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THE HINDU

‘Bring in Goods and Services Tax’



The government must implement a Goods and Services Tax (GST) to replace various existing taxes, say traders dealing with various commodities in the city.

Ahead of the Budget 2015-16, traders feel that the government must implement the GST to reduce the burden of paying different taxes such as value added tax, excise duties and service tax. Praveen Mehta, president, Federation of Madras Merchants and Manufacturers Association, said GST will simplify pricing and reduce delay in inter-State goods transportation. The uniform tax structure across the States will help stabilise prices also.

Traders also demand that the government must ensure that the decrease in fuel prices be reflected in the prices of essential commodities. Manish Parmar of Madras Kirana Merchants Association said the government must come up with long-term plans to support agricultural activities and ensure food security.

According to paddy traders, though the paddy yield was less by five percent this year, it has not affected the pricing. The budget must give priority to farmers' needs, said M. Jayapalan, vice-president of Red Hills Paddy and Rice Wholesale Merchants Association. "The subsidy given for the purchase of farm equipments must be extended to the full term of the loan period. Now, after the initial three months, the subsidy is withdrawn for even tractor loans and farmers have to pay 13 per cent interest," he said.

Too many choices

New research led by Virginia Tech College of Agriculture and Life Sciences and the Edward Via College of Osteopathic Medicine, explained that nurture could be a larger issue when dealing with the obesity epidemic rather than nature, and too many food choices increases the obesity problem. Deborah Good, an author of the paper, said that everyone likes variety, but when there is a choice, humans tend to eat more than when there is no variety, and this leads to overeating. George Davis, a professor, said that their study shows that environmental factors are just as important as a mother's diet when it comes to obesity. The team of researchers mentioned that if low-fat foods are more readily available or priced competitively with high-fat and unhealthy foods, even babies born to overweight mothers could counter their prenatal environment and avoid being overweight themselves. The research is published in the journal *Endocrinology*.

Green solution to bio-waste



Away from the public gaze, South India's first plant producing CNG (Compressed Natural Gas) from waste from hotels and poultry farms has completed its first year of operations. The plant is supplying 600 kg. of CNG to the Bengaluru's restaurants every day.

Tucked in Huskur village, 14 km west of Doddaballapur, the plant named Maltose Agri Products Private Ltd. (MAPPL), not merely takes away some amount of city's waste, but also turns it into energy and averts release of hazardous methane into the atmosphere. Currently operating with three waste digesters, it will have ten of them on completion of its expansion plans.

The innovative plant was envisioned and set up by T. Ananda, an agriculturist, two years ago even while the city was in the throes of agitation at Mandur against landfills. It is currently taking 25 to 30 tonnes of waste. The waste from poultry farms, which abound in the area, is either piped to the plant in the form of slurry or arrives by tractors. The waste from a hundred and odd hotels and restaurants, mainly around Hebbal and R.T. Nagar, is carted to the plant by Bruhat Bengaluru Mahanagara Palike (BBMP) lorries in drums, while the cattle dung is picked by workers from mainly Cantonment area and brought in lorries. Three BBMP lorries bring 10 tonnes of hotel waste a day. Twenty five tonnes of dung is collected by another four lorries and five to seven tonnes of poultry waste also comes in. The poultry farms are paid for the waste at 30 paise a kg.

The process

Upon arrival, the dry waste is first crushed. Non-organic waste such as plastics or silica is removed and sent to a collector tank where slurry is prepared. It is then pumped into large sized digester chambers. Anaerobic digestion takes 21 days for production of methane at the start of the process. Daily feeding of waste ensures continuous generation. The chambers have churners inside that isolate sediments, which are separated mechanically and left to dry in pits for the purpose of manure.

The methane is then brought to balloon rooms where it is stored under large-sized rubber domes. At this stage it has merely 60% methane while the rest of it contains carbon dioxide, hydrogen sulphide gas and vapour. It then undergoes a purification process and carbon dioxide, sulphur dioxide and vapour are removed. At this stage, it is 92% methane which is passed through compressor to be filled at high pressure as Compressed Natural Gas (CNG) into cylinders of 5 kg, 10 kg and 12 kg for supply to the restaurants. The company is however running its supply trucks on the same CNG and has fitted them with 38 kg cylinders.

Currently, the Maltose plant is producing 600 kg of CNG a day and supplies them to six large hotels and restaurants in the city in collaboration with the marketing company Carbon Masters. While the LPG cylinder gas comes at a rate of Rs.60 per kg, Maltose's CNG is being supplied at Rs.40 a kg.

Ananda, who has studied up to Plus Two and himself maintains a poultry farm with 50,000 birds, says that against the initial investment of Rs.2 crore by him, the Ministry of Renewable Energy extended a sum of Rs.68 lakh by way of assistance. His plea to exempt the product from Sales Tax is under consideration by the State government.

Ananda expects the plant to generate 4,000 to 5,000 kg of CNG by taking 250 tonnes of waste once all the ten digesters begin to operate around the middle of 2016. By then his investment would go up to Rs. 20 crore. Besides, he has set aside five acres of his land for putting up the plant.

