technology; Genetic resources including identification, evaluation and utilization and genetic resources; Climate embracing constraints and impacts; and soil and water embracing resources and requirements.

Sustainability is above all a mental question. It reflects a major issue in our understanding of the necessity. J Lambar-

It is the responsible of the nations to ensure the development of a policy which considers cultural, social and economic dimensions. Dialogue, cooperation and research are the tools to overcome the major challenges of humanity and to ensure sustainable development for the current and future generations.

Energy is directly related to the most critical social issues which affect sustainable development: poverty, income level, access to social services, gender disparity, population growth, agricultural production, climatic change and environmental quality and economic and security issues. Without adequate attention to the critical importance of energy to all of these aspects, the global, social, economical and environmental goals cannot be achieved.

Plant genetic resources as a distinct part of biodiversity comprise the genetic materials which exist in primitive forms and wild species, traditional varieties and modern cultivars as well as bacteria, fungi and viruses. Plant genetic resources for food and agriculture include resources which contribute to people's livelihood by providing food, feed, shelter, fibre, fuel and medicine etc. Of the total 3,00,000-5,00,000 species of highest plants, 30,000 are edible and about 7,000 have been cultivated or collected by humans for food during the history of mankind. Today, only 30 crops deliver 90% of the world's caloric intake.

The introduction of new plant species to agriculture will lead to an improvement of the biological and environmental conditions, soils, water, vegetation and landscape.

Planning is to a large extent a matter of perception, prediction, anticipation and vision. An accurate assessment of the problem needs value systems, attitude and behaviour pattern of inhabitants is required in order to make the planning purposeful and successful. Any policy formulated for the development of a region has to be in time with the capabilities, needs, demands and aspirations of the people who, in turn, are the factors of the scheme. There should be co-ordination and balance among the needs, demands and expectations of the inhabitants and the objectives and priorities of the development plans.

The planning process will have to ensure active participation and involvement of the people for whom the development programmes are indeed meant, both in formulations and implementations. The cooperation can be achieved only if planning is worked out after keeping in view the environmental setting of the area and the perspective of needs of its inhabitants. The spatial development policy would be more relevant and successful if it based on the intimate knowledge of the inhabitants, behaviour, awareness and sensitivity to different problems and their willingness to participate in various development programmes. A strategy for environmental planning consistent with socio-cultural setting and perspective of the needs and priorities of the area can be developed only assessing the knowledge of perceptions of the environment by its inhabitants of different socio-economic backgrounds.



The key concept of sustainable development is to promote the conservation and sustainable use of natural resources, which allows long term economic growth and enhancement of production capacity, along with being equitable and environmentally acceptable.

What are key issues of sustainability in agriculture production systems to ensure global food security and sustainable resource management? "Food for all" is a vision or a realistic target, especially if we know that: More than 800 million people suffer from hunger in Africa, Asia, Latin America and even in Europe and USA. One-and-half billion people suffer from a shortage or inadequate supply of water. More than 2 billion people have no access to modern energy sources. There are increasing indications 'global warming' is becoming reality. Each year, 11.2 million hectare of forests disappears. About 2,000 million hectare of land has been degraded globally.

These are the real sources of conflict,

di (1994) stated, "Sustainability, I have discovered is the effort to make sure that nobody else in the world purses the same policy towards profitability and prosperity as the United States did." This is to a large extent valid for other industrialized countries as well. He also stated that, "We have diverted streams and rivers and irrigated the desert in order to make the most productive food area that there is, while on the other hand, we want the Brazilians to not develop because we want to breathe. They want to do it because they want to eat, we do not want to let them do what we did."

It should be fully understood that we are in one earth, one humanity and one future. Our way of thinking is to be changed from, "I am here and now" to "We, everything for today and tomorrow". Unless we become the responsible stewards of current and future generations, we will face more unprecedented and severe regional and global changes and environmental inequities.

Punjab plans crop diversification scheme

SANDIP DAS
New Delhi, June 17

TO CURB DEPLETION in ground water levels and reduce power usage, the Punjab government is firming up a plan on crop diversification, whereby around a million hectare (MH) or a third of water-intensive paddy grown areas in the state would be gradually shifted to alternative crops such as cotton, maize, oilseeds and pulses, over the next five years.

According to Gurvinder Singh, director, agriculture department, the state government will also provide incentives to farmers for shifting around 10% of wheat area to alternative crops such as oilseeds and pulses.

The crop diversification would entail financial incen-

tives to farmers, procurement of crops by state agencies under the Minimum Support Price (MSP) operations and processing facilities. Annually, around 0.1-0.2 MH paddy sown will be shifted to alternate crops.

