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THE MENDU

"Get ready to extend crop loans"



Cooperative societies should gear up to extend crop loans and agricultural jewel loans to farmers for the forthcoming kuruvai cultivation, said Jayashree Muralidharan, Registrar of Cooperative Societies, here on Tuesday.

They should also stock adequate quantity of fertilizers, she said while inspecting cooperative bodies including the Primary Agricultural Cooperative Society, Amma pharmacy, the Tamil Nadu Civil Supplies godown at Adavathur and the public service centres being run in the district.

Ms.Muralidharan checked the quality of commodities being supplied under the public distribution centre and also enquired with consumers on whether they were supplied the commodities on specified dates and correct measure.

Later, speaking at a review meeting, Ms.Muralidharan said the weight of commodities such as rice, wheat and sugar was being checked before being despatched to ration shops.

District Collector K.S.Palanisamy, Joint Registrar of Cooperative Societies K.C.Ravichandran, and other officials were present.

Cooperative societies should extend loans to farmers for kuruvai: Registrar of Cooperative Societies

Watering wicks to enter homesteads

Homestead or terrace farming clusters may soon be the ground for a new irrigation concept.

Termed 'wick irrigation,' it has been developed by a scientist at the Centre for Water Resources Development and Management (CWRDM) at Kunnamangalam in Kozhikode and has been "successfully" tested on vegetables in grow-bags. It is now ready to be applied in a homestead farming set-up.

The method, which was tested at the centre in the last two years on a variety of vegetables in grow-bags, has several advantages when compared to the other forms of irrigations including surface irrigation or drip irrigation, says scientist Kamalam Joseph, who developed the new method.

When irrigated by 'wick irrigation,' which is convenient for those who cannot regularly water or care for the plants, the plants were found to be more healthy, to be flowering fast, and giving higher yield besides other benefits, says Dr. Kamalam, who is the head of the training, education and extension division of the CWRDM.

"It's a multi beneficial irrigation technology for potted plants," she says. Effectively addressing the issue of water shortage, as the system requires only minimal amount of water for irrigation, the technology also makes use of plastic bottles that are usually thrown away.

The method has already been demonstrated before Agriculture Minister K.P. Mohanan and other senior officials of the Agriculture Department.

Relevance of AIR programme stressed

Prizes were distributed to the winners of 'Shobhana Gramajeevitham' programme conducted by All India Radio and National Bank for

Agricultural and Rural Development (NABARD) at a function chaired by Balakrishnan Koyyal, Station Director, AIR Kochi, here on Tuesday. Winners came from Alappuzha, Thrissur, Kozhikode, and Malappuram to receive the prizes from N. Ramesh, General Manager and P. Ushakumari, Assistant General Manager, NABARD.

'Shobhana Gramajeevitham' is a daily interactive programme of AIR which gives information on current topics such as the LPG subsidy, Aadhaar, e-Banking, horticulture, and Kudumbasree.

"It shows that radio still plays an important role in the lives of people from all walks of life,"

D. Pradeep Kumar, programme executive, AIR, Kochi, said.

The water tribunal trap



Water tribunals were set up as alternatives to long-drawn courtroom litigation. If they are today mired in delay themselves, we have to question the procedure and not just the arrangement

At the Joint Conference of Chief Ministers of States and Chief Justices of High Courts held in April this year, Prime Minister Narendra Modi wondered if tribunals have become 'barriers' to delivering justice. Mr. Modi's observations were about all tribunals in general, but most media reports understood them to be about interstate water dispute tribunals.

Indeed, it was a reflection of a certain continuity in thinking for some time. At the moment, there are multiple tribunals in place to resolve interstate water disputes, but the National Water Policy 2012 proposed setting up a permanent tribunal to replace them.

An important exception

The Constitution attaches a special status to interstate water disputes, whereby they neither fall under the Supreme Court's nor any other court's jurisdiction. These disputes can only be adjudicated by temporary and ad hoc interstate water dispute tribunals. This constitutional exception is why water tribunals cannot be bundled with other tribunals and need careful consideration before any reforms. Seeing tribunals as 'barriers' may set their reform on a wrong path — repeating a history of hasty and shallow responses.

It is known that the inefficiency in interstate water dispute resolutions extends to factors beyond the functioning of the tribunals. These are linked to legal ambiguities, an institutional vacuum for implementing awards, noncompliant States, politicisation and so on. Yet, at the core of the entanglement is the Gordian knot of the constitutional anomaly, or the exception to the Supreme Court's jurisdiction. The inquest has to begin from here. But the immediate question is that of the tribunal's arrangement, which, of course, cannot be detached from the bar.

The permanent tribunal, while complying with this bar on the Supreme Court's jurisdiction, will primarily act as a circuitous route to address the problem of disputes, as they will recur even after the ad hoc and temporary tribunals are disbanded.

Dating to Colonial times

The arrangement of having ad hoc, exclusive, temporary tribunals for interstate water dispute resolution has its roots in similar provisions during the colonial rule (including a bar on the Federal Court's jurisdiction). The Interstate Water Disputes Act, 1956, is essentially a reworked arrangement proposed in the draft Constitution, which in turn derived from Articles 130-134 of the Government of India Act 1935. The Constituent Assembly rejected these arrangements, calling for a more permanent arrangement for dispute resolution. B.R. Ambedkar felt there would be 'very many' disputes, and the proposed arrangements were too 'hidebound' to respond to the evolving context of independent India.

