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Onion exports fall 18% during April-September on govt restrictions

Maharashtra, Karnataka and Madhya Pradesh are the top three onion-producing states in the country. File photo: B. Velankanni

Onion exports declined by 18 per cent to 4.86 lakh tonnes in the first half of the fiscal on the government's steps to curb outbound shipments.

The exports stood at 4,85,930.51 tonnes during April - September period of the current 2015-16 fiscal compared with 5,89,900.89 tonnes in the corresponding period of the previous year, according to data compiled by National Horticultural Research and Development Foundation (NHRDF).

Exports dipped during the first six months of the fiscal as the government had hiked the minimum export price (MEP) to USD 700 per tonne in August this year as prices skyrocketed on lower output due to unseasonal rains.

With onion prices under control and ruling at low levels, the government on Thursday scrapped the onion MEP to push outward bound shipments as domestic prices have crashed.

“All varieties of onions... can be exported without any MEP,” Directorate General of Foreign Trade (DGFT) said in a notification. MEP is the rate below which no trader is allowed to export. The rise in MEP restricts exports and improves domestic supply.

In August, the government had hiked onion MEP to USD 700 per tonne, from USD 425 as prices skyrocketed on lower output due to unseasonal rains.

Earlier this month, the government had slashed the minimum export price (MEP) on onions to USD 400 per tonne from USD 700 to encourage outbound shipments of the commodity.

The Maharashtra government had recently asked the Centre to scrap the minimum export price for onions to help boost overseas shipments after wholesale prices of the bulb went down to the Rs. 10 per kg level.

Wholesale onion prices have fallen to about Rs. 10 a kg in the Lasalgaon market compared to Rs. 26 in late November.

Onion production is estimated to be lower at 189 lakh tonnes in 2014-15 crop year (July-June), slightly lower than 194 lakh tonnes a year ago.

Maharashtra, Karnataka and Madhya Pradesh are the top three onion-producing states in the country.

Water lessons

The schoolchildren sat in rapt attention as the teacher was talking to them, explaining what they were seeing. The Bhoganandeeshwara Temple at the foot of the Nandi Hills was the setting and the stepwell was the stage. Dating back to 806 A.D. the temple has seen the Ganga Chalukya, the Cholas, the Hoysalas, the Vijaynagar Kingdom et al. The kalyani or the pushkarni – the

step-well – is described and believed to be the source of the Dakshina Pinakini river and built by Krishna Devaraya of the Vijayanagara empire.

There is much to be learnt here and some of the learnings are around water. That the stepwell indicated that groundwater was relatively abundant and at a high level, that perhaps a spring emerged here which was the source of the Pinakini, that the open wells in the temple complex had water which was used for the veneration of the idols installed, that the groundwater table now has fallen to 1,000 ft. or more, that the stepwell now has to be filled with water from a borewell and much, much more.

While history is a great teacher, the year 2015 also had many lessons around water. The beginning of the year saw a drought which caused much misery and continues to do so in many parts of the country. Late rains in some districts brought some relief yet delayed monsoons mean that agricultural crops are affected. Then there was the once-in-a-hundred-year rainfall event in Chennai, spanning some weeks.

The rains taught us that you have to respect water bodies, wetlands, rivers and streams and that you cannot build or encroach them. You may build dams and barrages but these can very often become the cause of flooding if operations are not coordinated with rainfall events. After the floods clean water and sanitation emerges as the biggest challenge. It also taught us that communities have to come together if they have to survive and that planning has to be farsighted and ensure that urban planning cannot be senseless and haphazard.

Paying the price

In Bengaluru, waters from tanks started foaming and caught fire. This grabbed international attention. The city learnt that unmitigated dumping of waste-water into the lakes and rivers is not the way forward and that sooner or later a price will have to be paid. Now waste-water treatment plants are coming up, yet the problem will stay for a long time and the accumulated history of raw sewage in our lakes will need a long-term clean-up.

Communities meanwhile engaged in cleaning up their water bodies. Salem, Dindigul, Mysore , Erode, Tiptur, Hyderabad and Bengaluru saw galvanised groups of people engaging with the authorities to try and save water bodies , clean and restore them. The courts too were in the forefront of the battle to save our water bodies.

A massive campaign has been launched to provide toilets and clean up India, called the Swacchh Bharat mission. In terms of scale it is the world's largest clean-up drive ever, with even the World Bank promising a billion-and-a-half dollars as loan support. As it is rolled out in our villages and cities, a tectonic shift in culture and behaviour will need to be triggered if we have to save our rivers, waters and health itself. The days ahead will prove whether we are ready for the challenge.

Small efforts of individuals and groups are too numerous to list but one of them called Operation Parijath quietly cleans up the ghats of Benaras, India holiest city. It is led by a dedicated group of young volunteers.

In the many individual and institutional efforts will lie India's salvation as far as water and sanitation is concerned. The bigger question of what are our rivers, how do we understand and relate to them, what is groundwater and what should we do to make it sustainable and the critical importance of sustainable sanitation has only been touched at the tip of the iceberg in 2015. Learning the right lessons from experience would be water wisdom.

Floods leave coir industry in tatters

With no compensation from the administration, labourers are facing mounting debts

After the rains, workers are putting in longer hours as they have taken loans to make up for the loss of wages. Villagers engaged in spinning coir rope in Cuddalore.— Photo: B.Jothi Ramalingam

It was on Monday that 44-year-old Shanthi received her first wage after almost two months. As she carefully sorted the drying coir and placed it on a machine, the wounds in her palms that began to heal slowly over the last few weeks opened up again.

“The floodwaters entered our coir unit in early November ravaging the enclosure. We have not had work for two months,” she said.

While the focus has been on agricultural losses in the predominantly rural district of Cuddalore, small-scale industries like coir-rope making have gone out of focus. Selvi, who works at a thatched unit on the Cuddalore-Chidambaram road, said even in normal times, long hours of hard work fetched very little. “We are paid on hourly basis. The women get Rs. 20 per hour and men Rs 30. We work 10 to 12 hours usually,” she said.

But the long period without any wages had forced them to seek the help of local moneylenders. “At the peak of rains, some lenders even charged 5 per cent interest per month. In these 50 days, I have taken several small loans adding up to Rs. 15,000,” she added.

To compensate, the workers are now putting in more hours. Those who work on the manual machines start the day as early as 6 am and continue till 7 pm. The terms of employment of those who work on the electric machines add to their woes. “The power is erratic. We are paid on time bases. Our employers will not count the time lost due to power disruptions. We have to sit idle and at the same time lose money,” the labourers pointed out. Given the low wage rate, very few men opt for the work as agriculture pays better. But the floods that ravaged the fields have forced some to get into rope-making now.

On their part, owners of these coir units said they faced heavy loses as the machines broke down in the floods. The heaps of coir stocked in the units

were washed away in some places. “Repairing a single machine costs us thousands. Nobody has come to these units to survey the damage,” an owner said on condition of anonymity.

The labourers said the government should consider including them in the compensation schemes on a par with those in agriculture to help them tide over the crisis exasperated by the increasing debts.

‘Improve farm practices’

S.K. Meti, Director (Extension) University of Agricultural Science, Raichur, exhorted farmers to come forward to adopt inventions and improved agricultural practices and get good yield.

Participating in the ‘Rathara dinacharne’, organised by the university in association with department of Agriculture and Sarvodaya Samsthe, a non-governmental organisation at Hanumanahal village in Koppal taluk on Friday, Dr. Meti said that the university was meant to serve agrarians, who in turn should gain knowledge of the new inventions in agricultural practices, improved farm mechanisation and adopt them to become progressive farmers in this present era of globalisation. According to him, there were many farmers who have emerged successful by adopting the new techniques and stressed the need for others to follow suit.

New disease-resistant paddy and castor seeds to be released soon

Their yield has also been found to be higher than traditional varieties

Scientists at the University of Agricultural and Horticultural Sciences (UAHS), Shivamogga, have developed disease-resistant varieties of paddy and castor seeds.

The new paddy variety is called as KPR (Karnataka Ponnampet Rice)-1. The yield of paddy has come down drastically in recent times in Malnad and

central Karnataka regions owing to blast disease, which is caused by a fungus called Magnaporthe grisea.

The infection affects the plant's growth and slows down the process of grain maturity.

The KPR-1 has been developed by the scientists at Agricultural and Horticultural Research Station of the university in Ponnampet. As part of the initial evaluation trial, a total of 1,450 paddy varieties were cultivated in plots prone to the blast disease. However, some IET-21214 plant variety is said to have shown stiff resistance to blast disease. The parentage of KPR-1 variety is from IET-21214 variety and it has been developed under breeding method.

The Tunga variety of paddy, which is also known for its resistance to blast disease, is most popular among the farmers in Malnad and central Karnataka region.

The yield of Tunga variety is found to be around 45 to 50 quintals an acre and it is 55 to 65 quintals an acre in the case of KPR-1 variety. T.H. Gowda, Director of Extension of UAHS, Shivamogga, told *The Hindu* that the field trial of KPR-1 was conducted on the plots owned by farmers in Virajpet, Ponnampet and Mudigere. The average yield in the case of KPR-1 is said to be about 20 per cent more than the Tunga and other blast-disease resistant varieties. The KPR-1 variety has shown resistance to brown hopper disease also, he said.

The castor seed oil, considered as one of the major industrial oil seeds variety, is widely cultivated in dry regions of Chitradurga, Davangere and Tumakuru districts. However, the yield of castor seed has been waning owing to fusarium wilt and white fly infection.

Scientists at zonal agricultural and horticultural research station of the university at Hiriyur have developed a disease-resistant and high-yield variety of castor seed named HCH (Hybrid Castor Hiriyur)-6, which is a

fusion of DPC-9 and TMV-6 varieties. If cultivated as a solo crop, the yield of HCH-6 variety is said to be around 18 quintals a hectare of land, while it was around 13-14 quintals a ha in other existing varieties.