"We are working out a detailed programme on crop diversification soon and we will provide financial support to the programme from our own budget as well as from the central sector scheme," Singh told FE.

Stating that paddy cultivation has led to over-exploitation of ground water resources in the state, the Punjab Economic Survey (2020-21) had stated 'cultivation of rice would need the use of submersible pumps which are expensive, and unlikely to be suitable for marginal and small landholding farmers'.

The survey said there was a



need to diversify crops and horticulture, pulses and oilseeds act as avenues for diversification.

According to experts, crop diversification in Punjab has been virtually a non-starter because of the open-ended rice and wheat procurement system followed by Food Corporation of India (FCI) and state agencies,

farmers are reluctant to adopt less water intensive crops because of lack of procurement or marketing avenues.

In the current procurement season (October-September) for 2021-22, Punjab has contributed more than 12.5 million tonne (MT) or 20% of total rice procurement of 56.81 MT to the central pool managed by FCI. In the ongoing rabi procurement drive for wheat (2022-23), Punjab has contributed more than 51% of the 18.77 MT of wheat purchased from farmers so far.

Officials said the Punjab government, from the current kharif season (2022-23), is promoting direct seeding of rice (DSR) which consumes less water, improves percolation and reduces dependence on farm labour. An incentive of ₹1,500 per acre is being provided to

farmers who adopt DRS technique and a budget of ₹450 crore has been earmarked for it.

The state government is also encouraging farmers to take up short duration varieties of rice (which matures in 125 days instead of conventional varieties that take 135-145 days) such as PAU 126, 127 and 128 so that transplantation could be done using monsoon rains in July.

Official estimates indicate that farmers in around 50% of 2.4 MH of non-Basmati grown areas in the state have adopted short duration varieties of rice.

The state government agency, Markfed has started to procure summer moong through payment of MSP of ₹7,275 per quintal. This year, short duration pulses variety was sown in around 0.1 MH.

Concern over toxicity due to pesticides

TRIBUNE NEWS SERVICE

SHIMLA, JUNE 5

The toxicity because of use of pesticides in agriculture and horticulture and vulnerability to natural and climate induced hazards like floods remains a cause of major worry.

These are some of the issues highlighted prominently in the latest State of Environment Report brought out by the State Department of Environment, Science and Technology, here today. "Generation of pollution from synthetic resources like use of pesticides, both in the agriculture as well as the horticulture sector, is certainly a cause of concern," the report states.

The earlier State of Environment Report was brought out in 2010. The report stated that in the agriculture sector net area under cultivation has decreased but production per hectare is increasing



due to technological advancement in the agriculture sector. The cropping intensity shows fluctuating trends even though opportunities are emerging with growing demands of flowers and aromatic and medicinal plants.

"Himachal was the first state in the country to ban use of plastic and ensure 15 per cent discharge in rivers where hydel projects have come up," said Prabodh Saxena, Additional Chief Secretary Environment. He said that awareness

towards protecting environment has increased in Himachal, where use of single plastic will be banned completely from July 1.

As far as the horticulture sector is concerned, the state remains prone to natural and climate-induced hazards and the need for developing institutional arrangements to meet any disaster-related issues has been stressed. The report also highlights devastating floods causing damage to private and public property and the increasing

trend of forest fires causing immense damage to the precious forest wealth.

The enhancement in the overall forest area by 915 sq km over the last two years as compared to 2019 has been lauded. Intense efforts being made for increasing forest cover in the state have yielded fruitful results.

Deliberating on the issue of natural disasters, the report states that Himachal remains prone to natural and climate induced hazards. The report also highlights the damage caused to private and public property due to devastating floods and rising incidence of forest fires.

While recognizing the significant role of the tourism sector in economic development and job creation in the state, the report also throws light on negative impact is solid waste pollution due to biodegradable and non-biodegradable waste littering in the hill area thereby eroding biodiversity.

Govt plans Digital Agriculture Wing to modernise farming

PNS ■ HYDERABAD

The Telangana government is setting up a Digital Agriculture Wing (DAW) to ensure focused, dedicated, and continuous introduction of new-age technology in agriculture.

The DAW is a dedicated wing being set up in the Agriculture Department as a first-of-its-kind initiative in the country. The wing is being set up to ensure focused, dedicated and continuous introduction of new technology in agriculture. The wing will institutionalise the AgriTech initiatives of the state and will focus on additional activities to ensure a holistic approach. The Digital Agriculture Wing's objective is "to transform agriculture by deploying technologies in a scalable, inclusive, and sustainable way."