The plant has come as a boon for the poultry farmers in the area as the waste is immediately collected by the Maltose plant. Says K.S. Ashok Kumar, who owns several poultry farms and a dairy in the area (he is M.Sc. in Agriculture), Ananda must be encouraged for his innovativeness and enterprise. Ashok says poultry and animals waste is a major pollutant which if not collected and treated, leads to not merely atmospheric pollution but also leads to clogging of drainage in the city.

He says the impact of non-treatment can be gauged by the fact that a ton of methane released leads to production of 24 tonnes of carbon dioxide.

Ashok says a huge amount of biomass is consumed by cattle in the city as well as suburbs. Unless their waste is systematically treated, it either remains on the scene or flows into the gutters, resulting in blockages in the flow. He says plants like Maltose play a healing role by restoring the energy cycle which gets ruptured due to production of and diffusion of methane into the environment. Besides, the manure from the plant returns the much needed humus to the soil and can cut down the fertilizer import bill if adopted on a wider scale.

According to Nadeem Fairoz, professor at the Department of Livestock Product Technology, Bengaluru has 1.6 lakh heads of cattle and three lakh other animals (mainly pet dogs, cats, cage birds, horses and

donkeys). Due to inefficient collection, a considerable quantity of waste they generate flows into either the sewerage system or the drains.

Dr. Fairoz says biomethanation is the most productive treatment of the waste. He says a ton of putrescible waste consists of 77% water and 23% of solids. The anaerobic digestion can convert approximately 75% of those solids into biogas which is sufficient to produce 100 cubic metres of gas. The plant can be run with merely 20% of the energy it ultimately produces.

Win-win situation

Plants like Maltose have several benefits. They can be a replacement for landfills.

With low content of carbon in emission from them, the environmental dividends are huge. The residues from them can be used instead of organic fertilizers and the CNG is available at cheaper rates.

Multi-pronged approach to transform farm sector



Efforts are on to transform the State agriculture sector with a multi-pronged approach of application of scientific methods and use of innovative extension systems while taking care to protect native crop varieties and farming systems.

Though Karnataka is known for its rich agricultural bio-diversity with ten different agro-climatic zones, the vast extent of dry land which accounts

for about 70 per cent of the total cultivation area has been posing a challenge to agricultural development. In this regard, the State has announced Krishi Bhagya scheme for improving the livelihood of dry-land farmers and to achieve sustainable growth in agriculture.

The scheme, to be implemented in a phased manner over five years, will benefit 53 lakh farmers cultivating 45 lakh hectares of land spread over 23 districts in the State.

The scheme aims at conservation, storage and efficient use of rainwater, adoption of profitable cropping systems and high-income crops, promotion of animal husbandry, establishment of processing industries and providing agri-infrastructure.

The credit needs of farmers too have been a focus area in the State as the upper ceiling for interest-free short-term farm loans has been increased from Rs. 2 lakh to 3 lakh.

Soil analysis

To pave way for scientific methods of cultivation that take into account soil health, the Agriculture Department is in the process of launching a Rs. 80-crore scheme of conducting soil analysis of all farms in the State within three years.

The soil analysis, which will help decide the exact requirement of micro and macro-soil nutrients to be applied, would serve as a basis for scientists to plan agricultural activities in the State. Above all, it is expected to help improve productivity by 25 per cent.

The government has also embarked upon a project to tackle labour shortage through mechanisation by setting up custom-hiring centres which will offer agricultural implements and machinery on rent to farmers. Through this project taken up under the public-private partnership model, the government wants to reach out to all hobli centres in the State in a phased manner.

DNA sequencing

As part of its plans to popularise the staple crops of ragi and maize and also improve their existing varieties, the government has decided to adopt the scientific methods by getting DNA sequencing of these two crops.

The department has also decided to distribute kits comprising quality seeds of ragi, maize and soil nutrients required to support them to farmers, as part of efforts to increase the cultivation of these nutrient-rich crops.

Agriculture Minister Krishna Byre Gowda recently told the Legislative Assembly that DNA sequencing would be done in a non-transgenic manner and the latest technology would be adopted to complete the sequencing process in three to six months, as against the conventional method which requires three years.

Interactive website

The main focus of the Agriculture Department has been to reach out to farmers and also ensure that its experts are available to them when they need their advise. In this regard, it is using IT as a tool for connecting with farmers. In fact the department has redesigned its website to turn it into an interactive platform to help reach out to farmers in a better way. With this, farmers can now get replies from experts on any of their doubts by sending in their queries through the department's website. The replies would also be sent via SMS.

Information related to weather bulletins, pest warnings, price situation, tenders and various schemes of the Agriculture Department would also be disseminated through this website. This would also serve as a grievance-redressal mechanism, as farmers can send in their queries on administration and delivery of various services through this website.