As part of the farm trial, Lakshmanappa, a farmer from Holalkere in Chitradurga district, who had cultivated HCH-6 variety of castor in his land, said that the yield had increased by around 22 per cent and the plants were free from wilt infection.P. Narayanaswamy, Director of Research, UAHS, Shivamogga, said that KPR-1 paddy and HCH-6 castor seeds would be released after getting approval from the State-level Variety Release Committee and the Central Sub-committee on Crop Standards, Notification and Release of Varieties. The seeds of both the varieties would be released by June, 2016, he said.

The new KPR-1 paddy and HCH-6 seeds have been developed by scientists at UAHS, Shivammoga

Yield in the case of traditional varieties said to be declining by the year owing to disease

Farm trial of new varieties have been completed

They are just awaiting official approval for release

Interest in organic farming growing

- Farmer V. Subramanian at his organic field at Sillukaripalayam village at Mannadipet; farmers who have switched to organic farming in Koonichempattu —Photos: S.S. Kumar and Special Arrangement

It has an advantage over conventional farming, say Puducherry farmers

: Of the 11,000 hectares of agricultural land in Puducherry, around 22 hectares of certified organic farms might appear to be small in comparison. However, not only is the area under organic farming slowly growing, it also appears to be finding a new-found enthusiasm in the farmers' community which has begun to appreciate its advantages over conventional farming.

The National Bank for Agriculture and Rural Development (NABARD) in association with the Indian Bank Self Employment Training Institute (INDSETI) and NGO Ekoventure have been holding training programmes in organic farming since a few years in Puducherry villages. Since 2014, Ekoventure has helped facilitate organic certification under the Participatory Guarantee System (PGS) of the Union Ministry of Agriculture and Farmers Welfare.

Among those who have taken to organic farming is V. Subramanian, a staff member of the milk society in Sillukaripalayam village in Mannadipet commune. He had given up farming owing to mounting losses. His interaction with Ekoventure led him to take back his leased land and try organic farming with black gram two years ago. Now, in his two acre field, he grows traditional varieties of paddy like Seeraga Samba and Mappillai Samba, besides also trying out lady's finger and groundnut. "People were surprised to see me take up farming again. With each harvest, I have

improved," says Mr. Subramanian. He promotes organic farming among others in his village, and his children have also taken to his interest, he says.

Organic and traditional varieties

In the village of Koonichempattu in Puducherry, two groups consisting of 12 farmers are practising organic farming in around three acres. One of the groups is now qualified to get their PGS certification. Traditional paddy varieties like Seeraga Samba, Mappillai Samba, Mysore Mallige and Kitchidi Samba, banana, black gram (Vamban 4 variety), foxtail millet and spinach are being grown here. S. Veerappan, who heads one of the farmer groups says, "We find that organic traditional paddy varieties are less vulnerable to attack by pests. The yield is also higher, bringing down our overall costs." Under organic farming, one acre yields around 2 tonnes of rice, say the farmers. Thyagarajan, another farmer of the group adds, "For every usage of fertiliser worth Rs.3,300 in conventional farming, only Rs.1,500 is needed now. While one bag of urea is Rs.300, 5 kilograms of biofertiliser asos is only Rs.136."

Horticulturist Sivalingam from Manalipet experimented with a small patch in his one acre of jasmine. "I am seeing good results. Earlier, I used to spend Rs. 1,500 a month on spraying pesticide, while now I require only Rs.400 for organic pesticide. The flowers weigh more, stay fresher longer and smell more fragrant, says Mr. Sivalingam.

Replacing chemical fertilisers and pesticides are Effective Microorganisms, Cow Pat Pit compost, organic manure Amirtha karaisal, biopesticide Panchagavya, use of oil cake and molasses as fertiliser, and use of pepper and ginger-garlic extract as pesticide. Paddy farmers are also implementing the organic low-water methodology of System of Rice Intensification. In Puducherry, sugarcane, ragi, guava, maize, green gram are also being grown in organic farms. "Our success lies in farmers getting inspired and spreading the word, as well as sustaining the initiative themselves," says R. Chandirapoorani, facilitator with Ekoventure, adding there has been a growing interest in the last five years.

Ensuring all processes are kept strictly organic is not without its challenges of course, but the farmers seemed determined to carry on. Mr. Subramanian reveals his other reason for working in the field.

“I have diabetes. The farming gives me adequate exercise to keep fit,” he says.

Punjab battles yellow rust disease in wheat

Yellow rust is a fungal disease which turns crop’s leaves yellowish and stops photosynthesis activity

Yellow rust is a fungal disease which turns crop’s leaves yellowish and stops photosynthesis.

With incidence of yellow rust disease spotted on the wheat crop in parts of Punjab, the Agriculture Department is leaving nothing to chance to ensure the spread of disease doesn’t go beyond control.

Punjab government and the agriculture department had faced the wrath of farmers over the cotton crop failure during the Kharif season this year and hence, the agriculture officials are already in fields suggesting remedial measures.

“We have received reports of yellow rust on wheat crop in few villages of Ropar and Anandpur Sahib districts. It is in a very limited area that crop has

been affected as of now, but we are not taking any chances and our team of experts have reached the fields to monitor the situation," Gurdial Singh, Director, Punjab Agriculture department told *The Hindu* .

Yellow rust is a fungal disease which turns crop's leaves yellowish and stops the photosynthesis. Though the disease has recurred over the years in the HD 2967 variety of wheat, farmers in Punjab have sown this variety in over 75 per cent of the total sown area this season over 35 lakh hectare. "Farmers in Punjab predominantly go for HD 2967 variety of wheat as it's a high yielding variety," senior agriculture expert and Punjab State Farmers Commission adviser P.S. Rangi told *The Hindu* .

He said: "Yellow rust can not be ignored as it can spread quickly and can cause severe losses in crop yield, if not checked in time. However, at this stage it's not threatening." Notably, this is not the first occasion when the wheat crop in parts of Punjab has been attacked by yellow rust with the sub-mountainous districts of the State affected last.

Advised diversification

To pre-empt the occurrence of the disease, based on previous years experiences, experts and scientists from the Punjab Agricultural University (PAU) had already asked farmers to diversify from HD 2967. PAU experts had advised farmers to adopt new varieties especially PBW 677, HD 3086 and WH 1105 for cultivation under irrigated timely sown conditions. Also, agri- scientists have been suggesting farmers to avoid risks associated with mono-culture and asking them to grow more than one variety in their field.

'Help children develop interest in farming'

"Though we call our country as a land of agriculture, it [farming] has become a neglected sector due to growing commercialisation and urbanisation; we won't survive if we do not help children develop interest in agriculture," said Lions Education Society president Shyamsunder Bhat.

He was inaugurating a quiz on agriculture at the Lions School in Sirsi.

Block Education Officer B.V. Naik, who was the chief guest, said that there was no life without agriculture and “let us respect agriculture and farmers”. Social worker M.M. Bhat said that though “our government says that it is pro-farmer, it [government] is neglecting the farm sector”.

Meet discusses agricultural plan

The Tamil Nadu Agricultural University jointly with the Krishi Vigyan Kendra organised a consultative meeting to chalk out the District Agricultural Plan under the National Agricultural Development Project here recently.

The meeting was conducted at Krishi Vigyan Kendra, Papparapatty for planning on the block and district level agricultural plan to enable funding under National Agricultural Development Project pertaining to Dharmapuri district. The project envisions development of agriculture as an all-encompassing field that includes Horticulture, Agricultural Engineering, Sericulture, Animal Husbandry and Fisheries. Progressive farmers of Pennagaram, Palacode, Karimangalam and Dharmapuri took part.

The district agricultural plan brought to the table discussion on production aspects of agriculture such as improvement of soil health; production of vermi compost, access to quality biofertilizers, and high-yielding variety of quality seeds, and availability of crop boosters etc.

Dharmapuri, for large part, being a dry tract, the District Agricultural Plan also focused on water saving technologies such as drip and sprinkler irrigation; assistance for farmers for sinking and deepening of wells; replacement of electric motors; screening wall for well to avoid damage to motor and pipelines; and increasing subsidy for solar pump etc.

Innovations in animal husbandry such as mobile veterinary service, native bred dairy, and farm fresh milk marketing at Uzhavar Sandhais received wide appreciation. Projects with income-generating potential under fisheries and sericulture were also discussed.

Learn natural farming from a pioneer

Do you wish to start the New Year by imbibing valuable lessons in organic farming?

Subhash Palekar, the pioneer of zero-budget natural farming, will personally give training at a camp to be held at Gandhi Nagar near the Puthukkad police station in Thrissur from January 3 to 10.

An organising committee chaired by C. Raveendranath, MLA, has been formed for the successful conduct of the camp. The camp is being organised jointly by Palekar Prakruthi Karshaka Samsthana Samithi, Gandhi Peace Foundation, Vadakkancherry-based Green Army and Alter Media Thrissur. Born into a Maharashtrian family with agriculture background, Mr. Palekar adopted a farming method rooted on reviving the fertility of the soil the natural way shunning the use of chemical pesticides. Around 50 lakh farmers are reported to be following his zero-budget natural farming.

Subhash Palekar to hold training camp near Puthukkad from January 3 to 10.

Farm festival

Chief Minister Oommen Chandy will inaugurate a 10-day agriculture festival organised by the Gandhiji Study Circle at Newmans College ground, Thodupuzha, at 4 p.m. on Saturday. There will be arts and cultural programmes in addition to the agriculture fair, said its chairman P.J. Joseph. — A Correspondent

Flower, vegetable carvings show draws many visitors

4.5 tonnes of vegetables – pumpkin, cucumber, radish, brinjal, carrot – used

ATTRACTIVE:People visiting the flower and vegetables carvings show at Genetic Heritage Garden at Achadipirambu near Ramanathapuram on Friday.— Photo: L. BALACHANDAR

Hundreds of people thronged the Genetic Heritage Garden developed with beautiful landscaping at Achadipirambu on East Coast Road (ECR) near here on Friday as the Department of Horticulture organised a three-day flower and vegetable carvings show.