Thus, the Constituent Assembly deferred the responsibility of an appropriate legislation to Parliament via Article 262(1), while providing for the jurisdictional bar via Article 262(2). When Parliament took up the task, the proponents of the Interstate Water Disputes Bill 1955, Gulzarilal Nanda, Minister for Planning, Irrigation and Power, and his deputy, Jaisukhlal Hathi, chose to contradict the Constituent Assembly's premises and resurrect these tribunal arrangements. They argued that it was unlikely that there would be many disputes, relying on the seven or eight years of experience after independence. This debatable premise, certainly ill-informed in hindsight, was the reason why tribunals were resurrected.

However, Nanda and Hathi's intentions were clear and their objectives valid: to ensure swift and definitive decision-making in interstate water disputes. The parliamentarians debated over these arrangements and agreed that tribunals suit water disputes best. They believed that tribunal arrangements would help speedy resolution, with the Supreme Court's jurisdictional bar providing finality to their decisions. They wanted to avoid States litigating amongst themselves, leading to protracted court proceedings. They believed tribunal arrangements would also enable deliberative and discretionary decision-making for 'mutually negotiated settlements'.

Good intentions, bad results

This was the fairly well-intentioned rationale for favouring tribunals over courts, contingent to a particular historical moment. It translated well in the functioning of the first generation tribunals of Krishna, Narmada and Godavari. However, these functional arrangements unfortunately degenerated into the present form, with all the trappings that the parliamentarians wanted to avoid. They turned out to be litigatory and adversarial proceedings with protracted delays. Fali Nariman pointed to this degeneration in an incisive note to the Punchhi Commission on Centre-State relations.

The degeneration was aided by rather poor records of subsequent parliamentarians in allowing several amendments to the 1956 act. The amendments, reactionary in nature, diluted the spirit and rationale of the tribunal arrangements. The history of the Act is filled with short-sighted and sutured responses to the symptoms of the degeneration and have avoided a comprehensive engagement with the problem of interstate water disputes.

Reforming interstate water dispute tribunals cannot be approached without considering their historical exception and the associated pitfalls. The discourse on 'barriers' and the drive for hasty reforms can set us on a wrong path, eclipsing the actual barriers that lie beyond the tribunal arrangement itself. After all, the present arrangement was driven by precisely the same concern for swift and definitive outcomes as the objections are. It is imperative to have a comprehensive review of interstate water dispute resolution, and also reconsider the Supreme Court's jurisdictional bar.

Co-op bank to encourage agri-based units

The Krishna District Cooperative Central Bank (KDCCB), in collaboration with the Andhra Pradesh Cooperative Bank (APCOB), has promised necessary credit support to the interested entrepreneurs to set up agri-based industries.

APCOB Chairman Pinnamaneni Venkateswara Rao said that the experiment of lending credit support of up to Rs. 5 crore to some agri-based industries has yielded fruitful results in Krishna district. "Maximum of up to Rs. 10 crore credit support will be given to individual or group of entrepreneurs to set up agriculture and related industry. If necessary, APCOB will join the KDCCB to sanction more number of industries," said Mr. Venkateswara Rao. KDCCB CEO Tulasidas said extending credit to agri-based industries aimed at increasing the business of the bank in the district.

Maximum of up to Rs. 10 crore credit support will be given to any individual or a group of entrepreneurs to set up any mean of agriculture and related industry. If necessary, the APCOB will join the KDCCB to sanction more number of industries

Water released from Periyar dam

Water was released from Periyar dam for irrigation of the first crop in the double-cropping areas of Cumbum valley.

Releasing water from the dam on Tuesday, Collector N. Venkatachalam said initially 200 cusecs of water would be released from the dam for the next 120 days continuously.



A total of 14,707 acres – 11,807 acres in Uthamapalayam, 2,412 acres in Theni and 488 acres in Bodi blocks – would benefit. The Collector also appealed to the farmers to use water judiciously and raise short term crops for better yield and profit.

The Public Works Department engineers said that turn system would be introduced if the storage level failed to improve or in case of monsoon failure.

Representatives of local bodies, officials from PWD and revenue officials and leaders of farmers associations participated.

At present, water level stood at 117 feet in Periyar dam. Inflow into the dam was 100 cusecs and the storage was 2,087 mcft.

Meanwhile, the PWD officials and the farmers hoped that the Southwest monsoon would improve the storage level in the coming months to maintain the discharge for the first crop till harvest.

The PWD officials had released water from the dam last year, even as the storage level was just 113.8 feet.

The storage in the Vaigai dam was also comfortable when compared to last year. The sudden summer rain helped improve the level substantially.

The present storage level stood at 45.87 feet in the Vaigai dam and the inflow was 163 cusecs.

The discharge was 60 cusecs. Storage was 1,496 mcft. It would suffice to meet drinking water needs of Andipatti, Sedapatti and Madurai and hamlets in southern districts, the officials added.