Karnataka bags 'Krishi Karman' award

Karnataka has bagged the 'Krishi Karman' award given to the best performing States for food grains production and for individual crops for the year 2013-14. The award is instituted by the Union government.

Karnataka was earlier awarded the award for having achieved all-time record production of coarse cereals in the country in 2010-11.

Karnataka was selected for the award under oilseeds category. Prime Minister Narendra Modi, apart from the Union Agriculture Minister, presented the award to the State on February 19 at a function held at Sriganganagar, Rajasthan, according to the Director of Agriculture, B.K. Dharmarajan.

The award consists of a citation and cash amount of Rs. 1 crore. State Agriculture Minister Krishna Byre Gowda, Agriculture Production Commissioner & Development Commissioner Latha Krishna Rau, Commissioner for Agriculture Subodh Yadav and Mr. Dharmarajan received the award on behalf of the State.

Though the area under oil seeds has been declining, the State had achieved highest productivity level during 2013-14 irrespective of frequent drought situation. Productivity had increased from 636 Kg per hectare in 1993-94 to 867 Kg per hectare during 2013-14, amounting to an increase of 36 per cent.

KNNL key to prosperity of lakhs of farmers across State



Over 101 projects, that will end up irrigating more than 18 lakh hectares are being taken up by the Karnataka Neeravari Nigam Limited (KNNL) in the State. With agriculture being the backbone of the State, the KNNL becomes the key to prosperity of lakhs of farmers across the State.

Set up in 1998 as a wholly-owned subsidiary of the Government of Karnataka, the Dharwad-based KNNL is in charge of implementation of new irrigation projects and the works of Command Area Development Authority (CAIDA).

KNNL has been managing the completed projects and implementing a large number of projects, both flow and lift with special emphasis to modernisation, micro-irrigation and capacity building. Apart from 13 lakh hectares that has been irrigated by KNNL, the company has taken up micro-irrigation of nearly 3.65 lakh hectares.

The Rs. 12,340-crore Upper Bhadra Project, which will provide irrigation facilities to drought-prone areas of over 2.25 lakh hectares in Chikkamagaluru, Chitradurga, Davangere and Tumakuru districts while also filling up 367 minor irrigation tanks. The entire land will be irrigated through drip irrigation, that will end up saving water used while also ensuring water reaches the fag-end of the canal.

Another ambitious project is the Rs. 13,000-crore Yettinahole Project that will meet the drinking water needs of 68.35 lakh people in seven districts – Chikballapur, Kolar, Bengaluru, Bengaluru Rural, Ramanagar, Tumakuru, Hassan and Chikmagalur districts – by lifting 24.01 TMC of water from west-flowing streams near Sakleshpura. The project will also fill up 527 minor irrigation tanks in the districts.

Similarly, the Singtalur Lift Irrigation Scheme, estimated to cost Rs. 5,768 crore, serves the irrigation needs of drought-prone areas of Bellary, Koppal and Gadag districts in North Karnataka. Nearly one-thirds of the 1,07,380 hectares of the project will be provided with drip irrigation.

The banks of Krishna will see the Rs. 2,500-crore Tubachi-Babaleshwara Lift irrigation scheme that will irrigate 42,500 hectares in Bijapur. The Rs. 2,560-crore Upper Tunga Project to irrigate 55,261 hectares is in advanced stage of completion.

KNNL also runs the Karnataka Integrated and Sustainable Water Resources Investment Management Programme (KISIWRMIP) with the assistance of Asian Development Bank.

The program aims to enhance security of water resources through modernization of existing irrigation projects, improve water resources management in the selected river basins and other associated infrastructure activities. The total cost of the programme is nearly Rs. 1,100 crore.

Apart from construction of new irrigation facilities, KNNL is also undertaking the modernisation of the Bhadra Dam (which neared completion in 1959) at Tarikere taluk, Chickmagalur District.

Modernisation started in 2007, and is nearing completion. The project will reduce seepage of water, while increasing water flow.

Similarly, the modernization of 226-km- long Tungabhadra Left Bank Canal with its distribution system has been taken up.

Other modernisation projects include, Gondhi channels, Tunga canals in Shimoga district; Vijayanagara Channels in Bellary district; Kolachi Canal in Belagavi district; and Bennethora project in Kalaburgi district. Modernisation of Ghataprabha project and Malaprabha projects in Belagavi and Dharwad districts has been proposed.

Conference conducted

The Department of Biotechnology and Microbiology of the Hindusthan College of Arts and Science recently conducted a conference on 'Recent Advances in Bio-nanoscience and Technology'.

A release says K. Ramasamy, Vice-Chancellor, Tamil Nadu Agricultural University, inaugurated the conference.

In the technical sessions, the participants discussed the recent advances in genetic engineering, nano technology, natural products research, cancer nanotechnology, biomimetics and other related areas. The organisers had conducted poster presentation event as well. More than 300 students from over 30 institutions also participated.

3-day agri summit in Gurgaon

A three-day Agri Leadership Summit 2015, a watershed of agriculture technical knowhow and activities, will be held at Leisure Valley Ground here starting March 13.