The DAW aims at leveraging



technologies to enhance production, productivity and profitability, promote environmentally sustainable practices in agriculture, improve efficiencies in governance using technology, promote scaled adoption of proven AgriTech solutions, and enable AgriTech collaboration and partnerships. The Digital Agriculture Wing will undertake projects in AgriTech adoption, digital governance, synergy and partnerships and capacity building and awareness.

The Director has to actively coordinate with the Digital Agriculture Division of the

Union MoA&FW and will be responsible for increasing AgriTech investments in the state. The Agriculture Department plans to hire a Director (Head) for the Digital Agriculture Wing to steer digital efforts in agriculture.

The Director will be responsible for overall leadership including team management, strategy, execution, budgeting, and all operations of the wing.

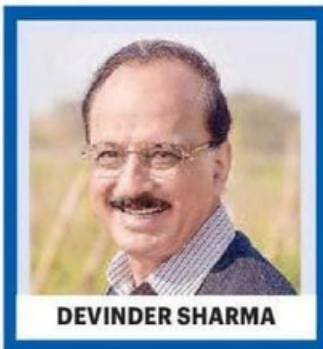
The Director will be paid between Rs 30 lakh and Rs 50 lakh per annum with a five per cent increment every year based on performance.

Bayer partners ADM to build sustainable crop protection models

FMC launches pre-emergent herbicide for sugarcane farmers in Maharashtra

EU's move to regulate pesticides use has a lesson for the world

In India too, policy makers must move towards safer and healthier farming systems. We need growth, but it can't be at the cost of environment



DEVINDER SHARMA

FOR any long journey, it is the first step that is crucial. Given that we are in the midst of sixth mass extinction, any small step towards eco-restoration is welcome. I am talking of the European Commission's proposal to regulate pesticides use in Europe to avoid an ecosystem collapse. "Legally binding targets for all member states to restore wildlife on land, rivers and sea were announced today, alongside a crackdown on chemical pesticides," reports *The Guardian*. This proposal came up on June 22, and besides other components it plans to reduce pesticides usage by half by the year 2030.

The proposal, which is primarily a regulation, should prompt G-7 and G-20 countries, to also take a lead by initiating similar policies that aims at reversing the ecological imbalance the world is presently faced with. These policies need to come with a definite timeline, because the world cannot afford pious intentions that remain only on paper. While roughly Euro100 billion will be available in the EU for biodiversity conservation, and ecosystem restoration, the aim is restore 20 per cent of land and sea by 2030. In addition, if I understand correctly, EU had earlier decided to spend 20 per cent of the proposed allocation of Euro 387 billion in farm subsidies between 2021-2027 budget on 'eco-schemes' that protect the environment.

In any case, there is bound to be an overlap. But what is significant here is the intent



that drives policy makers to come-up with strategies and policy approaches that help reduce drastically the massive destruction that many prefer to call it literally as an 'ecocide' the world is faced with. Studies in Germany and Puerto Rico for instance have shown that 40 per cent of insect species may be faced with extinction in the next few years, and 41 per cent have seen population decline in the past decade. Conservatives call it 'dreadful' and many other fear that it is leading to a 'catastrophic collapse'.

According to the Centre for Biological Diversity, "When the number of individuals in a population or species drops too low, its contributions to ecosystem functions and services become unimportant, its genetic variability and resilience is reduced, and its contribution to human welfare may be lost."

Regarding the new proposal, Ariel Brunner of BirdLife Europe was quoted as saying in *The Guardian* article: "It is a huge milestone. It really has the potential to turn around our relationship with nature." But other environmentalists are more cautious. They would like to see the EU proposal to be in tandem with emphasis on agricultural practices that put too much emphasis on corporate prescriptions like 'precision technology' and 'climate smart crops' essentially embracing the controversial genetically modified crops.

Transformation of the food systems cannot rely on the same kind of mistakes that were earlier committed in the name of ensuring food security. From a chemical push, which has led the world towards a climate apocalypse, the world needs to swing back to working with nature. Instead of moving

ahead with 'business as usual' approach, no restoration of ecosystem functions is possible unless a serious effort is made to reorient agriculture towards regenerative farming practices or agro-ecology. In that connection, a lot was expected from the recently concluded UN Food and Agriculture Organisation (FAO) Summit on Food Systems transformation, but it seems it clearly failed to emerge out of the agribusiness control.

While the EU's shift towards ecosystem restoration will be keenly watched, the Intergovernmental Panel on Climate Change (IPCC) too is calling for changes in economic thinking and approach that moves away from GDP-based growth model that the global economic design hinges on. Although the corporate-owned media is not talking about it, and for obvious reasons, the bigger tragedy is that most developing and least developed countries are in fact aggressively pushing for GDP-oriented economic growth strategies, which in other words means more destruction of natural resources. Simply put, what the rich countries are trying to salvage, the poor countries are willing to sacrifice.