As the ecological garden, developed by Tamil Nadu Horticulture Development Agency on a 10-acre site at a cost of Rs. 7.35 crore, was thrown open to the public in June did not attract many, the Department of Horticulture and Plantation Crops organised the show to attract people as suggested by Collector K. Nanthakumar.

Minister for Sports and Youth Welfare S. Sundararaj inaugurated the show and more than 5,000 people visited the park on the first day. “The response was very good and people flocked the park till late on Friday evening,” S. Tamil Vendhan, Deputy Director, Department of Horticulture, said.

The department had installed 20 vegetable carvings, using 4.5 tonnes of vegetables such as pumpkin, cucumber, radish, special variety of brinjal, bitter guard, yam, carrot and colour capsicums, he said.

Portraits of Chief Minister Jayalalithaa, former President A.P.J. Abdul Kalam, Jesus Christ and Lord Vinayagar hogged the limelight. The department also organised a flower show, using 15 varieties of flowers such as rose, gerbera and lilium aster daisy to ‘bring alive’ fish, dolphin, guitar and peacock, Mr. Tamil Vendhan said.

The department also opened a children's park with ramblers, balancers and a ball cage for children. The much-awaited canteen was also opened on Friday, he said, adding Ramco, Aavin and a self-help group had joined hands to run the canteen. Tamil Nadu Tourism Development Corporation (TTDC) had chipped in to run the canteen during the show, he added.

The genetic garden, showcasing the geographical divisions of the State, has been developed with eye-catching thematic elements. The agency has developed the garden, representing 'Paalai' (parched wasteland and desert), one of the five landscapes defined in ancient Sangam literature. The garden promises to provide an ideal space for the people to relax.

Though the garden has to reflect Paalai landscape concept, the agency has added more greenery to attract visitors.

Water from Manimuthar dam released for irrigation

To benefit 22,852 acres of lands in Tirunelveli and Tuticorin districts

Collector M.Karunakaran (centre) releasing water from Manimutharu dam in Tirunelveli district on Friday.

Collector M. Karunakaran on Friday released water from Manimuthar dam for irrigation to benefit farmers of Tirunelveli and Tuticorin districts. The water released from this dam would benefit 22,852 acres of lands in these two districts for the pisanam season. Water was released from the main

channel of this dam and discharged through first, second, third and fourth reaches.

Water would be released for 98 days until March 31, 2016. It would be beneficial to raise crops on irrigated lands and farmers from villages of Ambasamudram, Nanguneri, Palayamkottai, Radhapuram taluks in Tirunelveli district and villages of Srivaikuntam, Tiruchendur and Sathankulam taluks would benefit, the Collector said.

K.R.P. Prabakran, Tirunelveli MP, Mayor of Tirunelveli Corporation Vijila Satyanand, Sub Collector of Cheranmahadevi Vishnu, Executive Engineer of PWD, Manimuthar Main Channel, A. Subramanian, Assistant Engineers of PWD and local body representatives were present.

Planting of saplings deferred

PRECIOUS RESOURCE:Sandalwood saplings being raised at a nursery in Athani in Erode.

he Forest Department has deferred planting of sandalwood saplings in Bargur forests by a year.
About 10,000 saplings are being raised at a nursery in Athani to nurture the saplings until they grow to a height of 6 ft. Along with the soil, each sapling will weigh nearly 10 kg before they are shifted to the Bargur forests.

For roots

The idea is to strengthen the roots, and hence, the survival rate in the forest, District Forest Officer of Erode Division Nagarajan said. Smaller saplings were purchased from a Dindigul-based nursery and transplanted in Erode.

The saplings are being raised in bags containing red soil, farm yard manure, and sand in equal proportions, Mr. Nagarajan said.

About 1,000 saplings each planted already in three ranges on experimental basis are showing good survival signs. The survival and biotic interference will be observed and based on the outcome, the grown saplings will be planted, Mr. Nagarajan said.

For planting of the saplings in forest area and involving farmers in raising sandalwood trees in private lands as an income-generation activity for tribal people in Erode, Salem, Vellore, Dharmapuri, and Tiruchi districts, the State Government has earmarked Rs. 100 crore for the next 10 years.

In Erode district, sandalwood saplings would be planted across Erode, Anthiyur, Bargur, and Chennampatti ranges.

Places where the altitudes range from 600 to 900 m above sea level are considered ideal for regeneration of sandalwood trees.

De-worming camp

De-worming camp for livestock is proposed to be conducted in the district on Saturday and Sunday.

According to a release, 82,828 goats have been distributed to over 21,830 beneficiaries during 2011-2015; and over 759 cows were distributed during the same period here. The Collector has asked farmers to benefit from the camp.

Subsidy for farmers

The district has been allocated with subsidy for drip and spray irrigation for horticulture farmers. According to a release, subsidy has been allocated to cover 2063.11 hectare for drip irrigation and 711.04 hectare for spray irrigation.

The scheme for drip and spray irrigation entails cent per cent subsidy for small and marginal farmers and 75 per cent subsidy for other farmers.

Interested farmers are requested to apply with requisite documents to the Assistant Directors of Horticulture in blocks here.

The applications must be accompanied by survey number, sitta, survey draft of the land, passport size photograph, soil test and tahsildar's testimony for small and marginal farmers.

CDB seeks details on neera training centre at Thumbe

Horticulture Department's move to open a training centre for neera tapping at its pilot neera processing unit at Thumbe has taken a step forward with the Coconut Development Board (CDB) seeking details about the existing facilities at the centre.

Earlier, the department here had submitted a Rs. 10.46 lakh proposal to the board seeking funds for opening the training centre.

A senior official in the department told *The Hindu* that the department here sent the details to the board a week ago. It has sought details regarding any training programme conducted earlier, facilities at the unit and the like. If the fund is sanctioned the department has proposed to start the training in this financial year itself. It is proposed to conduct training for 60 tappers in three batches as 20 trainees each in a year.

The department is hopeful that the fund would be sanctioned as the board has funds reserved under neera technicians' training programme.

The official said that the department here two months ago got 12 persons trained in neera tapping under the training programme of the board. The board has issued them master trainer certificates. The trained tappers could be used for training other interested farmers.

The department has proposed the government that the unit at Thumbe could also be used as master training centre.

The official said that there is shortage of trained neera tappers in the district while on the other hand coconut growers are forming their producers' societies and federations. If regular neera tapping is to become a success to earn additional income it required trained tappers.

The official said that the department has released Rs. 64.75 lakh to Palakkad Coconut Producers' Company Ltd., Kerala, for upgrading the machineries at Thumbe unit. It has been entrusted with the operation and maintenance of the unit at Thumbe for three years from March, 2014.

Horticulture Department submits proposal seeking funds for opening the centre

Farmers seek relief for withered coconut trees

Vellore district might have witnessed excess rainfall this year, but it has for long been a drought-prone district for farmers, particularly those who have raised coconut trees. Several farmers, who had raised coconut trees, have been waiting for two years to receive drought relief from the State government for the withered trees.

Drought has taken its toll on coconut groves on several acres of land in the district. Areas in the western part of the district including Vaniyambadi, Natrampalli and Tirupattur are the worst-hit, according to farmers.

Farmers said the enumeration of drought-hit coconut groves was undertaken in 2012-2013 but the relief is yet to reach them. No steps have been taken despite numerous pleas, protests and representations.

“Coconut trees started to wither since 2006 due to acute shortage of water. The severe drought has made lives miserable for many farmers like me who had raised coconut trees,” said R. Janarthanan, a farmer in Vadakarai.

At least 300 trees raised by him had withered due to severe drought. Several coconut groves in Vadukupattu, Thekkupattu, Kodaiyanchi and Ambalur were affected badly. Groves located along Palar in Vaniyambadi and Ambur were affected.

“In addition to this, there has been indiscriminate drawing of water from the wells constructed in Palar riverbed by many, including local bodies. This has led to depletion of ground water,” he said. He pointed out that discharge of effluents into Palar river by leather industries resulted in high Total Dissolved Solids level over the years. “The existing coconut trees do not have any yield due to this polluted water,” he said.

Farmers said several coconut trees that had dried up were cut down last year as it required plenty of water.

C. M. Natarajan, a farmer in Chettikuppam village, Gudiyatham said coconut trees raised since the 1990s had withered in the drought.

“I lost at least 250 trees. The affected farmers had taken up the issue with officials, and an enumeration was also taken up but no relief has been given,” he said.

Prices of flowers shoot up in wholesale market

Business of flowers at Dindigul wholesale market has been brisk thanks to the Sabarimala season.— PHOTO: G. KARTHIKEYAN

Prices of flowers, including those of popular ones that are used to make garlands and for pujas, have gone up manifold forcing retailers to scale down their daily procurement and the common man to do without them, thanks to the Sabarimala season.

However, massive procurement of flowers by pilgrims, including those going to Sabarimala, helps traders clear the stock easily. Even traders from other districts have started procuring flowers from the wholesale market here.

Despite high prices of flowers, the business of flowers at Dindigul wholesale market has been very brisk since morning.

While jasmine prices were hovering at Rs.1,200 a kg (last fortnight's price Rs. 650 to Rs.800) and that of 'jaathi malli' oscillating between Rs.650 and Rs.700 a kg, 'kakratta' sold at Rs.500 a kg. However, oleander price stood at Rs.150 a kg and tuber rose at Rs.170 a kg. Ooty rose sold at Rs.100 a kg, ordinary rose at Rs.80, marigold at Rs.60 a kg and marikozhundhu at Rs.40 and 'kozhikondai' flower Rs.60.