It was announced by Haryana Agriculture Minister Om Prakash Dhankhar here on Friday.

Highlighting the objective of this mega event, Mr. Dhankar said that about 20,000 agri leaders have been invited to be part of this summit and their experience would be used to motivate other fellow farmers. About one lakh farmers are expected to see the exhibitions of agri inputs and agri outputs (products) during the summit.

The outstanding farmers at the State-level would also be honoured in the summit, which will be inaugurated by the Haryana Chief Minister Manohar Lal Khattar and Union Agriculture Minister Radha Mohan Singh.

He said that the other aim of the summit was to create a direct marketing chain of agri products from the farmer to the customer for the benefit of both. The other objective was to let the farmers know the latest techniques and innovations in the field of agriculture, which usually remain hidden in the laboratories.

According to Mr. Dhankar, through this summit the people would be able to see the 'vision in action' of the present State Government.

Mr. Dhankar said that now people demand A2 milk, the milk having yellow kerotene material present in abundance in the milk of our desi cows. A1 milk containing fat was not enough. So, our desi cows would also get promoted. With steps like this, prosperity would come to the houses of farmers.

'Development of rural areas key to economic progress'

S.K. Singh, former director, Centre on Integrated Rural Development for Asia and the Pacific, Dhaka, Bangladesh, and former director, Centre for

Panchayati Raj, National Institute of Rural Development, Hyderabad, has appreciated the progress of rural development in Asia.

Delivering the key-note address at the inaugural function of a two-day national seminar on 'Sustainable rural development: challenges and opportunities in India' here on Friday, he said development of rural areas in the 14 countries in Asia was significant for the continent's economic progress on a sustainable basis.

He said agriculture and industry existed as two separate entities in the past.

However, modern scientific and technological developments had led to a positive synergy between these two and it was bringing about notable changes in rural areas in the last decade.

'Area under millet cultivation will be given 100 p.c. funds'



The government will do everything required to popularise the cultivation of millets and provide marketing support to different food items made of millets, apart from leveraging the benefits extended by the Centre under the National Food Security Mission (NFSM), said Telangana Agriculture Minister Pocharam Srinivas Reddy.

Inaugurating the three-day 'Millet Fest-2015' at People's Plaza on Necklace Road here on Friday, he said that under the NFSM, six districts, Medak , Mahbubnagar, Warangal, Karimnagar, Nizamabad and Adilabad, that had 70 per cent of the total area under millets in the State, were chosen for 100 per cent funding.

The allocation approved by Government of India for 2014-15 was Rs.7.14 crore, he said, urging farmers to take advantage of the same.

Large number of stalls

The Millet Fest-2015 had about 60 stalls put up by different departments/organisations under the broad umbrella of the Prof. Jayashankar Telangana State Agricultural University (JTSAU), displaying seed technologies and food products made of proso, foxtail, finger, little, pearl millet and jowar.

They were packed in such a manner that they cannot be considered any less than the products made by private companies and stacked in supermarket shelves.

Mr. Pocharam Srinivas Reddy spent a lot of time at the festival taking keen interest in the stalls.

He told several people that the reason he still felt fit at his age was because of the millet foods he had consumed during childhood and in his teens.

He was accompanied by Principal Secretary of Agriculture, Poonam Malakondaiah, Commissioner of Agriculture Priyadarshini and a host of officials representing the JTSAU, including Special Officer V. Praveen Rao, Dean of Home Science Anurag Chaturvedi and Directors D. Raji Reddy (Research) and G. Bhupal Raju (Extension).

Call for effective implementation of MGNREGS

District Collector N. Padmakumar has directed the various departments to formulate activities and appoint nodal officers for the effective implementation of the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) in the district.

Speaking at a meeting to review the progress of the scheme, Mr. Padmakumar pointed out that the various activities that were undertaken by the departments could be brought under the MGNREGS. For the successful implementation of the project, it was necessary to plan

activities after the collection of basic data by each department. The department-level nodal officers must monitor the progress of each work that was being undertaken as part of the scheme, he said.

The meeting noted that various activities in the agricultural sector, including the construction of bunds and farm roads, could be undertaken. Activities to plant mangroves by the coastal areas to prevent sea attack could also be organised under the Central scheme.

KVASU pursuing tie-up with UWA

The Kerala Veterinary and Animal Sciences University (KVASU) is pursuing a tie-up with the University of Western Australia (UWA) for launching joint doctoral programmes in climatology research.

KVASU has signed in a memorandum of understanding with the UWA in this regard.

Discussion held

A discussion with Kadambot Siddique, Hacket Professor and Chair, University of Western Australia Institute of Agriculture, was held on the KVASU's Pookode campus recently to explore the possibilities.

KVASU Vice Chancellor B. Ashok, who chaired the session, suggested that collaboration with the UWA could be made meaningful in scientific output, science communication, technology transfer, sustainable development, and climatology research.