Coping with the heat

Extreme weather conditions have become such a part of life all across the world over the last decade and more, that ways and means to understand and cope with them have become an essential element of survival strategies. Heatwaves in summer, cold waves in winter and extreme rainfall when it is least expected have almost become the norm. Each of these rounds takes its own toll on lives and livelihoods even as those in other areas are forced to stand as mute spectators. This summer in India, the number of lives lost to **heatwave conditions** has exceeded 2,000. While shrinking winter-spans are considered by specialists as a sure sign that climate change is a reality we cannot ignore, at the other end of the spectrum, hot summers are no less debilitating. Prediction of these phenomena is itself so difficult, not for lack of effort but because of the theoretical limitations of the models being used in the calculations. Broadly speaking, there is no doubt that summer heat is worsening by the year in parts of India. This fact is reflected in some climate studies. For instance, one on climate in the subcontinent over the period from 1961 to 2010 by scientists of the India Meteorological Department based in Pune and Chennai, found that compared to the first four decades, the number of heat-wave (HW) days per season was higher during 2001-2010 in many parts of north, north-west and central India. An increase was observed in the number of severe-heat-wave (SHW) days per season in some stations, mainly in north-west India. The study also found that the frequency, persistence and area coverage of HW/SHW days were more than average in years succeeding El Nin~o years.

The question remains whether humankind is preparing for eventualities such as this. For those in denial of climate change, there are clear pointers that cannot be ignored. Also, from the point of view of disaster mitigation, the rising number of heatwave related deaths should serve as an urgent signal to develop innovative methods to control summer-time losses. It is somewhat

ironical that while the long, hot summer takes such a toll, in this subcontinent it is also a necessary condition for the monsoon to set in and provide adequate rainfall. In a sense, the unendurable heat and the rains that follow are tied together in a delicate balance. While it is important to preserve this balance by focussing on factors to mitigate climate change, it is also necessary to develop methods to cope with the impact of each of these when they go beyond normal.

A sea of green



Cool treat:Farmers carrying loads of cucumber from a field near Big Tank in Ramanathapuram.

Agricultural wells to supply drinking water

With a water crisis looming over the city, Chennai Metrowater has started transporting water from agricultural wells rented in Tiruvallur district to manage the shortfall in resources.

At present, nearly 15 million litres a day (mld) is being drawn from about 250 agricultural borewells near Poondi, Tamaraipakkam and Minjur. This volume will be stepped up gradually to 40 mld in a few weeks from the wells.



After nearly a decade, Metrowater has acted upon its contingency plans to purchase water from agricultural wells to sustain water supply. Some of the villages from where the groundwater is being sourced are Magaral, Pullarambakkam, Kilanoor and Siruvanoor Kandigai.

As Krishna water flow from Andhra Pradesh was suspended last month, the storage in the reservoirs has dwindled rapidly and remains at 16 per cent of its total capacity. Thus arises the need to supplement the city water supply.

While Chennai is being supplied with 590-600 mld on alternate days, some areas like T. Nagar and Royapettah often complain of erratic water supply.

Groundwater purchased from agricultural wells at a rate of Rs. 15-Rs. 18 per kilo litre is being transmitted through pipeline to Red Hills treatment plant from where it is supplied to the city. Metrowater has also started drawing 30 mld water from local sources in added areas.

Sources at Metrowater said the number of tanker trips, including those on payment, has been increased to 4,000 daily to meet the demand.

"The storage in the reservoirs will last till July-end. Veeranam tank in Cuddalore district and desalination plants in Minjur and Nemmeli will augment water supply," said an official.

The water agency will soon start bringing 55 mld of water from borewells and mines in Neyveli to support the city's water supply.

Plastic bags removed from forest areas in Ooty



The last two months were the peak tourism season for the Nilgiris district. Over nine lakh tourists visited the recently-concluded summer festival which comprised a range of shows starting from fruits and vegetables to the flower show.

However, the large inflow of tourists also had a negative effect as they have left behind a huge pile of garbage that is proving deadly for the wildlife.

A sambhar deer and an Indian gaur were found dead recently with the postmortem examinations revealing polythene bags in their stomachs. Plastic covers were also discovered in elephant dung in The Nilgiris.

With the objective of tackling this, the Forest Department joined hands with the District Rural Development Agency (DRDA) to begin a two-day cleaning-up operation on Tuesday. Around 100 persons took part in the campaign, taken up on a 15 kilometre-stretch —Thalaikundha-Pykara Road and Thalaikundha-Kallatti Road. They picked up the garbage on both sides of the roads, which adjoin the forests. S. Kavitha, Project Director of DRDA, says 25 labourers were brought in under the Mahatma Gandhi National Rural Employment Guarantee Scheme.

The campaign focussed on Thalaikundha, which is the junction of Karnataka, Kerala and Tamil Nadu and is surrounded by tourism hotspots. The grasslands in the area are now filled with garbage. "The plastic obtained from this drive would be used to lay roads. The bottles and paper cups would be sold off," she added.

C. Badrasamy, District Forest Officer, The Nilgiris South Division, said that the Forest Department pressed around 30 of its staff along with 20 Toda businessmen who are in the Eco-Tourism Committees besides labourers hired by the local bodies.