What is therefore needed is to bring the developing countries at par with the economic rationale of economic restoration. This is possible through an international effort, and a lead has to be taken by the United Nations. Just on the lines of evolving a mechanism to provide economic value to ecosystem services (The Economics of Ecosystem Services of Biodiversity [TEEB] as perfected by the UN Environmental Programme), I am hoping the UN will first try

to develop a national accounting system that incorporates the cost of eco-system services. There have been attempts, but I think the UN has to aggressively push for it and perhaps one way could be to include it among the measures to record the achievements under the social development goals (SDGs).

Eventually, the kind of economics that prevails will determine what kind of world we leave behind. While political leadership will always come for hammering, the role of a dominant class of economists, scientists and the academicians is no less harmful. After all, it is the intelligentsia that builds the development narrative and they cannot remain absolved from owning any responsibility. In fact, they play a significant role in influencing public policies, and therefore owe it to the public if the same policies are failing to lead the world towards a healthy and sustainable future.

In any case, a small step is a good beginning. If the EU has listened to 1.2 million signatories seeking removal of 80 per cent pesticides by 2030 (and decided to remove it at least by half), it is a lesson for other countries to also go by what people want. In India too, policy makers must move away from Green Revolution technologies, and move towards safer and healthier farming systems. Reducing pesticides usage is the first step towards attaining sustainability. There are numerous alternatives, and people have demonstrated it effectively in many parts of the country. But more significantly, Indian budget too should demonstrate the intent to move towards agro-ecological farming systems that will help rebuild ecosystems and public health. We need growth, but it cannot be at the cost of environment. Therefore, we are looking forward to appropriate budgetary outlays for green economics. The EU proposal is a good initiative that countries like India need to follow. But first let's understand, economics is for the people, and not the other way around.

(The author is a noted food policy analyst and an expert on issues related to the agriculture sector. He writes on food, agriculture and hunger)

India can switch 30% of agri acreage to natural farming by 2030: Chand

PRASANTA SAHU &
SANDIP DAS
New Delhi, June 7

INDIA CAN DOUBLE acreage of chemical-free farming to 15% immediately and 30% by 2030 without hurting national food security as any resultant loss in output and exports could be compensated by reduction in fertiliser subsidies, Niti Aayog member Ramesh Chand told *FE*.

He, however, ruled out implementation of direct benefit transfer (DBT) of cash in lieu of subsidised foodgrains under PDS system as it could threaten food security of the country.

Chand said that natural farming methods could be scaled up in 6% of the gross cropped areas in states such as Madhya Pradesh, Rajasthan and near the banks of Ganga in Uttar Pradesh where fertiliser usage is low and gradually expand such farming methods over the next decades without jeopardising India's food security concerns.

"Adoption of natural farming should not be done in knee-jerk fashion as was done in Sri Lanka (which banned fertiliser use). However, without compromising India's food security, by 2030 India can afford to have natural farming in 30% of the area," Chand said.

India's food production is growing by 3-3.25% annually in the last several years while population growth rate has gone below 1.5%. "So, with domestic demand growing by 2-2.25%/annum, we have 1 percentage point of output growth which is not required for domestic consumption."

In organic farming, there is 30-35% yield penalty or loss of production if agro-chemicals are not used. "India is now in a position to do this the trade-off gradually...we are exporting 6-7% of production and if we are willing to take a hit on that food output by setting aside 20% of acreage to organic farming, production will come down by 6-



WITHOUT JEOPARDISING FOOD SECURITY

■ Ramesh Chand said that farming methods could be scaled up in 6% of the gross cropped areas in states such as MP, Rajasthan and near the banks of Ganga in UP

■ The Niti Aayog member also stressed that such farming methods could gradually be expanded over the next decade sans jeopardising India's food security concern

7%... we will not have any surplus to export (\$5-6 billion/annum)," Chand said.

The government has decided to absorb a substantial part of the rise in fertiliser prices, and subsidies are expected to touch ₹2.15 trillion in 2022-23 against ₹1.62 trillion in 2021-22 mainly because of the spike in global prices of phosphatic and potassic fertilisers and urea in last one year. In the next few years, he expects successful models of natural farming developing, which will bring down burgeoning fertiliser subsidies.

While acknowledging the role of chemicals and fertilisers in the Green Revolution Prime Narendra Modi at several occasions had warned against the dangers of pesticides and imported fertilisers which lead to increased costs of inputs and also cause damage to health.