Production of all varieties has come down owing to sharp a fall in temperature and mist. While acute cold weather has hit the quality of

flowers, recent showers devastated many flower farms on several acres in Nilakottai, Batlagundu and Dindigul unions and major flower production centres.

Prices of jasmine has been hovering between Rs.1,000 and Rs.1200, for the past one week.

Direct procurement by wholesale merchants from other districts, especially from cities like Chennai, has affected the arrival of flowers to the market.
Ornamental flowers and multi-colour roses come to the market from Kodaikanal and Sirumalai.

The prices are likely to remain high till Pongal, said traders.

The Dindigul wholesale flower market, one of the biggest markets in south Tamil Nadu, sends several tonnes of flowers to Kerala, Coimbatore, Erode, Thanjavur, Cuddalore, Tiruvarur, Vellore and Chennai.

Kerala will be the major buyer from Dindigul market during Onam season. The market receives 10 to 12 tonnes a day during peak season.

However, pilgrims continue to buy them in large quantities

Planting begins in Salem

The Forest Department has taken initiative for raising sandalwood trees in about 100 acres in the reserve forests in Salem Forest Range.

The Salem Forest Range abutting Karnataka accounted for a large number of sandalwood trees till a few decades ago. A large number of these trees were felled by anti-social elements.
The Forest Department could not raise new sandalwood trees in the last about 25 years because of the presence of forest brigand Veerappan.

The work of planting the sandalwood seeds commenced in Palamalai reserve forests on Wednesday.

The sources said that about 500 kg of sandalwood seeds will be planted in 100 acres at the rate of 5kg an acre.

A large number of women are involved in this work.

The objective of this project is to convert the Palamalai reserve forest into a sandalwood forest, forest sources said.

Rai: measures needed to check global warming

B. Ramanath Rai, Minister for Forests and Environment, releasing the annual diary at a function organised by the Karnataka State Foresters' Association in Udupi on Friday.

B. Ramanath Rai, Minister for Forests and Environment, said on Friday that the issues of climate change and global warming was a cause for deep concern.
He was speaking after inaugurating the felicitation function of foresters and releasing the annual diary, organised by the Karnataka State Foresters' Association, here.

Mr. Rai said that the change in temperatures could be felt in all regions now. Climate change would have long term consequences. Hence, it was

necessary to take measures to check global warming. Environment, forests and natural resources had to be preserved for future generations.

The increase in population and decrease in forest cover had to more instances of man-animal conflict. One of the solutions for this issue was to increase the forest cover.

It was not just the duty of government, but also of the citizens to protect the forests. In order to create awareness among children about the importance of forests, the government was sending select students of class nine on a tour of forests under the "Chinnara Vana Darshana" programme.

The government was already working to provide better facilities to the foresters, Mr. Rai said.

Prakash Netalkar, Deputy Conservator of Forests (DCF), Kundapur division, H. Devaraj Pana, President of State unit of Association, R.G. Bhat, DCF (Social Forestry), Chandranna A., DCF (Karnataka Cashew Development Corporation), and others were present.

Innovative research gets under way for Chilika Lake's management

A research project by ISRO's Space Application Centre (SAC) in collaboration with NASA for collecting scientific data for monitoring and management of Chilika Lake got underway with use of Airborne Visual Infrared Imaging Spectrometer (AVIRIS) here from Friday.

The AVIRIS was mounted on an aircraft, which took off from Biju Patnaik International Airport on Friday afternoon, and took high resolution photographs of lagoon and its catchment areas.
As part of the study, first-of-its-kind in India, scientists from IIT-Khargpur, IIT-Kanpur, NIO, Goa and Indian Remote Sensing Society, Dehradun, will be collecting data on the ground and analysing them.

"A multi-disciplinary team of more than 20 scientists is part of this path-breaking study initiated by ISRO in collaboration with NASA. For the first

time this experiment would be carried out outside USA and Canada. All clearances have been obtained by the ISRO for this special campaign," said Ajit Kumar Pattnaik, Principal Chief Conservator of Forest and Chief Executive of Chilika Development Authority.

"CDA scientists are also participating in this experiment. This would lead to development of a number of algorithm which would help in better monitoring and management of the lake ecosystem," Mr. Pattnaik said.

Project undertaken by ISRO's Space Application Centre in collaboration with NASA

Bt cotton crop worth Rs. 300 crore destroyed in Raichur: experts

Crop in around 1.5 lakh acres has suffered a pink bollworm-attack

A team of cotton experts examining an affected Bt cotton field at Gonal village near Raichur.— PHOTO: SANTOSH SAGAR

An independent fact-finding team of cotton experts that examined Bt cotton fields in Raichur district on Thursday said that over 80 per cent of the crop, both in rain-fed and irrigated areas, cultivated in around 1.5 lakh acres, has been destroyed by pink bollworm attack causing a loss of over Rs. 300 crore. Addressing presspersons here on Friday, H.R. Prakash, agronomist, Manjunath Holalu, environmentalist, P. Srinivas Vasu, ActionAid representative, Venkatesh Patel, a progressive activist, and other team members were of the view that that the study report released by the University of Agricultural Sciences, Raichur (UAS), was not comprehensive.

“As per the UAS, Raichur, report, the estimated destruction of Bt cotton by pink bollworm is 40-50 per cent in rain-fed areas and 60-70 per cent in irrigated areas. We, however, found that it was over 80 per cent in both rain-fed and irrigated areas,” Dr. Prakash, who led the team, said.

He also demanded that the government constitute expert teams and conduct comprehensive field studies to estimate the amount of loss and take proper action to safeguard the interests of farmers.

Technology failure

Mr. Holalu, a team member, blamed Bt technology failure for crop destruction. He said that the crop was destroyed despite the farmers cultivating it as per instructions of seed producers and agricultural universities.

“It is not an issue of seed adulteration but one of the failure of Bt technology itself. As many had warned much earlier, the pests gradually developed resistance to Bt toxin produced by Bt crop. The outbreaks of white fly in North Karnataka and Andhra Pradesh in 1996, mirid bugs in Haveri and surrounding areas in 2013 and pink bollworm now in Raichur have refuted the claims of Bt cotton seed producers on pest-resistance,” Mr. Holalu said.

He warned that the next outbreak of pest in Bt cotton could be American bollworm which would be more dangerous as it, unlike the pink bollworm that destroys only cotton crop, destroys other crops along with cotton.

When asked whether pink bollworm fell under Bt cotton seed producers’ pest-resistance claim-purview, Mr. Holalu showed that the instruction manual supplied with Bt cotton seed packet and said that it did.

“Bt cotton producers, in the instruction manual, have given an assurance of protection from pink bollworm by clearly saying that ‘it [Bt cotton] controls not only American, spotted and pink bollworms, but [was] also highly

effective against Spodoptera and Semi-loopers'. Contrary to their claims, it is the pink bollworm that has devastated Bt cotton crop in Raichur district," he said.

Seed Act

Mr. Holalu also demanded that the government amend Seed Act 1966 to incorporate provisions that would deal with genetic purity of genetically modified seeds.

"The Act has provisions to deal with issues related to germination and physical purity. The Act needs to be amended to incorporate genetic purity as well so that the law can address issues arising out of genetic engineering," he said.

"Bt cotton seed producers, whose pest-resistance claims turned out to be a hoax, must be held responsible for crop loss. The government should ensure that the seed producers paid compensation to the affected farmers," Mr. Patel, a team member, said.

The Indian EXPRESS
JOURNALISM OF COURAGE

For agriculture sector, it is going back to control raj days

The Central government's move to fix cotton seed prices and trait fees sends wrong signals.

A farm labourer showing her picked cotton.

2015 will go down as a year that has seen all the rules of free trade being given the go-by when it comes to agriculture. The lead for it, significantly, has come from the Centre, whether in the form of not allowing exports of onion at below $ 700 a tonne or imposing stockholding limits and other trading restrictions on pulses reminiscent of the Indira Gandhi era.

A more recent measure, no less noteworthy though, is the issuing of an order by the Union Agriculture Ministry giving the Centre the power to fix the maximum sale price (MSP) of genetically modified (GM) cotton seeds.

But it does not stop there. The order, dated December 7, also empowers the Centre to "fix and regulate" the royalty or trait value charged by the licensor of a GM technology from seed companies that have incorporated it into the cotton hybrids marketed by them.

In this case, the ostensibly targeted licensor is Monsanto for its proprietary Bollgard-II Bt technology, covering nearly 90 per cent of the country's area under cotton and for which the US life sciences giant was granted a patent here on February 12, 2008. The fact that the order's scope extends to even prescribing "guidelines and format for all GM technology licensing agreements" — ordinarily governed by private contracts between the licensor and licensee — makes it all the more far-reaching.

The present intervention's roots go back to 2002, when cotton hybrids incorporating Monsanto's original single-gene Bollgard-I Bt technology were first planted in India (Bt is short for Bacillus thuringiensis, a naturally-occurring soil bacterium that produces proteins toxic to bollworm insect pests and whose genes are inserted into crops using recombinant DNA/genetic engineering tools). Between 2002 and 2005, a single packet

containing 450 grams of Bt and 120 grams of non-Bt cotton seeds was being retailed at Rs 1,600. Of this, the trait value component alone was Rs 726.5.

In 2006, however, the Andhra Pradesh government fixed a MSP of Rs 750 per packet of Bollgard-I Bt cotton seeds. Other states soon followed suit, even enacting their own price control legislations. The unilateral reduction in prices forced the technology provider as well to slash its trait fee to Rs 150 per packet. In 2007, cotton hybrid seeds incorporating Monsanto's new double-gene Bollgard-II Bt technology were introduced, attracting a higher MSP of Rs 925 per packet that included a trait fee of Rs 225.