Doctoral programmes

The discussion identified some of the programmes to be launched together in the near future such as doctoral programmes in climatology on the Mannuthy campus of KVASU and an annual training programme with scientists from the UWA.

The UWA would associate with international work on future farming to be hosted by KVASU and the technology-enabled distance learning

programme of the latter would be launched as a joint venture, T.P. Sethumadhavan, Director of Entrepreneurship, KVASU, said.

The scientists of the UWA would act as co-guides for the doctoral programmes at KVASU and a student exchange programme would also be launched soon.

Joseph Mathew, Registrar, K. Devada, Director of Academics and Research, Shyam Mohan, Finance Officer, Girish Varma, Dean, College of Dairy Science and Technology, G.S.L.H.V. Prasada Rao, consultant professor, CAADECCS, and E.M. Mohammed, district epidemiologist, Animal Husbandry Department, participated in the discussion.

Transplantation of paddy seedlings begins in Mandya



Discharge of water into canals from the Krishnaraja Sagar (KRS) has prompted brisk agricultural activities across Mandya district.

The farmers had raised paddy nurseries a few weeks ago and in anticipation of bumper yields, they have started transplanting the seedlings in fields across the district.

According to the officials of the Department of Agriculture, the farmers have cultivated paddy in about 3,188 hectares of land in Mandya. The total targeted area for cultivation during summer was 20,000 hectares of land.

Sowing of paddy in the district is in full swing, according to M.N. Rajasulochana, Joint Director, Department of Agriculture.

Nevertheless, sowing has not commenced in several villages. Farmers are busy preparing the remaining fields for transplanting seedlings, another official said.

The Agriculture Department has made arrangements to supply fertilizers to farmers cultivating paddy in the current summer season, he said.

Adequate stock of fertilizers has been maintained to meet the demand. The district administration has established raitha samparka kendras at various places in the district and farmers can contact the respective kendras or the Agriculture Department for fertilizers, the official told *The Hindu*.

Mechanised farming

Meanwhile, farmers in the district are adopting mechanised farming to overcome the problem of labour shortage.

“Farmers are hiring/buying machines to plough the field and transplant seedlings,” a scientist at the Zonal Agricultural Research Station (V.C. Farm) said.

The Irrigation Department has been discharging water into the canals for the standing sugarcane crops on the “on and off” system. Some farmers are drawing water to paddy fields from these canals.

Mango processing centre, a ‘work-in-progress’ for 7 years



Mango trees in about 30,000 hectares in Kolar and Chickballapur are withering due to lack of rain.

While nature has been unkind to farmers, the government machinery has not been helpful either, as the inordinate delay in starting the mango processing training centre on the outskirts of Chintamani in Chickballapur district testifies.

Work on this state-of-the-art facility started in early 2008, but has not been inaugurated to this day.

Rs. 14.5 cr. Sanctioned

The government had sanctioned Rs. 14.5 crore for the centre for the convenience of mango growers in the two adjoining districts where mango is traditionally grown on large tracts. Though the building construction was completed two years ago, infrastructure works are still “under progress”, causing inordinate delay in the centre starting to function. Machinery worth Rs. 10 crore is to be installed at the demo block of the centre to give practical training to the farmers on mango processing, Assistant Director, Horticulture Department, who had earlier worked on the project, said.

“Staff, including the deputy director, assistant director and manager, has already been appointed for the centre,” he told *The Hindu* .
Chintamani MLA J.K. Krishna Reddy said he will write to the Horticulture Minister demanding action against erring officers.

Country vegetables become costlier at Uzhavar Santhais in Salem

The price of country vegetables has registered an upward trend in the Uzhavar Santhais in the district this week, thanks to the fall in the arrival.

Summer

The fall in the arrival of country vegetables such as brinjal, bhendi (lady’s finger), bittergourd, broad beans (avarakkai), cluster beans (kottavarankai) from the farms in the nearby villages was due to the

commencement of summer months. Brinjal, which was selling at Rs. 14 per kg in Uzhavar Santhais last week, has now been priced at Rs. 18. The price of bhendi now is Rs. 18 per kg (Rs. 12 last week), snake gourd (pudalangai) Rs. 12 (Rs. 10 last week), ridge gourd (peerkangai) Rs. 16 (Rs. 14 last week) and coconut Rs. 15 (Rs. 12 last week).

Meanwhile, there has been increase in the arrival of English vegetables such as carrot, beetroot, potato, turmeric, cabbage (muttaikose) from the hill stations of Udhagamandalam, Mettupalayam and also from Bengaluru, thanks to the good crop.

The farmers are of the view that the arrival of country vegetables is expected to fall further, due to which the price may go up further.

Membership drive

The Department of Fisheries has launched a membership drive for its District Fish Farmers Development Agency here. According to a department release, those engaged in fish culture can get various benefits under government schemes once they become member of the agency. For details contact the office of Assistant Director of Fisheries, Krishnagiri (9597986937), and Inspectors of Fisheries at Pambaru dam, Barur, Krishnagiri dam, and Hosur.