Finance minister Nirmala Sitharaman in her Budget (2022-23) speech had said that chemical-free farming will be promoted throughout the country, starting with fields within a 5-km wide corridor along the Ganga River.

On the challenges faced in

rolling out DBT in food subsidies, Chand said the country has not reached a stage where it can abandon buffer stock and procurement regime. "India's policy of buffer stocking of foodgrains has been helpful in protecting the country against food crisis and price shock," he said.

With wide variations in fertiliser usage across states and a large chunk of farmers engaged in tenancy farming, uniform payment of fertiliser subsidy directly to farmers bank accounts would be complex and unacceptable to many farmers, Chand said.

The government's food subsidy expenses are expected to rise further from budgeted ₹2.06 trillion for 2022-23.

Natural farming is being promoted by the agriculture ministry through Bharatiya Prakritik Krishi Paddhati' (BPKP) which was introduced in 2020-21 as a sub scheme of Paramparagat Krishi Vikas Yojana.

A financial assistance of ₹12,200 per hectare is provided to farmers for adoption of BPKP and there are around 0.4 million hectare of area is under natural farming across states.

Agri experts urge govt to reduce GST on agro-chemicals to 5%

OUR CORRESPONDENT

NEW DELHI: Drawing the attention of the government over achieving the sustainable development goals in agriculture, a group of experts in the agriculture sector has urged the Centre to consider reducing the Goods and Service Tax (GST) rate slab on agro-chemical inputs for the farm sector from current 18 per cent to 5 per cent at the maximum.

Pushing the demand on half of the farmers, former agriculture commissioner Dr. CD Mayee opined that the agro-chemical industry acts as a backbone to our farmers and assures them of high yield with better quality produce while mitigating crop losses.

"In view of the climate

Notably, the 47th GST Council meet, which would be chaired by Nirmala Sitharaman, is scheduled to be held in Chandigarh from June 28-29

changes and emerging threats of pest and disease, there is an urgent need to overhaul the regulatory system for the introduction of new and innovative chemistries and technologies. There is also an urgent need to revise the GST slab on agro-chemical inputs for the farm sector," Mayee said.

Notably, the 47th meeting of

the GST Council, which would be chaired by Union Finance Minister Nirmala Sitharaman, is scheduled to be held in Chandigarh from June 28 to June 29.

On the issue, the chairman of FICCI Committee on Crop Protection RG Agarwal said, "The 18 per cent GST on agrochemical is not justified and it should either be zero or brought down to a maximum of 5 per cent at par with fertilisers."

Agarwal, who heads Dhannuka Group, also said that high GST on crop protection chemicals hurts small and marginal farmers by increasing their input cost and prompting them to use these essential ingredients in sub-optimal quantities that bring down their farm output and financial health.

Haryana gives NOC for field trials of BT cotton variety

SANJEEB MUKHERJEE
New Delhi, 15 June

After a considerable gap, the Haryana government has issued a no-objection certificate (NOC) to seed major Mahyco to conduct field trials on BG-2 RRF, a herbicide-tolerant and insect-resistant variety of BT cotton.

The NOC was granted last month for trials to be conducted during the coming Storage of Hazardous kharif harvest season, sources said.

So far, India has allowed commercial use of BG-1 and BG-2 GM cotton in the country while the approval for the BG-2 RRF has been pending at various stages. The field trials are likely for the North Zone.

"Currently, the available BG-2 RRF can provide protection against devastating pest attack such as American Bollworm," Bhagirath Choudhary, founder director of the South Asia Biotechnology Centre said.

A few months ago, the central government had for the first time exempted certain types of genome-edited crops from the

stringent regulations applicable on genetically modified or GM crops, paving the way for further R&D on them.

The Ministry of Environment and Forests had, in the order, exempted SDN1 and SDN2 genome edited plants from Rules 7-11 of the Environment Protection Act (EPA) for Manufacture, Use or Import or Export and Storage of Hazardous Microorganisms or Genetically Engineered Organisms or Cells Rules, 1989.

In the recent past, many countries have either developed or approved commercial cultivation of vegetables, fruits, oilseeds and cereals developed through genome editing such as Gamma-aminobutyric acid or GABA tomato, high oleic canola and soybean, non-browning mushroom, etc.

Recently, China too approved guidelines for genome editing that will spur research into crops that have high yields and are resistant to pests and climate change.



Tomar appeals to pvt sector to help reduce use of fertilizers, pesticides in farming



STATESMAN NEWS SERVICE
NEW DELHI, 23 JUNE

The private sector should join hands with the government to reduce the use of fertilizers and pesticides in farming, Union Minister for Agriculture and Farmers Welfare Naren-dra Singh Tomar said today.