By 2008, most states had extended price controls to even Bollgard-II cotton, fixing its MSP at Rs 750 per packet and lowering it further to Rs 650 for Bollgard-I seeds. The trait fee, too, got revised downwards — based on mutual agreement between the licensor and licensees — to Rs 100 and Rs 150 per packet for Bollgard-I and Bollgard-II technologies respectively. In the northern states, the MSPs remained unchanged at Rs 750 for Bollgard-I and Rs 925 for Bollgard-II, with corresponding trait fees of Rs 150 and Rs 225 per packet.

It was only in 2011 that the state governments agreed to raise the MSPs. These were fixed at Rs 830 for Bollgard-I and Rs 930 for Bollgard-II seeds, with the trait fees (again based on bilateral agreements between Monsanto and the seed companies) going up to Rs 109.43 and Rs 163.29 per packet respectively. The corresponding MSPs (and trait values) in the northern states were Rs 825 (Rs 108.6) and Rs 1,000 (Rs 174.9).

The unilateral price cuts by state governments — leading Monsanto to also slash its trait fees — no doubt played a major role in diffusion of Bt technology. From a mere 1.05 lakh packets sown on 72,000 acres in 2002, sales of Bt cotton seeds crossed 500 lakh packets covering 280 lakh acres in 2014. The bulk of it was accounted for by Bollgard-II hybrids, which alone covered 270 out of India's total cotton area of 310 lakh acres last year.

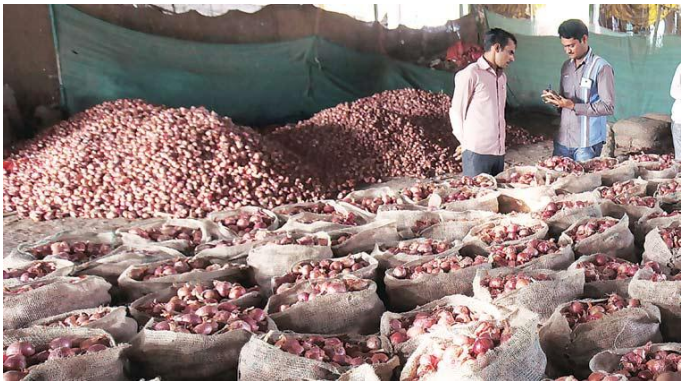
Given this record of rapid adoption — comparable to the spread of the high-yielding semi-dwarf wheat varieties of the Green Revolution — what explains the Centre's action to regulate Bt cotton seed prices, to the extent of even fixing trait fees and prescribing the format for technology licensing agreements? The order has justified the move on grounds that Bt cotton seeds were "found to be highly priced". This, when seed costs, at about Rs

1,600-1700 taking an average 1.7 Bollgard-II packets per acre, form not even a tenth of the total cultivation expenses of around Rs 22,000! Cotton farmers spend far more on picking (Rs 8,000/acre), fertilisers and weeding (Rs 4,000-5,000 each), and insecticide sprays against sucking pests (Rs 2,000).

The Centre may have a case for fixing prices, regulating technology fees or even granting compulsory licencing when there is proof of a patent holder abusing its monopoly power, by resorting to exorbitant pricing or not making its product available in sufficient quantities. This has been seen, for instance, in certain anti-cancer drugs patented by multinationals. That evidence clearly does not hold for Bt cotton, where there are some 49 companies to whom Bollgard technology has been licensed and not many farmers have complained of high seed costs.

Price crash: Onions bring tears, this time to farmers

Lower rabi plantings from drought and govt export curbs may hurt consumers too.



Lasalgaon, Asia's largest onion market, has seen a steady fall in the prices in the last few days. Express

For the last few years, Ashok Shinde had been steadily increasing the area under onion in his 15-acre holding, thanks to the remunerative prices fetched by the bulb.

But in the current rabi season, this farmer from Tandulwadi village of Nashik district's Baglan taluka has dedicated just five acres to onion, as against almost 10 acres last year.

"There will be no water in this area after January. I'm not sure I would be able to keep alive even the crop that has been planted," notes Shinde. His predicament is reflective of that of most farmers in Maharashtra, which, between June and now, has received roughly 30 per cent less rainfall relative to the normal average for this period.

The impact of the drought — one of the worst in recent times — is being felt now when sowing for the season is nearly complete. There are three crops in onion — kharif (sowing in June and harvesting from early-October), late-kharif (sowing in September and harvesting in December-January) and rabi (sowing from mid-October to mid-December and harvesting in March-May).

Climate change to affect farmers first: Akhilesh Yadav

Akhilesh added that the state government will observe the next financial year as 'Kisan Varsh' (farmers' year) as was done in the current financial year.

Felicitating farmers on the occasion of 'Kisan Diwas' on Wednesday, Chief Minister Akhilesh Yadav said that the impact of climate change and rising temperatures will affect farmers first.

He also said that the country's Gross Domestic Product (GDP) and growth rate will not improve until the rains occur on time.

He was speaking during the Kisan Samman Diwas, organised at the CM's official residence to mark the birth anniversary of former Prime Minister Chaudhary Charan Singh.

"When the effects of climate change appear, farmers will be first to be affected and they will suffer," Akhilesh said.

He added that the state government will observe the next financial year as ‘Kisan Varsh’ (farmers’ year) as was done in the current financial year.

New facilities and services to help the farmers in terms of technology and irrigation have been started by his government, Akhilesh said.

The government also plans to serve laddoos made with oilseeds in the midday meal at least once in a week.

On the occasion, CM felicitated 41 farmers who increased crop production per hectare and also increased production in the fields of fisheries, animal husbandry and others. He also flagged off 24 government agriculture publicity vehicles.

Simply put: Deal or no deal?

On Wednesday, in the Rajya Sabha, Commerce and Industry Minister Nirmala Sitharaman launched a defence of India’s stand at the WTO, saying the country did not come back “empty-handed” from the Nairobi talks.

India has maintained that it must have the freedom to use its food reserves to feed its poor without the threat of violating international obligations. (Express Photo by: Sumit Malhotra)

What was the agenda for the WTO meeting in Nairobi?

This was the tenth meeting of the ministerial conference, the highest decision-making body of the World Trade Organisation, to take forward issues left unresolved in the last ministerial in Bali in 2013. The ministerial

was to iron out differences in the rules of trade between nations, including on agriculture and food security.

Why are developing and developed countries on opposite sides?

Developing countries, including India, and least-developing countries (LDCs) such as Ethiopia and Rwanda were seeking an end to export subsidies given to farmers by developed countries, which, they said, gave these rich countries an edge in the global market. These subsidies were to be eliminated by 2013 under the 2005 Hong Kong ministerial agreement, but that did not happen. Instead, countries such as the US came up with new laws (US Farm Bill of 2014) to ensure that there would be no cut in export subsidies. Developing countries and LDCs also wanted special safeguards and changing of rules relating to public stockholding for food security. Public stockholding is, essentially, the foodgrain the government procures from farmers and stocks in its godowns.

Besides, developed countries have called for the Doha round of negotiations of 2001 to be junked. It's on this one question that the battlelines had hardened: should the development agenda of the Doha Round of negotations be continued, as the developing countries and LDCs have been demanding, or should it be junked and new issues, such as investment, government procurement and competition policy, be brought up, as developed countries, including the US, the EU, and Japan want.

Further, developing countries contend that instead of taking measures to reform farm subsidies, developed nations rallied for the Trade Facilitation Agreement (agreed upon in the 2013 Bali ministerial) that opens up markets in developing countries to their goods and services.

What did India want?

Apart from keeping the on-going Doha Round alive, India wanted to secure an agreement on special safeguard measures (SSM) to protect farmers against import surges. SSM is a tool that allows developing countries to raise tariffs temporarily to deal with surges in agricultural imports or price falls. Developing and developed nations are at loggerheads over the 'trigger factor' that allows a developing country to raise tariff on imports and the level of tariff that can be imposed.

It also wanted a permanent solution to public stockholding to ensure the continuation of its food subsidies for public distribution programmes. India wants its public stockholding to be exempted from subsidy reduction deals under WTO norms, which say public stockholding must not exceed 10 per cent of the value of foodgrains produced. India has been saying that the country must have the freedom to use its food reserves to feed its poor without the threat of violating any international obligations. The Bali ministerial had agreed on a 'peace clause' that would have allowed India to continue with its public stockholding until a permanent solution is reached.

What did India get out of the talks?

After hectic negotiations that lasted five days, the 162 member-nations of WTO agreed on a 'Nairobi Package'. The package contains "a series of six ministerial decisions on agriculture, cotton and issues related to LDCs. These include a commitment to abolish export subsidies for farm exports". According to this, countries such as the US who use subsidies to support agriculture exports, will have to eliminate them in a phased manner. While developed nations will have to remove export subsidies immediately, except on a handful of agriculture products, developing countries will do so by 2018. Developing members will have the flexibility to cover marketing and transport costs for agriculture exports until the end of 2023, and the poorest and food-importing countries would get additional time to cut export subsidies. This would mean that India will not be able to offer export subsidies for sugar or other items after eight years.

On public stockholding, no final decision was taken. But, like the minister said, India was at least able to hold on to the peace clause.

Even on SSM for developing countries, there was no decision except a commitment to "continue to negotiate the mechanism". The government, though, sees that as a positive, with Sitharaman saying that India at least got a commitment on SSM when it was not even on the WTO's agenda.

The IT trade deal was also struck with members agreeing on eliminating tariffs on 201 information technology products valued at over $1.3 trillion per year. Approximately, 65 per cent of tariff lines will be fully eliminated by July 1, 2016. Most of the remaining tariff lines will be completely phased out in four stages over three years. This means that by 2019, almost all imports of IT products will be duty free.