‘Oceans are closely linked with humans’



Production of potable water using the desalination technology is very cheaper and therefore the technology should be harnessed to provide potable water to the people at a cheap cost, said V.G. Idichandy, Professor Emeritus, Department of Ocean Engineering, IIT-Madras.

Speaking at SciGATHER 2015, the 29th National Science Day celebrations organised by the School of Advanced Sciences (SAS) and the School of Bio Sciences and Technology (SBST) of the VIT University here on Friday, Dr. Idichandy called upon the people to stop polluting the ocean since it would have a catastrophic effect in the future.

Climatic changes

Climate on earth is controlled by the oceans. The changes in its temperature are caused by human activities. This can have a direct impact on the marine organisms and in turn on biodiversity.

Coral bleaching, due to increased temperature, and inhibition of shell formation, are some of the appalling effects due to acidification of the oceans, he said.

The Emeritus Professor said that National Science Day was celebrated for the last 29 years on February 28 in honour of the Nobel Laureate Sir C.V. Raman.

It was on this day in 1928 his discovery of the Raman Effect came to light at the meeting of the Indian Association for the Cultivation of Science in Kolkata. The main objective of celebrating National Science Day is to infuse scientific temper in the young minds.

Ocean engineering

Pointing out that ocean engineering offered several opportunities in the fields of extraction of oil and hydro-carbons in deep sea, he said students should use science for nation building, which is the theme of the National Science Day this year.

Since oceans are inextricably linked with human life, knowledge of oceans should be imparted in the school level, he said.

G.V. Selvam, Vice-President of VIT who presided appealed to the students of biotechnology to come up with suggestions on improving the quality of the agricultural produce and expanding agriculture in the light of decline in agriculture on account of the tendency of farmers to give up cultivation.

“You should change the mindset of farmers that keeping the land idle is more profitable”, he said.

Earlier, Dr. Idichandy and Mr. Selvam garlanded the photo of C.V. Raman. Vijayakrishna Kari, Associate Professor of SAS welcomed the gathering.

Padma Thyagarajan, Professor, SBST introduced the chief guest. P. Sangeetha, Senior Assistant Professor, SAS proposed vote of thanks.



THE TIMES OF INDIA

[Survey favours national common market for agricultural commodities](#)



Batting for a national common market for agricultural commodities and to end the monopoly of Agricultural Produce Market Committees (APMCs) and middlemen, the Economic Survey has suggested government take the last step in legislating a law to enable the Centre to set up an open market for farmers. However, it says this step should be taken if "persuasion fails".

"Once a law is passed by Parliament to regulate trading in specified agricultural commodities, it will override the state APMC laws, paving way for creating a national common market. But this approach could be seen as heavy-handed on the part of Centre and contrary to the new spirit of cooperative federalism," the annual report card on the state of the country's economy stated.

Currently, markets in agricultural products are regulated under the APMC Act enacted by respective state governments. This act notifies agricultural commodities produced in the region such as fruit, vegetables, cereal, pulses, edible oilseed, sugar and even chicken and goat among others. The first sale in these commodities can be conducted only under the aegis of APMCs that charge multiple fees of substantial amount which are non-transparent.

Highlighting how un-integrated and distortion ridden agricultural market is one of the most striking problems in agriculture growth, the survey has suggested three incremental steps as possible solution. First, bring all states on board to drop fruit and vegetable from APMC schedule of regulated commodities followed by other commodities. Second, the states should be persuaded to provide policy support for alternative or special markets in private sector. And thirdly, the report suggests that liberalization in foreign direct investment (FDI) in retail could create possibilities for filling in the massive investment and infrastructure deficit in supply chain inefficiencies.

[Farmers hope for focus on irrigation](#)

Nagpur: There is a feeling of being let down among farmers. They feel that Prime Minister Narendra Modi has till date done nothing to fulfill his election promises and on top of it his government is now bringing a land acquisition law that would deny farmers their basic rights. If the Union budget on Saturday fails to provide much needed relief, Modi government is sure to incur farmers' wrath.

"Modi was catapulted to power by people last year. In his election speeches, he said he understood problems of Vidarbha's suicide-prone farmers and would address their issues on priority," said Kishore Tiwari of Vidarbha Jan Andolan Samiti. "At a 'Chai pe charcha' interaction with cotton growers at Dabhadi village of Arni taluka in Yavatmal, he specifically promised better remunerative prices for cotton," said Tiwari.

Shetkari Sanghatana founder member Vijay Jawandhiya is also sceptical about farmers getting any relief in the budget. "Modi government is veering towards globalization, attracting foreign funding for fancy projects like high-speed trains. The hapless farmer seems to be nowhere on this government's radar as he is being blamed for all the ills and the burgeoning agriculture distress," said Jawandhiya. "For rescuing sugarcane growers, the government is giving export subsidy. Can't it do the same for cotton cultivators who are getting less than Rs4000 a quintal while last season they got Rs6000," asked Jawandhiya.