He was addressing the 11th Agrochemicals Conclave organised by the Federation of Indian Chamber of Commerce and Industry (FICCI) through video conferencing

from Solan (Himachal Pradesh).

The minister said India was an agriculture-oriented country and farming made a big contribution to the country's economy. "Remuneration is very important for the farmers in the agriculture sector. An increase in production is also very necessary. Good work is going on in the country in the farming of pulses and oilseeds. It is also necessary to increase the returns in the field of agriculture and the post-

harvest losses to the farmers should be minimal, for which steps need to be taken," he added.

Tomar said horticulture should also be promoted so that India could become self-reliant in all respects. "Our country is in a very comfortable position in the production of food grains. To compete at the global level, we also have to look toward other agriculturally developed countries and move ahead with them. Ten thousand new FPOs are also being created, which are benefiting the farmers a lot and will continue to do so. Crop diversification should also be encouraged," he said.

He said Krishi Vigyan Kendras were proving helpful for the farmers. He called upon the industry bodies like FICCI to work together for agricultural development.

Govt plans Digital Agriculture Wing to modernise farming

● JULY FOOD INFLATION TO BE BELOW 6%

Niti Aayog cautions against sharp increases in MSP

MSPs should not match elevated market prices, says Chand

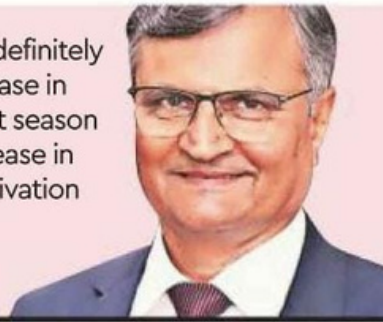
PRASANTA SAHU & SANDIP DAS
New Delhi, June 6

CAUTIONING AGAINST BIG hikes in minimum support price (MSP) of crops corresponding to their market prices, Niti Aayog member Ramesh Chand told *FE* on Monday that food inflation will be less than 6% by July thanks to the Reserve Bank of India's monetary tightening, import duty cuts on edible oils and curbs on wheat exports.

"There will definitely be an increase in kharif MSPs for next season to negate the increase in input costs for cultivation," Chand said. He, however, said the increase in international prices over the past year can't be a justification for a sharp increase in MSP. "It will be difficult to reduce MSP when international prices start to come down."

There will definitely be an increase in kharif MSPs for next season to negate the increase in input costs for cultivation

RAMESH CHAND,
MEMBER, NITI AAYOG



Chand said that as farmers for most of the rabi crops realised better prices than MSP, prices are expected to prevail above MSP for kharif crops as well.

While a sharp spike in global fertiliser prices has been absorbed by the government, studies have shown that rural wages are not increasing by more than 4% which is in sync with normal trend, Chand said. Fertiliser and labour are the two large input costs for cultivation.

FE on Monday reported that the government may announce 5-20% increases in MSPs for the summer-sown crops in 2022-23 year soon, taking into consideration a sharp rise in costs of

farming inputs.

Retail food inflation came in above the overall consumer price inflation for April and May, 2022. It was 8.1% in April, while the CPI inflation was 7.79%.

The MSP increases this year could roughly be the highest since 2018-19 when a new policy of 50% profits over computed cost of production led to MSP hikes for kharif crops in the range of 4.1-28.1%. In the last two years, MSP increases were roughly in the 1-5% range.

India imports about 55-56% of its total domestic requirement of edible oil while 15% of pulses consumption is met through imports.

In the race to get on top of

rising food inflation, the government recently allowed tariff-free imports of crude soyabean and sunflower oils during this financial year and the next. The tax waiver is also subject to an annual cap of 2 million tonne for each, which will more than suffice to meet the needs of domestic refiners and ease supplies in the domestic market.

A waiver of basic Customs duty for the two edible oils, which together account for a quarter of India's edible oil imports, was extended till FY24-end, and a residual 5% agriculture infrastructure development cess on the two crude edible oils was removed.

The government's food subsidy expenses are expected to rise further from budgeted ₹2.06 trillion for 2022-23.

The government has decided to absorb a substantial part of the rise in fertiliser prices, and subsidies are expected to touch ₹2.15 trillion in 2022-23 against ₹1.62 trillion in 2021-22 mainly because of spike in global prices of phosphatic and potassic fertilisers and urea in last one year.