The biggest setback for India and other developing countries and LDCs is that the Nairobi talks did not reaffirm the Doha Development Agenda, which was India's key demand.

hindustantimes

Agro minister Radha Mohan Singh picks a fight with GM giant MMBL

Radha Mohan Singh's agriculture ministry has passed orders for a price cap on cotton seeds from March. (Vipin Kumar/HT Photo)

A regulatory battle is brewing in India's cotton sector, with agriculture minister Radha Mohan Singh hardening his stand on what he says are "exploitative" seed prices and taking an unprecedented step to control them from the next season.

Singh's ministry has passed orders for a price cap on cotton seeds from March in the world's second largest exporter of the fibre — the first time such a control is being clamped by the Centre on the seed business that is worth Rs 5,000 crore.

“Cotton farmers are going through distress. Just look at cotton seed prices. Why should they vary so widely from state to state? This is exploitation of our farmers,” Singh told HT.

The move, in large part, is aimed at Bt cotton, the only genetically modified crop India has allowed so far. A vast majority of seven million growers prefers Bt cotton, hailed as a yield and income booster.

The country’s output jumped fourfold since genetically modified cotton was introduced in 2002, making India one of the largest growers. Almost 98% of the cotton is of the GM variety.

A key concern of the farm ministry was that Mahyco-Monsanto Biotech (India) Private Limited (MMBL) — a 50:50 joint venture of US biotech giant Monsanto — seemed to enjoy a virtual monopoly in Bt cotton seed market, an official said, requesting anonymity.

The ministry has already sought a probe into the US firm’s “domination” by anti-trust regulator the Competition Commission of India.

Bt cotton is genetically tweaked to kill bollworms that ravage cotton crops.

The ministry’s price-control move is being stiffly resisted. The MMBL has already moved court, while the Association of Biotech Led Enterprises (ABLE), a GM industry advocacy body, says the move violates free-market principles.

“One company owns 97% of the Bt cotton seed market. So, there is no free market situation anyway,” the official said.

“Hybrid prices vary so much. Partly to set right this confusion, given the complete monopoly of one company and keeping all that in mind, we passed the order to bring about some uniformity in prices,” the official said.

Maharashtra, Andhra and Telengana were individually trying to fix prices, he said.

Critics argue that prices are such because of demand and supply conditions, as it ought to be. The controls would hurt profits, investments and RD and India had the lowest cotton technology prices, ABLE chief VR Kaundinya said.

“We also reinforce the views of Hon. Prime Minister during his recent trip to the US to respect intellectual property rights in agriculture,” Kaundinya wrote in a letter to the PMO.

The ministry claims the concern was that rather than fair play, a monopoly was taking root in India’s Bt cotton market.

Farmers get tips on crop protection in winters

Punjab Agricultural University’s Krishi Vigyan Kendra (KVK), Amritsar, organised ‘kisan goshthi’ (farmers’ meeting) on the occasion of Jai Kisan Jai Vigyan Diwas at Sansad Adarsh Gram, Dhaul Kalan village, on Friday. (HT Photo)

Punjab Agricultural University's Krishi Vigyan Kendra (KVK), Amritsar, organised 'kisan goshthi' (farmers' meeting) on the occasion of Jai Kisan Jai Vigyan Diwas at Sansad Adarsh Gram, Dhaul Kalan village, on Friday.

More than 50 farmers participated in this 'goshthi'.

An expert from KVK, Amritsar, Sukhjinderjit Singh, educated the farmers about the care of dairy animals during the winter season. He also advised the farmers to get their animals vaccinated against foot and mouth disease.

Parvinder Singh, horticulture expert, advised the farmers to protect their vegetable crops from frost. He asked them to cover tomato, capsicum and early sown cucurbits with polythene sheets or paddy straw.

He also stressed on the farmers to purchase the seed of early pea and other vegetables from reliable sources. Besides, he shared important tips for seed production of early pea variety. In addition, he guided the farmers to grow vegetables in their kitchen garden for their own consumption.

Raminder Kaur, an expert on crop production, told the farmers about the control of weeds using tractor mounted spray pump with multi-nozzle lance.

THE HINDU BusinessLine

Telangana kicks off cotton support price debate

Recommends ₹ 8,092 a quintal – 100% more than this year's MSP

HYDERABAD, DECEMBER 24:

In a decision that will kick off a debate on cotton MSP, the Telangana government has asked the Centre to increase the MSP for cotton to ₹ 8,092 a quintal for next season.

This is 100 per cent more than the MSP announced for cotton for the current season.

The State government has done a survey on cost of production based on the expenditure incurred to farmers in the current season on various crops and sent a report to the Union government, giving a break-up on the cost of production for cotton per hectare.

Swaminathan panel

"We found that farmers would have to spend ₹ 69,371 on a hectare of cotton area. If you include the land lease cost and managerial costs, it would cross the ₹ 1-lakh mark at ₹ 1.08 lakh. With an average yield of 20 quintals/ha, the cost per quintal would be at ₹ 5, 395," a government official said.

Taking a cue from the Swaminathan Committee's recommendations, the State's report has pegged the MSP at ₹ 8,092 against ₹ 4,100 for the 2015 season.

With severe drought impacting the crop this year, cotton farmers across the State had to contend with poor yields. The initial response at the mandis is not encouraging either with traders buying the produce far below the MSP.
The Committee has recommended that the MSP must be 50 per cent over and above the cost of production in order to make agriculture a remunerative proposition.

Rise in production cost

G Ramanjaneyulu of Centre for Sustainable Agriculture (CSA) said the cotton farmers deserved higher MSP, keeping in view the skyrocketing cost of production.

"Writing to the Centre asking for higher MSP is okay, but what's that the State government is doing to improve their lot? It agrees that the cost of production has gone up to ₹ 5,395 (a quintal). What are the measures the State was taking to help them recover the costs," he asked.

(This article was published on December 24, 2015)

Minimum export price for onions goes

Decision taken to boost shipments and to control falling domestic prices

NEW DELHI, DEC 24:

The government has done away with the minimum export price (MEP) for onions in response to falling onion prices in the domestic market.

"All varieties of onions as described above can be exported without any MEP," a notification from the Directorate General of Foreign Trade issued on Thursday stated.

MEP is the rate below which no trader is allowed to export. The rise in MEP restricts exports and improves domestic supply.

Prices slide

The Centre, on December 11, reduced the MEP for onions to $400 per tonne from $700, as falling domestic prices had led to farmer groups from Maharashtra demanding its removal. Onion prices were ruling as low as ₹ 11 a kg in the Lasalgaon market, Asia's largest marketplace for the bulb, compared to ₹ 26 in late November.

The reduction in MEP, however, did not improve the situation with wholesale prices falling below ₹ 10/kg. The fall in prices is largely attributed to the almost simultaneous arrival of the kharif crop and the late-kharif crop in the market.

The Maharashtra government had recently asked the Centre to scrap the minimum export price for onions to help boost overseas shipments after wholesale prices of the bulb went down to the ₹ 10/kg level.

Exports may rise

With removal of MEP, traders hope to export onions to markets such as Sri Lanka, Dubai and Egypt, which were so far out of reach as the prices ruling there are much lower than the earlier stipulated export price floors.

India exported 12.39 lakh tonnes of onions in 2014-15.

(This article was published on December 24, 2015)

Disaster prone Cuddalore farmers' taking up organic farming

Boon to farmers: Organic farming method will help improve the quality of land and reduce air and water pollution.

CUDDALORE (TN), DEC 25:

Repeatedly ravaged by natural disasters, the recent deluge following unprecedented rains being the latest, the farmers in Tamil Nadu's Cuddalore district have started diversifying like never before.

From taking up organic farming to cashew shelling to cattle rearing, they are branching out to different areas connected to agriculture with the help of government agencies and NGOs that provide them training and micro—credit support.

K Gopalakrishnan of V Kattupalayam, essentially a farmer, had some time back also taken up cashew procurement, shelling, processing and marketing. But, with the deluge having hit the cashew business, he is now contemplating taking up vermicomposting as a new alternative. Vermicomposting is the practice of using earthworms to convert organic waste into fertilizer.

"It is all about syncing demand, supply, seasons and time. At the moment cashew shelling is at a slow pace. We expect it to pick up momentum after some time. During such lean period we give more attention to organic farming or some other local work," he says.

Gopalakrishnan says he had previously produced and used vermicompost exclusively for his farms but "now I find that it can be sold and vermicomposting by itself could get me some additional income".

Also the treasurer of Real Organic Agriculture Federation (ROAF), Gopalakrishnan says farmers like him were now tapping the potential of micro—credit and seeking hands—on training on latest farm trends more and more.

He said experts from government agencies like Krishi Vigyan Kendra and NGO "Real" provide information about current trends in the farming sector and train them in organic farming techniques. The NGO has also lent interest free loans, he added.

“Earlier, we used to feel that we knew all available farms techniques. Now, after attending training sessions, we feel that science combined with traditional wisdom could make the difference,” he said.

“Through our ROAF, several farmers have got Rs. 10,000 loan and our federation today lends tractor to farmers at concessional rentals which is as low as Rs. 100—200 a day while the going market rate is over Rs.1,000,” he said.
Gopalakrishnan’s wife Soundaravalli, a key member of a local women’s self—help group, thanked NABARD Financial Services (NABFINS) for their micro—credit services.

Due to such credit, she said, women in her village were gainfully employed. “Aided by such credit, (alongwith their own contribution) some of us have bought manual cashew outer—shell crushers, while others have gone for farming organic vegetables,” she said.