Shrikant Kale, a farmer from village Nagziri in Warud taluka in Amravati district, wants the government to increase investment in irrigation. "Irrigation holds the key to agriculture. If government gives full subsidy on schemes like drip irrigation then farmers would not want much support in the form of compensations. "In fact, we do not want compensation. Government should ensure that the farmer gets remunerative price for his crop every year depending on the production that year. Also, government should make provision for direct marketing by investing in market places for the purpose," he said.

Manoj Jawanjil, a progressive orange grower from Katol, too supports investment in irrigation. He wants government to frame a completely new policy on drip irrigation. More than that, he wants the government to create uniform marketing infrastructure across the country. This should include warehouses, processing and packaging units for grains as well as fruits and vegetables. "Punjab has this infrastructure. Each state marketing board should be given enough funds to develop such facilities," he said. Jawanjil also wants a new 'organic farming policy' in place detailing the investment in the scheme.

THE HINDU BusinessLine

Late rabi sowing edges up

No improvement in prospects for Telangana



There has been no improvement in the prospects for farmers in Telangana in the rabi season for almost all crops barring maize and green gram. Official records show that a quarter of the normal cropped area has not been covered this rabi season due to acute shortage of water sources.

The average cropped area of the new State is about 13 lakh hectares in the rabi season. “But farmers could plant on 9.50 lakh hectares. Paddy has been hit hard with farmers growing the crop only in 66 per cent of the average area of 6.50 lh,” an official of the Agriculture Department has said.

Maize, which is generally grown on 1.52 lh, has seen a marginal increase with 1.60 lh. Green gram too witnessed an increase with farmers growing it on 22,000 hectares against the normal area of 15,000 hectares.

The total area of foodgrain crops too registered a fall of 25 per cent at 7.60 lh against the average area of 10.41 lh.

Cogencis adds: Farmers in the country have started sowing summer or late rabi oilseeds, with the total area rising to 3,72,000 hectares so far, up from 3,28,000 hectares in the year-ago period, the latest agriculture ministry data showed. The release from the ministry also said the data for summer oilseed sowing so far has been reported from Karnataka, Andhra Pradesh, Odisha, Tamil Nadu, Chhattisgarh, Telangana and Maharashtra. In 2014-15, the total area under rabi oilseeds was down 10.3 per cent on year at 8.09 million hectares.

Sowing for rabi has been hit, as the harvest of kharif crops had been delayed due to erratic monsoon.

Sowing of pulses has also started in Karnataka, with the total area rising to 10,000 hectares so far, from 7,000 hectares a year ago, the data showed.

In 2014-15, total area under rabi pulses was down 10 per cent on year at 14.59 million hectares.

The area under rabi rice was 3.05 million hectares so far, against 3.54 million last year, the data showed.

The government has pegged foodgrain output at 133.28 million tonnes from the rabi crop in 2014-15 – down from 136.88 mt produced a year ago.

How fertile is my family land



Saguna Baug is an inspiring story of the transformation of a degraded piece of land into a productive farm integrated with cereal crops, multi-purpose trees, farm animals and aquatic fauna.

Largely the work of farmer Chandrashekhar Bhadsavle, the farm serves as a beacon of hope for small farmers. Proximity to Mumbai proved a bane for Karjat taluk in Maharashtra's Raigad district. Rapid industrialisation has enticed almost 90 per cent of the region's small farmers to sell their tiny landholdings, even though the region is blessed with 150 inches of annual rain and good soil conditions.

Saguna Baug, on the other hand, persisted in tapping the region's natural strengths to grow food crops, rear livestock and fish, and promote the surrounding wild biodiversity.

Converting the degraded ancestral land into a productive landscape proved daunting at first for the US-trained food technologist Bhadsavle back in the late 1980s.

After seven unsuccessful years in agriculture, the desperate farmer learnt the art of catching dreaded snakes in the wilderness of the farm. His family disapproved, but catching snakes and selling venom soon became a profitable vocation for him. He ploughed the income back into farming. The creation of rain-fed ponds in one-third of the farm and efforts to improve its canopy cover are the foundation on which its success rests today.

An integrated farming system keeps the land productive through the year, and Saguna Baug is now considered a 'farmer field school', which shares new practices with peers.

Besides the wide variety of cereals, pulses, fruits and trees growing in it, 60 kinds of birds and a dozen fish species inhabit the farm. Three hectares of water bodies yield more than 8,000kg of fish annually. Ten truckloads of bamboo are sold annually.

Additionally, Bhadsavle has over the years perfected the Saguna Rice Technique (SRT), which lowers production cost by cutting on labour and reducing erosion. Rice is cultivated on permanent raised beds to avoid ploughing, puddling and transplanting. As the technique involves using residual moisture, the farmer can easily cultivate two crops in a year. Saguna Baug religiously follows zero tillage to retain the roots of the older crop in the post-harvest soil. The root network prevents the soil from cracking, creates aerobic pathways after it dries up, contributes organic carbon to the soil, helps retain soil moisture, and, thereby, lowers water consumption for the next crop by 40-50 per cent.