Greener technologies come in handy

City-based Anchor3E Corporation has been developing a "Green World System" for the last two years, based on a technology that is widely used in countries such as Japan, to burn the domestic waste.

S. Venkatachalam, who is into consulting and designing at the company, told *The Hindu* that the firm developed the system which functions almost like an incinerator but without fuel. The "Controlled Oxygen Rotating Technology" has been modified, he says. Each unit can burn half tonne to five tonnes of waste and at least 60 per cent should be dry waste. The byproduct is ash and it can be used on farmlands.

The company has been talking to local bodies in the State and even in other States and has installed a few systems on a trial basis. "We have invested Rs. 50 lakh in this project. We are now studying if we can generate power from this system and if the capacity can be reduced so that it can be used as a mobile unit," he says.

Local bodies can install these units in each neighbourhood and save the cost incurred for the transport of waste. Land used for dumping waste can be reclaimed. "If we develop the mobile unit, it can be installed even in apartments and independent houses," he says.

Farmer with the jackfruit mania

For the last 10 years, this 34-year-old farmer has been on a collection spree, not of priceless artefacts, but of different varieties of jackfruit.

K.C. Vishwas, a native of Mudigere, has collected and grown 68 varieties in his farm near Dudda in Hassan taluk. "I have travelled almost 1.7 lakh km in my vehicle just to collect varieties of jackfruit and cultivate them," he told *The Hindu*



He has visited all regions where the fruit grows, including Nagaland, Odisha, Andhra Pradesh, Tamil Nadu, Goa and Kerala, and collected the pick of varieties.

His farm, spread over 110 acres, has over 500 jackfruit trees, 1,000 coconut trees and some mango, pomegranate, and sapota trees.

"I did not start this for money. I only wanted to collect as many varieties of the fruit, mainly the best ones," he said.

Mr. Vishwas, a BBM graduate, knows every feature of every tree in his farm.

"The varieties have not been named scientifically. They are named after the place where they are commonly found. Janegere and Byrasandra are some examples," he said. And, there are stories to recount of his journeys.

"In one place, the tree belonged to a joint family and I had to seek permission from every member to collect the variety. A couple of years ago, I was told that a fruit-seller in Chikkamagaluru was selling vanilla-flavoured jackfruit. I spent a whole day looking for the vendor only to find that he was injecting the flavour into the fruit before selling it. My journey across the country has taught me many lessons," he said.

Vishwas has collected 68 varieties of the fruit, which he grows in his farm.

Simple steps to save a precious resource



The Tamilnadu Water Supply and Drainage Board has adopted a new method to prevent the wastage of water at public fountains in rural areas.

Normally, water that overflows from the pots at public fountains (street taps) would stagnate and the entire area turns slushy. Though the wasted water seeps into the ground, it seldom penetrates deep into the soil as it evaporates quickly.

Soakpits

To keep the area dry, the TWAD Board has decided to create soak pits and connect it with the platform on which the public fountains have been set up.

"This will help save the area from becoming slushy apart from recharging ground water", Executive Engineer (Rural Water Supply), TWAD Board, Kancheepuram, K.Arumugam, said.

Equal supply in starting and tail-end areas

In order to ensure equitable water supply to both starting and tail-end areas, the height of columns on which overhead tanks are constructed has been revised.

While the columns supporting the OHTs with a capacity of less than 30,000 litres will have a height of 7.5 metres, those with a higher capacity will have 12 metres height.

The Board has executed 80 water supply augmentation projects at a cost of Rs. 32.38 crores.

As many as 21 check dam construction projects have been taken up at a cost of Rs. 2.67 crores, drinking water supply projects in 26 government schools in the district at a cost of Rs. 1.06 crores and water supply facility to toilets in 65 schools at Rs. 26 lakhs in 2014-15, he said.



Maharashtra Govt plans cloud seeding in Vidarbha, Marathwada if monsoon is below par

With This year's monsoon forecast being cut to 88 per cent of the long-term average stoking fears of yet another spell of drought in the country, the Maharashtra *government* has decided to put in place a plan to induce artificial rain.

The Maharashtra cabinet on Tuesday approved in-principle, a proposal to set aside Rs 10 crore for cloud seeding.



In New Delhi on Tuesday, Union Earth Sciences Minister Harsh Vardhan announced that this year's forecast had been slashed from 93 per cent to 88 per cent. If rainfall is than 90 per cent, it is considered a drought year. Maharashtra is already reeling under a deepening agrarian crisis, with parts of Vidarbha and Marathwada witnessing a several droughts. Unseasonal rain and hailstorm had hit rabi crop, too.

State Agriculture Minister Eknath Khadse on Tuesday said that cloud seeding would be taken up in drought-prone areas of Vidharbha and Marathwada from June-end. The state relief and rehabilitation department headed by Khadse has floated tenders for cloud seeding.

Senior officials said the *government* would go ahead with these experiments only if the monsoon forecast comes true. Senior officials said that the government is looking at international agencies that undertake the cloud-seeding exercise.

There are predictions of a sluggish monsoon in June and July. The *government* is hoping that there is room for sufficient precipitation during the cloud seeding experiments.

A *government* report shows that there was an increase in the days of dry spells during last monsoon. Over 63 per cent of Maharashtra had witnessed below average rain in 2014.