Shift to specialty solutions begins to pay off for Deepak Fertilisers

Agri Min notifies 10 varieties of heat-tolerant seeds of wheat

Illegal variety occupies about a fifth of GM cotton seed market

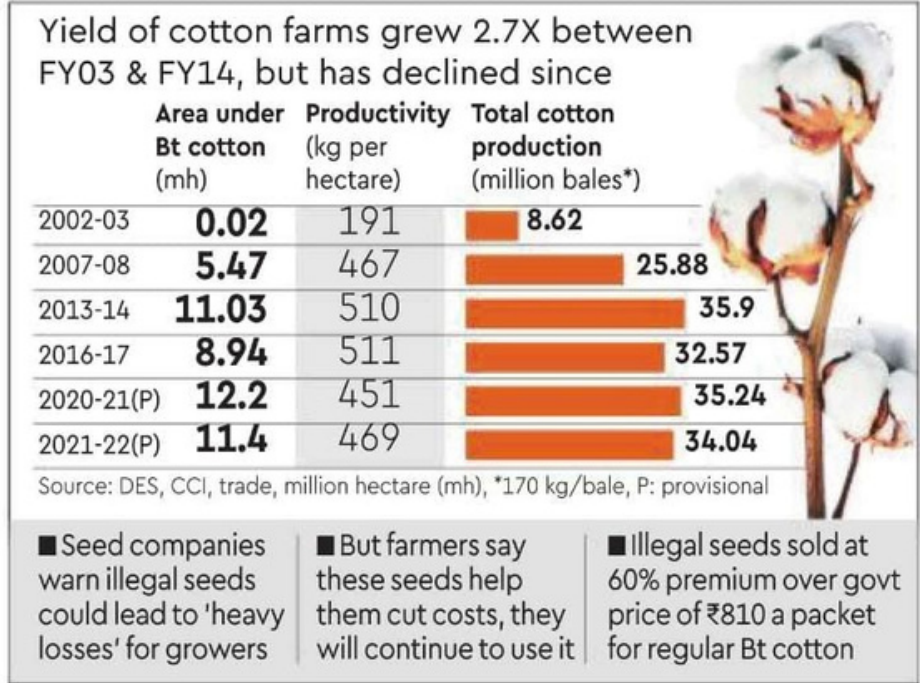
SANDIP DAS
New Delhi, May 31

A FLOURISHING ILLEGAL trade in a new unapproved herbicide-tolerant variety has come to occupy nearly a fifth of the genetically modified (GM) cotton seeds market in India. Over three dozen seed companies, which are authorised to sell the transgenic Bt cotton by licence-holder Bayer Crop Science-Mahyco, warn that the illegal seeds, first seen in the market in 2019, could contaminate the regular Bt seed and lead to “heavy losses” for cotton growers. However, farmers’ organisations say since the unapproved seeds help them in weed management and cut costs, they would continue to use it.

Sources say the illegal seeds are being sold at a 60% premium over the government-fixed price of ₹810 per packet for regular Bt cotton.

Central to the issue is the refusal of the regulator — the Genetic Engineering Appraisal Committee (GEAC) — to consider the Bayer-Mahyco’s application for the new herbicide-tolerant Bt (HTBt) cotton.

The illegal seed manufacturers, who are mostly based out of Gujarat, claim the presence of herbicide trait in the seeds they sell are capable of controlling pink bollworm. Farmers also seem to endorse this claim from



their cropping experience.

The approval for HTBt cotton was first sought by Bayer (then Monsanto) in 2015, but it withdrew the application in the subsequent year, citing delays in the process. Though the application was re-submitted by Bayer-Mahyco in December last year, the regulator is yet to take a call.

GM crop varieties are regularly modified by the proprietary companies to reverse yield losses that start surfacing after a few years of the first use of a variety. The idea, according to

them, is to make the seed capable of facing fresh pest challenges and thereby, improve yield. Critics, however, say this is also at times a strategy by these firms for ever-greening of their patents/exclusive marketing rights.

Since its introduction two decades ago, Bt cotton has led to a dramatic rise in India’s cotton yield and thereby, production (see chart), but over the last two-three years, the yield has come down marginally.

Continued on Page 2

Trade deficit widens to a record \$23.3 bn

Imports surge 56%; exports up 15.46% in May

India's water security under threat

Increasing the efficiency of water use especially in the agriculture sector is of utmost importance

A NARAYANAMOORTHY

Water-related battles have been on the rise not only in India but most parts of the world. The Food and Agriculture Organization (FAO) warns that two-thirds of the world's population will face severe water shortages in 2025.

In 2011, some farmers were even killed following protests against the Maharashtra government decision to give water from the Bhavna Dam to Pimpri-Chinchwad Municipal Corporation near Pune. Why is the fight for water increasing now? Are the water reserves in our country declining?

Data from the Ministry of Water Resources show the amount of water that can be used per year is 1,123 bcm (billion cubic meters). Of this, 690 bcm can be drawn from surface sources (rivers, tanks, etc) and 433 bcm from groundwater.