With zero tillage, paddy-leafy vegetable-groundnut rotation generates Rs. 2 lakh from an acre, while an annual sugarcane crop fetches half of that.

The experiments have attracted the attention of the Indian Council of Agricultural Research, as well as private and international agencies looking for collaborative initiatives.

Regulatory framework on GM crops needs a rethink

Reform required in the import policy of farm products



Making a case for productivity-led growth strategy in agriculture, the Survey has observed that the regulatory framework on genetically modified crops and their implementation needs a rethinking.

“Given the lack of evidence on negative consequences from Bt and other genetically modified (GM) crops, and the significant potential productivity, food security, and sustainability benefits, the corresponding regulatory frameworks and their implementation deserve rethinking,” the Survey said.

The Survey, which pegged the GDP growth in agriculture and allied sectors at 1.1 per cent for 2014-15, said the current strategy of price-led growth in agriculture was unsustainable. It suggested the government to achieve growth in agriculture relying more on non-price factors such as yields and productivity.

Farm trade

“To improve resilience of the agricultural sector and bolster food security – including availability and affordable access – our strategy for agriculture has to focus on improving yield and productivity,” it said. On farm trade, the Survey said that reform is required in the import policy of agricultural products. “The applied tariffs for imports should be linked in a counter cyclical manner with international prices so that the landed prices of imported commodities fall within a known range. This would protect farmers from adverse impact of steep fall in commodity prices and facilitate long-term investment in agriculture,” the Survey said

“While the trade policy regime should be stable, it should also be nimble to quickly respond to the changed export duty structure of the exporting

countries aimed at pushing value-added products by neutralising our duty differential between raw material and finished product,” it added

The Survey said that there was an increasing demand for opening up export of pulses that would incentivise farmers to invest in pulse cultivation and for a reasonable duty structure to be devised to contain excessive imports.

“Further, a pre-announced import duty structure will bring stability in domestic edible oil prices leading to increase in production of oil seed/palm. This will also result in reduced incidence of prices falling below MSPs of oilseeds requiring procurements by government agencies,” it said. The Survey also called for strengthening of the commodity futures market.

At present, 43 of the 113 commodities that are notified for futures trading are actively traded in four national exchanges and six commodity specific exchanges.

Business Standard

Economic Survey: Move beyond 'persuasion' for creating national agriculture market



Control over agricultural markets might be a domain of state governments but the Economic Survey has called for bold actions that move further from mere “persuasion” to using constitutional provisions for enacting legislation to set up a national common market for specified agricultural commodities. It would mean the Union government make use of entries in the Union List and the Concurrent List of the Seventh

Schedule to change law rather than wait for the states to do it.

Severely criticising the operations of agricultural produce market committees (APMC), the Survey said their revenues were not just hidden from scrutiny but also positions in the market committee at the state level and market board, which supervised the market committees, were occupied by politically influential persons. “They enjoy a cosy relationship with the licensed commission agents who wield power by exercising monopoly power within the notified area, at times by forming cartels. The resistance to reforming APMCs is perceived to be emanating from these factors,” it said.

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Though the need for setting up a national market was emphasised in the last Budget and the Centre had taken steps to encourage states to develop farmer markets in towns to enable farmers to sell their produce directly, the Survey said, “More steps may have to be taken and incremental moves may need to be considered to get the states on board.”

Markets in the agricultural products are regulated under the [Agriculture](#) Produce Market Committee Act enacted by state governments. There are 2,477 principal regulated markets based on geography, called agriculture produce market committee and 4,843 sub-market yards regulated by the respective APMCs in India.

“Effectively, India has not one, not 29 but thousands of agriculture markets,” the survey pointed out, while highlighting that multiplicity of fees and tax had a cascading impact on the prices of a commodity when it passes through the supply chain. For instance, these charges could be as high as 14.5 per cent in Andhra Pradesh, excluding state value-added tax and close to 10 per cent in Odisha and Punjab.

The model APMC has attempted at creating greater competition by giving farmers some freedom to sell their produce directly to the contract-sponsors or in the market set up by private individuals, consumers or

producers. The survey is, however, critical of the model Act in that it treats APMC as an arm of the state and the market fee as the tax levied by the state, rather than fee charged for providing services. “This acts as a major impediment to creating national common market in agriculture commodities. Removal of this provision will pave a way for creating competition and a national common market for agriculture commodities.”

Besides, section 42 in the model Act provides for market fee to be levied on the buyer. The incidence of this fee falls on the selling farmer since the buyer discounts their bids to the extent of the fee or commission charged by the APMC and the commission agents even though the legislation bars such a fee on the sellers.

The Survey said the principal objective of food management was to ensure food security through timely and efficient procurement and distribution of foodgrain, besides affordable and stable prices. The pricing instruments used are minimum support price and central issue price. But price support “effectively operates primarily in wheat and rice and that, too, in selected states” creating incentive structures highly skewed in favour of the two grains.