A poor monsoon spells disaster for farmers and Maharashtra has already witnessed the highest number of suicide by farmers reeling under losses. Another spell of drought will deepen the agrarian crisis, officials admitted.

THE TIMES OF INDIA

CM asks ISB to help plan crop insurance scheme

The Punjab government would soon be collaborating with Indian School of Business (ISB) in Mohali for effective implementation of citizen-centric policies and programmes in the core sector of health, education, agriculture, besides promoting skill development. A decision to this effect was taken by chief minister Parkash Singh Badal during a meeting with the faculty members of ISB and the senior officers of the Punjab government here on the institution's campus on Tuesday

Badal sought ISB's support and cooperation in formulating a viable crop insurance scheme for the farmers of the state. He also urged its faculty to give suggestions for implementation of agriculture diversification to improve the economic lot of the farmers who were facing an acute agrarian crisis due to declining profit of margins in wake of exorbitant cost of agriculture inputs.

"Above all the vagaries of nature have made the life of peasantry from bad to worst and their agony could only be redeemed with your active support and assistance and thus ISB's advisory role in the current scenario is the need of the hour," he said.

The CM asked the ISB dean Ajit Rangnekar to suggest a frame work for collaboration in various fields of mutual interest aimed at improving the quality of life of the people in general and especially the 'poorest of poor'. Seeking guidance for the promotion of skill development programs, the CM also requested the dean to chalk out short- and mid-term skill training programs for the unemployed youth as per the local needs of the Industry.

He also emphasized the need to initiate skill development program for school students studying in class IX onwards. Likewise, he also impressed upon management of ISB to evolve special training modules for the IAS and PCS officers to enhance their capacity building besides helping them to imbibe the qualities of leadership, develop knack for program implementation and formulation of strategies.

Under the weather: India badly needed a good monsoon year

With an 18% share of GDP, agriculture is not the primary driver of economic growth in India, but its role had assumed greater significance this fiscal because the other growth engines — consumption and investment demand, and exports — are weak.

In the absence of monetary and fiscal tools to lift growth, India needed the support of rain gods this fiscal. Poor monsoon will delay the revival of consumption demand, which has been curbing revival of the investment cycle and growth.

As a result, we have lowered our GDP growth forecast by 50 basis points to 7.4% for fiscal 2016 compared with 7.9% earlier. We expect agriculture growth to be 1.5%, much below the long-term trend of 3.5%, and weak considering that last fiscal's meagre 0.2% growth had already set a low base.

For 2 grain-bowl states, below-par rain for 16 years

IMD's monsoon update predicts 85% seasonal rains for northwest India, indicating that rain woes of the agriculturally crucial states of Punjab and Haryana could continue for another year.

Both states have witnessed meteorological droughts in five of the last 10 years, meaning rainfall in half of the past decade has been at least 25% below the long term average (LPA). Last year's monsoon season was among the driest in the recorded history of both states. Punjab received 243.5mm of rain against an LPA of 491.5mm, posting a 50% deficit for the season. It was the second worst monsoon in the state in 113 years (1901-2014), next to only the 67% deficit seen in 1987.

Haryana had an even greater deficit of 56%, with the state receiving 200.1mm rain as against an LPA of 460.3mm. Only two monsoons since 1901 have been worse in the state.

More worryingly, the distress is not limited to the past decade. The two grainbowl states, which were at the forefront of India's green revolution, have been getting below par rainfall for the past 16 years.

According to Met department figures, Punjab has seen just two above normal monsoons since 1999. The last time that happened was eight years ago, in 2008.

Haryana's plight is similar. The June-September rains in the state have been above par on just four occasions in the past 16 monsoons.

Some experts see the chronic monsoon deficiency in the two states as the worst symptoms of a larger and natural monsoon cycle, which has been in the downswing phase in the past several decades.

Other experts TOI had spoken to when it highlighted this trend last year were of the opinion that the deficit went beyond natural monsoon variability and needed to be investigated.

Interestingly, all through this one-and-a-half decades of depressed rainfall, the agricultural output of the two states has been rising.

That's because farmers have been tapping deeper and deeper into the groundwater resources of the region.

According to a Central Ground Water Board report, Punjab overexploits its groundwater annually by 170%, the highest in the country. Of the 138 blocks in the state, groundwater is overexploited in 110 (80%). Haryana is not far behind, with 59% of blocks labelled overexploited.

Many studies, including those using satellite data to map the groundwater situation, have shown that such drawals were unsustainable and the region was fast reaching the limits of such overexploitation.

'Schools to impart agri education'

Agro-tourism, agriculture education in schools and adoption of villages for all-round development will be the way to go as per the new plan laid out by the agriculture department.

Two agro-tourism spots on the government farms of Codar in Ponda and Kalay in Sanguem have been identified for the development of camping sites with overviews of agriculture in Goa.

Local schools will also be encouraged to utilize the service for schools and centres of excellence will be established in these locations. While floriculture will be adopted at the Kalay farm, the Codar farm will have olericulture.

Speaking to mediapersons on Monday, agriculture minister Ramesh Tawadkar said "Agro-tourism can also be used as a model that each farmer can adopt on their own land and gain additional income."