(This article was published on December 25, 2015)

Potato acreage seen crossing 2 million hectares

But Late Blight disease threat may mar the tuber’s prospects

AHMEDABAD, DECEMBER 25:

Favourable winter temperature is set to boost potato cultivation in the country this year. But experts have cautioned against the looming threat of late blight disease in the tuber mainly in the North, thereby hurting the yield.
Potato acreage, which touched 2 million hectares last year, is likely to rise further on the good rainfall in the growing regions and favourable temperature. But a sharp drop in temperature along with fog, is feared to provide a favourable condition for the late blight disease to attack the crop.

“We expect acreage to be slightly higher by 10 per cent over last year. Temperature has been favourable so far. But we are just half-way to the sowing and there is a threat of late blight attack if the temperature further slips lower. So, even if the sowing would increase, the yield may be affected due to the disease,” VK Dua, Head, Crop Production, Central Potato Research Institute, Shimla told *BusinessLine*.

Notably, potato sowing has shown a rising trend since 2013-14, when the acreage was reported at 1.973 million hectares and increased to 2.07 million hectares in 2014-15. The production too has risen from 41.5 million tonnes in 2013-14 to 45.9 million tonnes in 2014-15 with an yield of 22 tonnes/hectare.

Dua cautioned that a possible attack of late blight disease in potato crop would potentially damage the yield from up to 30 per cent. Late blight disease is caused by a group of microorganisms. The symptoms of the disease are visible on the leaves, which rapidly grow into large brown to purplish black spots. As it spreads, the entire crop gives blackened blighted appearance and may be destroyed within a week. The potato tubers in soil become infected and show irregular reddish brown to purplish areas which extend into internal tissues of the tubers.

However, according to Dua, the clearer crop situation would be known only by end-January or early February.

The overall potato market has remained stable with exports showing some encouraging trend with higher realisation in past couple of years. In 2013-14, India exported 1,66,643 tonnes at the per unit value of ₹ 12,560 a tonne, but exports jumped to 3,05,979 tonnes in 2014-15 with per unit value of ₹ 23,817. In 2015-16, so far over 100,000 tonnes of potato exports are registered with per unit value of ₹ 13,601.

Domestic prices been sluggish due to higher production and anticipation of an increase in acreage. Potato prices in Agra market stood at ₹ 550/quintal with arrivals at 21,000 quintals on December 22 against last year's ₹ 750 with arrivals of 15,000 quintals.

(This article was published on December 25, 2015)

No buying pounds pulses

INDORE, DECEMBER 25:

Pulse and pulse seeds continued to trade low in Indore mandis on absence of buying support from millers and stockists with masur (bold) being quoted at ₹ 5,800 a quintal, while masur (Madhya Pradesh) ruled at ₹ 5,400-5,500. Masur dal (medium) was at ₹ 6,400-6,500, while masur dal (bold) ruled at

₹ 6,600-6,700. Moong and its dal also traded lower on weak demand with moong (bold) at ₹ 7,500-7,800, while moong (medium) ruled at ₹ 6,800-7,000. Moong dal (medium) traded at ₹ 8,100-8,300, moong dal (bold) ₹ 8,500-8,900, while moong mongar ruled at ₹ 8,300-8,500. Urad was at ₹ 10,500-700, while urad (medium) was ₹ 9,500. Urad dal (medium) fetched ₹ 11,600-12,000, while urad mongar was at ₹ 12,900-13,400 a quintal respectively.

(This article was published on December 25, 2015)

‘Rapid warming of Indian Ocean can turn it into an ecological desert’

May impact food security in rim countries and global fisheries market, says scientist

THIRUVANANTHAPURAM, DECEMBER 24:

Rapid warming of the Indian Ocean may potentially turn this biologically productive region into an ecological desert, according to a new study.
Authored by Roxy Mathew Koll, scientist at the Indian Institute of Tropical Meteorology, and others, the study has been published in the journal *Geophysical Research Letters*.

Major decline

The study points to significant decline in the marine phytoplankton in the Indian Ocean – microscopic plants in the ocean which sustain the aquatic food web and drive the marine ecosystem.

In addition, they absorb the solar radiation and modulate the upper ocean heat flux, thereby influencing climate processes and biogeochemical cycles, particularly the carbon cycle.

The authors suggest that the rapid warming in the Indian Ocean is playing an important role in reducing the phytoplankton up to 20 per cent during the past six decades.

It may also impact the food security in the Indian Ocean rim countries and also the global fisheries market.
Over the tropical oceans, the Indian Ocean (especially the western region) hosts one of the largest concentrations of phytoplankton blooms in summer.

Ocean upwelling

This is because of the strong monsoonal wind forcing which leads to ocean upwelling, supplying nutrients from the subsurface to the surface, and supporting elevated rates of primary productivity.

Large-scale distribution of tuna and other fishes are associated with the phytoplankton availability and abundance.

FAO statistics show that the Indian Ocean accounts for 20 per cent of the total tuna catch, especially the most economically valuable bigeye tuna, making it the second largest supplier to world markets.

But the region in the Indian Ocean with the largest phytoplankton concentrations is also the region which exhibits the largest ocean surface warming.

Vertical mixing

The warming during the past century is up to 1.2 deg Celsius, which is very large compared to a global surface warming of up to 0.8 deg Celsius during the same period.

Rising ocean surface temperatures results in less dense water on the surface and denser water in the subsurface, which is known as stratification.
Such a stratified condition inhibits the vertical mixing of subsurface waters (which are usually nutrient-rich) to the surface.

The vertical mixing is a critical process for introducing nutrients into the upper zones where sufficient light is available for photosynthesis.

(This article was published on December 24, 2015)

Nabard concern over Telangana farm scene

Farm scenario in Telangana

HYDERABAD, DECEMBER 24:

The long-term agricultural scenario in Telangana calls for attention going by the decline in State support for capital formation, fragmentation of land holdings and high incidence of rural indebtedness.

According to the National Bank for Agriculture and Rural Development (Nabard) data, there is a decline in the capital formation for agriculture through public investment.

Long-term credit

During 2011-12 to 2014-15, the long-term credit, which is used for investment in agriculture and is seen as an indicator for its health, declined from ₹ 11,112 crore to ₹ 8,856 crore.

“It is a concern that the share of long-term credit in overall agriculture credit is constantly on the fall,’’ Nabard said in its State Focus Paper 2016-17 for Telangana which was released here on Tuesday.

Investment in agriculture is geneally undertaken for acquiring physical assets that result in the creation of a stream of incremental income over a period time. Currently, private sector constitutes almost 85 per cent of the capital formation in agriculture.

The period under study also coincided with the interest subvention period for crop loans which might have acted as distorting factor, the apex bank for farm sector said adding that creation of capital goods is necessary to raise productivity of existing resources.

Nabard also hinted that the debt waiver and input subsidy extended to farmers as part of the election manifesto of the ruling Telanagana Rashtra Samithi (TRS) did not actually improve the scenario.

Burden on exchequer

These schemes, while burdening the state exchequer, draw upon resources that can be utilised for addressing the same issues in a more productive and sustainable manner, it observed. Referring to reports of farmers' suicides, the bank said rampant land degradation, seasonal variation in rainfall are impeding productivity and frequent instances of drought affected small and marginal farmers.

"All-India reports confirm that Telangana is one of those with high incidence of rural indebtedness with 89 per cent of agricultural households under debt,'' Nabard pointed

The average size of holdings in the state is lower than that of the all-India level at 1.16 ha and the position is more 'distressing' in respect of small and marginal farmers as their average size of land holding is 0.72 ha.

The farmers are also unaware of the latest techniques in agriculture and farm practices suitable to their soil and water schemes. The ongoing major and minor irrigation schemes need to be quickly completed in a limited time frame with intensive monitoring. "There is also a substantial gap between the potential created and utilised,'' the bank said.

(This article was published on December 24, 2015)

Business Standard

Govt to launch new crop insurance scheme next month

Under the new scheme, premium will be brought down significantly, said Agriculture Minister

A farmer sprays a mixture of fertilizer and pesticide onto his wheat crop on the outskirts of Ahmedabad

The government will launch a new crop insurance scheme next month, which aims to keep the premium burden on farmers below 3%, Agriculture Minister Radha Mohan Singh said today.

"We will announce a new crop insurance scheme in January as a new year gift to farmers. Currently, premium rates are as high as 40% in some states.

"Under the new scheme, premium will be brought down significantly, Singh said after launching a mobile app on crop insurance and agri-market here.

Besides low premium, there will be a mechanism in place to ensure that crop insurance claims are settled early, he added.

"We are coming out with a crop insurance system that is science-based as well as free from the patwari system. We will use new technologies like drone to assess the crop loss and settle claims at the earliest," Singh said.

The Cabinet had, on December 2, discussed the proposal on new crop

insurance scheme, which was moved by the Agriculture Ministry. But the decision was deferred due to differences over the premium issue. The proposal will soon be discussed again.

In a Cabinet note, the Agriculture Ministry has proposed a premium of 3% required to be paid by farmers. And for the benefit of farmers in vulnerable and disaster-prone areas, the ministry has recommended premiums without any cap unlike the existing scheme MNAIS (Modified National Agricultural Insurance Scheme).

Of the total premium fixed by the insurers under the existing crop insurance schemes NAIS (National Agricultural Insurance Scheme) and MNAIS, farmers are paying a premium of up to 3.5% and 8%, respectively, and the rest is being borne by the government.

On an average, insurance firms are charging an overall premium in the range between 1 and 20% for crops.

Under MNAIS, premiums are capped at 13%, in most vulnerable areas for kharif crops, while 11% for rabi crops.

About 20% (40.27 million hectare) of the total farm land is insured under the existing schemes, as per the government data.

Rajasthan has the maximum area insured at 12.26 million hectare followed by followed by Bihar, Karnataka, Maharashtra, Gujarat, Uttar Pradesh and Andhra Pradesh.