But the demand for water has multiplied due to the ever-increasing population and rapid changes in agriculture and industrial development. The Central Water Commission has projected that the country's total water requirement will increase from 634 bcm in 2000 to 1,093 bcm in 2025 and further to 1,447 bcm in 2050. That is, India's total water demand will exceed its utilisable water reserves very soon.

This does not mean that there is no water scarcity at present. Water scarcity is already rampant in different regions of the country. According to Falkenmark's water stress index (the world's most widely used index for estimating water scarcity), where the water availability is less than 1,700 cubic meter per capita per year, there is water scarcity.

Per this criterion, about 76 per cent of the people in India are cur-

rently facing water scarcity. That is, out of the total 20 major river basins classified by the Central Water Commission, only nine have no serious water scarcity at present.

Sector-wise water use

To overcome the scarcity, how much water is being used currently by different sectors needs to be known. Of the total 634 bcm of water used in 2000, approximately 85 per cent was for agriculture, 7 per cent domestic, 2 per cent industry, and the rest for other uses.

However, some major changes in water consumption have been projected to occur between 2000 and 2050. While the total water demand is projected to rise from 634 bcm to 1,447 bcm, agricultural demand is estimated to increase from 541 bcm to 1,072 bcm, domestic use from 42 bcm to 102 bcm, industrial demand from 8 bcm to 63 bcm, and the water needed to generate electricity from just 2 bcm to 130 bcm. This means that the consumption by agriculture will decline to 74 per cent from the current 85 per cent and the demand for industrial and other uses will increase manifold.

Two types of solutions are generally advocated to combat the increasing water scarcity. One is to augment the water supply, and the other is to save water. Some suggest that the water storage capacity could be raised by building new dams, tanks/ponds and others. Is this possible?

The water storage capacity cannot be raised as and when needed. The total water potential of a country is a more or less static. Dams built beyond potential limits will not only be economically unviable but can create ecological damage. For example, the total irrigation potential of our country is 139.90 million hectares, of which, around 85 per cent is already developed.



Drip irrigation can greatly help in efficient water use © KRISHNASWAMY

Therefore, it is not possible to build new dams and augment the water supply, as the most easily possible irrigation potential has already been utilised.

Pointers to save water

Given the increased demand for water and declining water potential, it is necessary to make constructive efforts to increase its efficiency. Water has long been considered a free good and, therefore, water use efficiency is very low in all the sectors. Although pricing of water alone will not completely solve all water-related woes, its efficiency can be increased to a greater extent by fixing its prices on a volumetric basis.

There is a vast scope to increase its efficiency in the agricultural sector. In the widely used conventional surface irrigation method, water use efficiency is just 35-40 per cent. Approximately 60 per cent of the water is lost through conveyance and distribution.

But modern irrigation methods such as drip and sprinkler can not only save at least 50 per cent of the water but can also increase crop yields by 40-60 per cent, and lower cultivation costs and electricity consumption.

The MS Swaminathan Committee (2006) report, 'More Crop and Income Per Drop of Water', has underlined the importance of using drip and sprinkler methods of irrigation in crop cultivation. The report of the Task Force on Micro Irrigation' (2004) has estimated 70 million hectares as the total potential area for this method of irrigation.

At the end of March 2019, about 11.42 million hectares were under this modern irrigation system. Therefore, steps must be taken to increase the adoption of drip and sprinkler methods to save water.

About 18 million hectares are presently cultivated using canal irrigation. The report of the Committee on Pricing of Irrigation Water

(1992), set up by the Central Government, and the working group of medium and large irrigation projects constituted for the 11th and 12th Five-Year Plans underlined that water use efficiency is pathetic under canal irrigation.

By introducing a water accounting method in the canal command area during the mid-2000s, Maharashtra was able to increase water use efficiency substantially.

A similar water accounting method must be introduced in all the canal command areas across the country to improve water use efficiency.

Groundwater overexploitation

Of India's total irrigated area of 98 million hectares, groundwater accounts for about 65 per cent. The reports published by the Central Groundwater Board warn that the uncontrolled overexploitation of groundwater is not only depleting water rapidly but also causes various environmental problems. Appropriate pricing of electricity with judicious rationing of electricity supply may help save water for future use.

There are possibilities that the rapidly changing climate may reduce the spread of rainfall and exacerbate the current water scarcity further. In a country of 135 crore people, increased water scarcity can cause severe food shortages and increase the incidence of poverty as well. The opportunities to increase water storage are continuously shrinking, but the water demand has been increasing. Therefore, tough decisions have to be taken to avert the looming water scarcity.

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