The department will further make attempts to encourage youngsters to take up careers in farming. An area between 0.5 to 1 acre will be reserved on all government farms for the same.

This year, the department has selected 33 new villages as part of its adoption of villages for its all-round development programme.

Speaking on the provision of financial assistance to these farmers, he said, "Each of these selected villages is linked with a bank for financial requirements. Any farmer in Goa in need of monetary help can therefore apply to us."

These villages are in Tiswadi, Bardez, Pernem, Bicholim, Valpoi, Sakhali, Ponda, Sanguem, Dharbandora, Margao, Quepem and Canacona.

The government will additionally provide an assistance of 80,000 per hectare in the form of input seed, fertilizer, manure, pesticide, water pump, pipelines, sprinklers, drip etc to farmers. The minimum area required for the same is 500 sqm and maximum is five hectares.

Revitalization of khazan lands, hybrid coconut cultivation, vegetable cultivation by individual farmers, spice plantation etc were also discussed at the press conference.

Know your mushrooms



Once considered exotic, mushrooms — the new superfood — is gaining popularity in the Indian platter, thanks to its versatility. Yes you can bake, toss, stir fry, saute, grill, roast or stuff it, and make your dish go blah to wow in minutes. With the varieties available in market, you now have an inexhaustible list of delicacies to rustle up in your kitchen. Bangalore Times introduces you the various kinds of mushrooms now available in city marts.

Oyster mushrooms:

This common edible wild mushroom, now grown commercially across the world, was first cultivated in Germany during World War I as a means of subsistence. It got its name because of its broad fan or oyster shaped cap. It also has a bittersweet aroma, which some believe, has a faint resemblance to the flavour of oysters.

The colour of this gilled mushroom varies from white, grey, tan and reddish brown. This variety — known for its tender flesh, velvety texture and mild flavour — is used for salads, soups, sautes, grills and toasts. This mushroom is one of the few known carnivorous mushroom. Yes, it kills and digests parasites to obtain nitrogen! Also, the health benefits are numerous. They are very high in protein, fiber, vitamins B1 and B2, iron and anti-oxidants, and low on fat. They are also known to prevent cancer, high cholesterol and

inflammation and high blood pressure. They are also known as tree oyster, straw mushroom, hiratake and tamogitake. **Price:** 500 gm for Rs125

Shiitake mushrooms:

This edible mushroom is mostly consumed in East Asia, as it grows in warm and moist climate. It is typically cultivated on dead and decaying logs of deciduous trees such as chestnut, oak, maple, beech, ironwood, mulberry and is also known as sawtooth oak mushroom, black forest mushroom, black mushroom, golden oak mushroom and oakwood mushroom.

This variety has 10 times the flavour of common white button mushrooms. Known for its pungent, woodsy flavour and meaty texture, shiitake is used in East Asian cuisines. In Japan it is used in soups, steamed and simmered dishes, while in China they are sauteed in vegetarian dishes. In Thailand, they are fried or steamed. In Russia, it is mostly picked. This variety of mushroom is generally dried (to get rid of the umami flavour) and sold as preserved food. Shiitake is high protein, potassium, vitamin B, calcium, magnesium and phosphorus.

They also have anti-viral and immunity boosting properties. It is prescribed to fight virus, lower cholesterol and regulate blood pressure. **Price**: 500 gm for Rs1000

Shimeji mushrooms This variety is native to East Asia, but is also found in Northern Europe. They are often called beech mushrooms as they grown on dead beech trees. They have a white base and cracked, speckled brown caps. It has a rich Umami flavour. This variety is always cooked as it is bitter when raw and also lacks the nutritional value that it has when cooked. Once cooked, it has a pleasant, firm, spongy, slightly crunchy and nutty flavour.

It is mostly used in stir-fried food and soups, stews and sauces. It can also be sauteed as a whole, including stem and stalk. They are also the perfect accompaniment to noodles. But yes, it is so difficult to grow that its cultivation method has been patented. Because of its petit size and delicate nature, they are harvested in bouquets to protect their vulnerable structure. **Price**: 500 gm for Rs850

Portobello mushrooms:

Native to grasslands in Europe and North America, these mushrooms are one of the most widely consumed mushrooms in the world. When immature and white, is known as common mushroom, button mushroom, white mushroom, table mushroom and champignon mushroom. When immature and brown, it is known as Swiss brown mushroom, Roman brown mushroom, Italian mushroom and Cremini mushroom. When fully grown, Portobellos are fairly big in size and have a tender meaty texture and earthy flavour. It has a large, light tan cap. Cooking helps unlock the more subtle flavours of this variety. This variety of mushrooms cooks very quickly in high heat. Hence, it is turned, moved and stirred constantly. Portobellos pair well with most food. Also, these rot quickly when wet. So if you are using water to clean it, cook immediately to minimize wastage. These are an excellent source of copper, phosphorous, vitamin B, potassium, zinc and manganese. Can be refrigerated in paper bag for a week. **Price:** 500 gm for Rs1.900

Enoki mushrooms: Unlike most mushrooms, Enoki has a mild and delicate — almost fruity flavour — with a slight, crunchy texture. They can be eaten both raw and cooked and are used for salads, soups, sandwiches and pasta sauces. Heat makes them tough, hence, when cooked, they are added at last. They are also known as golden needle or lily mushroom. Enoki mushrooms come in two distinct varieties — wild and cultivated. While the wild variety, grown on mulberry and similar trees, are dark brown in colour and has a shorter and thicker stem, cultivated mushrooms have long, slender white stems with tiny, firm caps. This variety of mushrooms have significant amount of anti-oxidants and protein, apart from vitamin D and B-complex. They can be refrigerated for eight days in a paper bag. Price: 500 gm for Rs875





A fibre-rich healthy snack, green pea cookies are every dieters delight! Here's the recipe...