Major crops insured are oilseeds, rice, wheat, pulses and coarse grains.

The Centre is implementing various farm insurance schemes since 1985, to insulate farmers against agri-risks.

At present, it is offering three crop insurance schemes -- NAIS, MNAIS and weather-based crop insurance scheme.

Government to Promote Organic and Innovative Techniques of Farming

Government is promoting organic farming through various schemes/ programmes under National Mission for Sustainable Agriculture (NMSA)/ Paramparagat Krishi Vikas Yojana, Rashtriya Krishi Vikas Yojana (PKVY) of NMSA, Mission for Integrated Development of Horticulture (MIDH), National Mission on Oilseeds & Oil Palm (NMOOP) Network Project on Organic Farming of ICAR and National Programme on Organic Production (NPOP) of APEDA.

The Government is implementing Soil Health Management under National Mission on Sustainable Agriculture (NMSA). Soil Health Management (SHM) is one of the components under National Mission for Sustainable Agriculture (NMSA). SHM aims at promoting Integrated Nutrient Management (INM) through judicious use of chemical fertilizers including secondary and micro nutrients in conjunction with organic manures and biofertilizers for improving soil health and its productivity; upgradation of

skill and knowledge of soil testing laboratory staff, extension staff and farmers through training and demonstrations.

Soil Health Card" Scheme is also implementing in the country since February 2015 to provide Soil Health Card to all farmers in the country. Soil Health Card will provide information to farmers on soil nutrient status of their soil and recommendation on appropriate dosage of nutrient to be applied for improving soil health and its fertility. Soil health card will be issued every 3 years for all land holdings in the country. Under this scheme, also financial assistance is given to State Governments for training of farmers on application of further on soil test basis, amounting to Rs. 24000/- per training.

The Government under Sub-Mission on Agricultural Mechanization (SMAM) w.e.f. 2014-15. The following new technology machines/equipment have been identified and promoted under SMAM for planting, ploughing and harvesting of paddy, wheat and pulse

Planting machines - Resource conversation technologies such as Zero till machine, strip till drill, happy seeder, raised bed planter, paddy transplanter, pneumatic planter, ridge furrow planter, multi-crop planter, pneumatic vegetable seeder etc.

Ploughing machines - Mould board plough, disc plough, hydraulically reversible mould board plough.

Harvesting machines - Multi crop combine harvester, crop reaper (self

propelled and tractor operated), reaper -cum- binder, brush cutter etc. As far as mode of educating farmers for use of these machines, the details are as under informed:-

The Farm Machinery Training and Testing Institutes (FMTTIs) conduct training programmes on operation, maintenance and repair of agricultural machines for farmers. The farmers admitted in these training programmes are provided stipend @ Rs. 500/-per week, to and fro travel expenses on actual basis and lodging is provided free of cost in the hostel of the Institutes. Financial assistance @ Rs.4000/- per person per week is also provided to the State Governments and ICAR Institutions for conducting training of farmers through the institutions identified by them.

The FMTTIs also conduct demonstration of the equipments on the farmers' field in order to promote adoption of these equipments by the farmers. Financial assistance @ Rs. 4000 per hectare is also provided to the State Government and ICAR institutions for conducting demonstration of equipments on the farmers fields.

This information was given by the Minister of State for Agriculture & Farmers Welfare Sh. Mohanbhai Kalyanjibhai Kundaria in Rajya Sabha today.

THE TIMES OF INDIA

Climate change a threat to agriculture: Minister

Union agriculture minister Radha Mohan Singh on Friday said the central government has decided to provide modern scientific techniques to the farmers to help them grow more foodgrains and face the challenge of nature.

Inaugurating the nationwide "Jai Kisan-Jai Vigyan" programme to mark the birth anniversaries of two former prime ministers Chaudhary Charan Singh and Atal Bihari Vajpayee, Singh said while Chaudhary Charan Singh had played an important role in the development of agriculture, the revolutionary outlook of Atal Bihari Vajpayee in solving the issues related to irrigation system with scientific devices is helping the farmers a lot today.

"Narendra Modi government is committed to equipping the agriculture sector with modern techniques so that agricultural land becomes more fertile and the yield per acre increases. This ambitious plan is aimed at covering the entire country," Singh said. A large number of farmers and agriculture scientists participated at the function. An agriculture fair was also organised on the occasion.

Highlighting the importance of "Atal Bihari Vajpayee Mission", Singh said it will create employment-oriented socio economic and environmental scenario which will provide better opportunities for innovation-based enterprises, particularly those related to young and educated farmers. He said climate change was a matter of concern as unpredictable monsoon, deficit rainfall and global warming were affecting the sources of livelihood. "Climate change is also likely to reduce wheat production by 5-6 million tones annually due to increase in temperature," Singh said .

"At this juncture, it is essential to promote preservation techniques in rural areas," Singh said, adding that scientists should make farmers aware of changing weather so that the abnormal ecological activities are controlled.

Government launches AgriMarket, Crop Insurance mobile apps for farmers

NEW DELHI: The government has launched two mobile apps that will help farmers get information related to crop insurance and prices of agri-commodities in different mandis across the country.

The AgriMarket Mobile App and Crop Insurance Mobile App have been developed by the in-house IT division of the agriculture ministry and can be downloaded from Google Store or mKisan portal.

"Government spends huge amount in extending crop insurance to farmers. Due to administrative and technical reasons, much of the information related to crop insurance has not able to reach farmers in time to take advantage of the existing schemes. This mobile app will provide complete details of crop insurance," agriculture minister Radha Mohan Singh said after the launch.

Farmers can get information related to crop insurance cover available, and also calculate the premium for notified crops based on area, coverage

amount and loan amount, he said.

Farmers can also get details of normal sum insured, extended sum insured and subsidy information of any notified crop in any notified area.

Highlighting the details of AgriMarket app, the Minister said it has been developed with an aim to keep farmers abreast of crop prices and discourage them to go for distress sale.

Five health benefits of red peppers

Five health benefits of red peppers (Getty Images)

Crisp and incredibly sweet, red bell peppers are an immediate attraction on the dining table and are easy sell to even those who are not fond of vegetables.

Actually green peppers are just unripe red peppers and since they are not fully mature, they have a bitter after taste, and half the vitamin C and 1/10th the vitamin A compared to their red or orange siblings. Here are five more health benefits of eating red pepper-

Help support healthy night vision

Since red peppers are high in vitamin A, it helps to support healthy eyesight, especially night vision.

It helps burn more calories

Red peppers can increase metabolic rate. Red bell peppers can increase our metabolism without increasing our heart rate and blood pressure like the hot peppers do.

They have 300 percent of your daily vitamin C intake.

Besides being a powerful antioxidant, vitamin C is also needed for the proper absorption of iron. If you are iron deficient, try combining red peppers with your iron source for maximum absorption.

Red bell peppers are packed with antioxidants

The combined effects of vitamin A and C create a great antioxidant capacity, and with lycopene in the mix, the red bell pepper becomes a top notch super food. Red peppers are one of the highest veggies in lycopene, which has been successfully tested in the prevention of many cancers including prostate and lung.

A great source of vitamin B6 and magnesium.

This vitamin and mineral combination shows a decrease in anxiety, especially related to pre-menstrual symptoms. Vitamin B6 is also a natural diuretic, which helps you to reduce bloating and prevents hypertension.

Colombia legalises marijuana for medical use

Colombian President Juan Manuel Santos signed a decree legalising the medical use of marijuana.

The decree was also signed on Tuesday by Health Minister Alejandro Gaviria, whose agency would help regulate its use, Xinhua reported.

"We have just taken an important step to position Colombia on the cutting edge in the fight against diseases and we are doing that through a decree that seeks to take advantage of the good qualities of cannabis to improve people's lives," Santos said.

He added the new law did not contravene Colombia's international commitment to fighting against drug trafficking.

The decree, jointly drafted by the ministries of Health, Justice and Agriculture, "regulates the... cultivation of cannabis seeds and plants, as well as the processes of production, manufacture, export, distribution, sale, use and possession of cannabis and its derivatives, strictly destined for medical and scientific purposes."

Companies that want to make and sell such products must apply for a license from the National Narcotics Council and the Ministry of Health, and submit their security protocols and business plans, as well as certify the origin of the money invested.

The government agencies will have up to 30 days to approve or reject the application.

DECCAN Chronicle

New species of fish discovered in Arunachal Pradesh

New species of Glyptosternine catfish has been discovered. (Photo: Representative image)

Itanagar: A new species of glyptosternine catfish, christened Exostoma Tenuicaudata has been discovered by scientists of Zoological Survey of India (ZSI).

This is only one of nine species under the Exostoma genus found in the world and second discovery of the genus in over a century, ZSI scientists said.

A team of ZSI scientists caught the fish from Siang river in Upper Siang district here recently and the report of the discovery was published in 'Zootaxa', a New Zealand-based science journal.

Glyptosternines are highly specialised sisorid catfishes with greatly depressed body profiles, enlarged, horizontally extended paired fins, modified for adhesion, typically inhabiting torrential waters in rocky mountain streams and rivers, the report stated.

Genus 'Exostoma' is different from other glyptosternines in having a continuous post-labial groove in the lower jaw, gill openings do not extend

on to venter, teeth in upper and lower jaws are homodont and oar-shaped and flattened distally.

It has tooth patches in upper jaw separated, not produced posteriorly at sides, 10-11 (10-12 herein) branched pectoral fin rays, dilator opercula and levator opercula are isolated, anterior end of sternohyoideus is broad and its width is almost equal to that of this muscle in axilla of pectoral fin.
The adductor pelvicalis superficialis partially contacts with its antimere in the midline, the report added.

"Arunachal's rich biodiversity has not been explored yet," ZSI officer-in-charge Bikramjit Sinha who led the teamsaid while advocating its complete documentation.