Ingredients

1 cup green peas

½ cup mejdool dates (pitted)

1/4 cup silken tofu (mashed) 1 cup almond flour

1/8 tsp salt

1 tsp baking powder

15 raw almonds

Preparation

- -Preheat oven at 350 degree Fahrenheit and prepare a cookie sheet with a liner.
- -In a food processor/grinder combine peas and dates and grind as smooth as possible.
- -In a mixing bowl spoon the peas mix and add tofu and mix well with a spoon.
- -Then add almond flour, salt and baking powder and mix well with your hand.
- -Very soft dough like texture will be formed.
- -Take a tablespoonful of the dough between palms and form a round shape and gently flatten in the middle. Try to even out the flat round cookies as much as possible.

- -Put the cookies on the cookie sheet and garnish with raw almonds. (one almond on each cookie and press very gently so they stick together).
- -Put the cookie sheet in the middle rack of the oven and bake for 25-30 minutes or until slightly brown in color.

-Take it out of the oven and let the cookies cool down for a while and serve.



Maharashtra asks seed cos to cut Bt cottonseed price

Maharashtra agriculture minister Eknath Khadse on Tuesday said seed companies selling Bt cottonseeds will have to reduce their rates by Rs. 100 per packet of 450 gram in view of farm distress in the State. Else, the State Government will issue an ordinance to reduce the prices.

Khadse made the announcement at the State Secretariat, while chairing a review meeting of seed prices in the State. In Maharashtra, 104 registered companies are selling Bt cotton seeds to the farmers at the rate of Rs. 930/pack.

A press statement issued by his office said that the farmers in the State have been constantly suffering from droughts, untimely rains and hailstorms therefore the Minister asked the companies to reduce the prices.

In 2014-15, cotton was planted over 42 lakh hectares in the State, which produced 85 lakh bales (of 170 kg each).

US-based Neogen buys Sterling Test House

The US-based instant test instruments company Neogen Corporation has acquired Sterling Test House, a leading commercial food testing laboratory and a division of Kochi-based Sterling Group, for an undisclosed amount.

The acquired laboratory will serve as a base for the \$2.5-billion Neogen's new operations in India, Shivdas B Menon, Managing Director, Sterling Group of Companies, said.

However, he has not disclosed the terms of the agreement, but said that the US company is entering the Indian market with its first acquisition and is planning to spread pan India.

"We are immensely pleased to be joining Neogen. The timing for expansion in India in the food safety market is perfect for Neogen to provide leadership to the public and private sectors in their efforts to strengthen the food chain in its entirety,, Menon said.

Sterling Group will be now scaling up their other activities such as fertilisers, speciality agro inputs, exports, hi-tech agriculture and agriculture projects, he added.

Sterling Test House was incorporated in 1990 and its business has grown to include all of the food safety and water quality testing for major hotels and restaurants besides the safety and quality analysis in the nutraceutical and food export business.

Sterling will be part of Neogen's wholly-owned subsidiary Neogen Food and Animal Security (India) Pvt Ltd.

The US company said that this acquisition is intended to bolster its long term strategy of accelerating revenue growth in critical global food safety markets.

Tea Board targets replantation on 40,000 hectares

Tea Board is targeting replantation of ageing bushes in about 40,000 hectares for the 12th Plan ending 2016-17 to boost productivity, even as the Government recently approved an outlay of ₹1,425 crore for the Plan period, almost double that of the previous plan.



The Tea Board recently announced the modalities and guideline for implementing the 12th Plan scheme effective April 1, 2015.

Project outlay

The outlay for plantation development scheme aimed at boosting productivity and output has components such as replantation and rejuvenation, mechanisation and organic tea, has been pegged at ₹400 crore (₹316 crore in 11th Plan period).

The outlay for quality up-gradation and product diversification which includes support for modernisation of factories and setting up new units has been pegged at ₹350 crore (₹250 crore).

Similarly, the market development and export promotion has been earmarked ₹200 crore (₹119 crore), Research & Development ₹150 crore (₹85 crore), Human Resource Development ₹100 crore (₹50 crore), Development of Small Holdings ₹200 crore.

Tea acreage in the country is estimated at 5.6 lakh hectare of which bushes with over 50 years of age are in about 1.48 lakh hectares (lh). Of this 1.48 lh, replantation of bushes need to be carried out in 95,000 ha, which the Tea Board is targeting over the next 10 years.

"For the 12th Plan period, we are targeting 40,000 hectares," Tea Board sources said. Since the Special Purpose Tea Fund (SPTF) was set up in 2007, replanting has been carried out in about 36,600 hectares.

Of this, replanting was carried out in 11,600 hectares during the first three years of the current plan period.

Implementation hassles

Though growers are pleased with the Government's move to relax certain norms, increase the outlay for the plantation development and hike the quantum of subsidy, they are a bit disappointed that the scheme is not being implemented for the entire plan period as it is effective only from April 1, 2015.

"We want the schemes to be implemented on a retrospective basis i.e, from the beginning of the 12th Plan period from year 2012-13 so that it benefits the growers who have undertaken replantation over the past three years," said Ullas Menon, Secretary-General, United Planters' Association of Southern India (Upasi).

According to the modalities, the total area norm for replanting has been reduced to 1 per cent from 2 per cent per annum, which meant that growers undertaking replanting on at least one per cent of their acreage would benefit from the scheme against the earlier two per cent, Menon said.

Replanting cost

Similarly, the subsidy for replanting, rejuvenation and replacement planting has been increased to 30 per cent from 25 per cent of the cost.

Also, the unit cost of replanting has been increased to ₹8,20,188 per hectare from ₹4,34,700 for Tamil Nadu and Karnataka while for Kerala it is ₹8,53,288 (₹4,45,195).

For encouraging the organic tea production, an additional 25 per cent incentive has been envisaged.

Pulses may become dearer this year: Assocham



Increase in prices of pulses may register highest growth this year due to untimely rains which have severely affected 2.28 million tonnes (MT) of Rabi crop and widened the gap between demand and supply to the extent of 6 MT, says an Assocham study.

"Currently, pulses prices are heading for a two—year high and the present unseasonal rains in north India is resulting in humongous crop losses," said D S Rawat, Secretary General, Assocham, while releasing the study.

As against recommended daily requirement of 50—60 grams, current availability of pulses is less than 30 grams per day, he added.

Declining per capita availability of pulses and likely high prices in 2015 is a matter of serious concern on the nutritional security of the nation. It is an accepted fact that intake of cereals along with pulses help in achieving balanced diet.

The actual availability of pulses for consumption, Rawat lamented is far below what the numbers show as supply.

Madhya Pradesh is the largest pulses producer in the country, followed by Maharashtra, Rajasthan and Uttar Pradesh.

Indicatively, trade sources estimate kharif pulses production at 5.3 MT and rabi pulses at 12.2 MT which add up to 17.5 MT for the crop year 2014—15, a decline of 2.28 MT over last year.

Import of pulses in the current fiscal has already crossed preliminary estimates considered by the government.

However, majority of the imports arrive during the second half of calendar year, coinciding with the harvest and shipments from Canada, US, Australia and Europe.

The wholesale price index for pulses is currently at a two year high. During January, 2013, it was at 244.3, which came down to 226.9 in January, 2014 and in January, 2015, it stood at 254.9.

Currently, pulses wholesale index is at 256.9.

Further, market sentiments on the pulses front have firmed up due to continuing news about crop losses in northern and central India, it added.

TNAU, Oriental Green ink pact

Tamil Nadu Agricultural University has inked an agreement with Orient Green Power Company Ltd, Chennai for betterment of students.

This industry-academia tie up was signed by CR Ananthakumar, Registrar of the Farm Varsity, and R Kulothungan, Senior Vice-President of Orient Green Power.

Under this agreement, B.Tech (EEE) students of TNAU will be offered industrial internship, and the farm varsity will collaborate with Orient Green Power for research.

The company will also offer research fellowship for M.Tech and doctoral students in bioenergy and work on industry-related issues.

Business Standard

Manage food prices to contain inflation: RBI

Reserve Bank of India (RBI) Governor Raghuram Rajan on Tuesday sent out a strong message to the government — managing food situation was vital to contain inflation.

In its second bi-monthly monetary policy review, RBI said unseasonal rain and hail in March had hit rabi crops. It is expected food production in 2014-15 would have fallen five per cent compared to the previous year. Successive estimates indicate the situation could worsen, with damage to pulses and oilseeds. For these crops, there are no buffer stocks in the central pool, posing an upside risk to food inflation.

RBI said it was clear that contingency plans for food management, including timely release of stocks, should be in place to manage the impact of low production on inflation. Limiting the increase in agricultural support prices would also help control inflation, the RBI governor said. He noted in the past, there had been a correlation between high increases in the minimum support price (MSP) and high inflation, especially in the event of low production.

This year, input costs have not risen substantially, owing to low inflation and rural wage growth. Low MSP rises were likely to be proposed, Rajan said.

As of May 1, foodgrain stocks in the central pool stood at 59.13 million tonnes (mt), 44 per cent more than the required amount. Of this, rice accounts for 17.04 mt and wheat 34.12 mt.

Though the recent unseasonal rain had led to wheat production falling about five mt, it had no impact on purchases by the Centre, as the government relaxed quality norms. So far this season, 26 mt of wheat has been

purchased.

To control food inflation, the government will have to effectively manage liquidation of stocks in the open market to ensure prices don't surge in case of an impact of irregular rain on agriculture. In case of pulses and oilseeds, the effort should be to calibrate import and export duties to ensure substantial domestic availability. In the case of fruit and vegetables, the government should ensure retail supplies aren't hit due to hoarding and black marketing.