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THE HINDU

New machines to ease workload

It is priced at Rs.3,500

The Research and Development wing of Mannuthy Agricultural Research Station under Kerala Agricultural University (KAU) has come up with modified version of sit and climb coconut climber and tiller to open basin around coconut trees.

The new version is cheaper, lighter, quicker and easy to operate and much more comfortable. It takes only five seconds to fasten it to a tree and same time to detach it.

Modified version

Ascending and descending a 12 metre high palm can be done within 78 second. The modified machine is fastened to the tree using flexible steel rope instead of curved stainless rod used in previous machine.

A cycle seat, a handle to hold on, adjustable loop according to changes in girth of tree, during operation, are added advantages

It is priced at Rs.3,500 against the older version costing of Rs.8,500. The R &D department has also developed a tiller which can till the soil and open up basin of 15 to 25 cm depth with 60 cm width are made around the coconut trees to spread farm manure.

It takes 10 minutes for the tiller to open a basin and it can open six basins per hour consuming 1.5 liters of diesel. The cost including other lubrications and operation is Rs. 200 per hour. This means the cost of opening a basin of coconut will be only Rs.40.

Cost

Usually a worker opens up 12-15 basins a day around trees which costs Rs 50-60 per tree.

More importantly the number of basins dug per day is manifold.

The station is also working for the tillers which can work with the help of remote control so that walk behind the tiller for operating it becomes no more practice.

Farmers can book the machine by paying the cost either in cash or through DD.

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An entire village shuns using chemicals for growing crops



Perunthalaivar Kamaraj KVK, Puducherry, has been responsible in bringing this tremendous change. PHOTO: SPECIAL ARRANGEMENT

Farmers in Sorapattu village of Mannadipattu in Puducherry seem to have a lot of information on using integrated pest management (IPM) for protecting their crops rather than using chemical pesticides for the same.

IPM means judicious combination and use of all locally available pest control agents. All the farmers in the village have invariably curtailed the use of plant protection chemicals and started following practices like using neem oil, neem cake, tricho cards, light trap, pheromone trap, and 'T' shaped

bird perches, thus helping them save more than Rs.5,000 per hectare towards crop protection (before they adopted this the cost was about Rs.6,800)

Since 1994

The emphasis on IPM in the region has been in practice since 1994, in order to bring down the indiscriminate usage of pesticides to contain crop pests and diseases while conserving and protecting natural insects in crop ecosystem.

Perunthalaivar Kamaraj Krishi Vigyan Kendra (PKKVK), Puducherry, in co-ordination with the agriculture department has been responsible in bringing this tremendous change in the attitude of the farmers towards this method.

Pesticide consumption in this region has come down significantly from 163 metric tonnes in 1990-91 to 40.92 tonnes in 2013-2014, resulting in a two-thirds reduction in its consumption. Similarly, the number of pesticides outlets has decreased from 196 in 1990-1991 to 115 in 2013-2014, nearly a 30 percent decrease.

Lowest number

The lowest number of outlets was recorded in 2006-07 & 2007-08, according to Dr. N.Vijaykumar, subject specialist, who has been conferred nearly half a dozen awards by different sectors for his work on this subject.

“The concept has spread well and widely accepted by the farming community. The scripting success on its adoption, the strenuous efforts and consistent follow-up confirm that farmers have realised the ill-effects of chemicals in various crops which include rice, groundnut, cotton, coconut, banana, vegetables, flowers and sugarcane over years,” says Dr. Mohan Saveri Programme Coordinator.

During the past 17 years between 1997 and 2014 a total of 69 training programmes were conducted involving more than 2,000 participants.

Over the years, the duration of the trainings ranged from one to five days and more number of trainings conducted among different crops. Emphasis was placed on seeing is believing, teaching by doing and learning by practicing in these training sessions.

Apart from the regular training, field visits and farm advisory services were also carried out.

Different channels

The success achieved in popularising these technologies is mainly due to the creation of awareness and transferring skills through participatory as well as farmer to farmer mode, by conducting farmers' field schools, imparting training, printing and distribution of leaflets and pamphlets, conducting demonstrations and rendering prescription support farm advisory services.

The Kendra took on the responsibility of making available different bio agents and bio control inputs for the farmers since sourcing them on time could prove very time consuming and laborious.

The green revolution laid more emphasis on producing quantity and this led to indiscriminate and over use of chemical insecticides to control insect pests and produce higher yields.

Past decade

But in the past decade increasing awareness on the toxin residues on the crops and the need for a safe and efficient alternative which can help farmers cut costs and at the same time produce healthy food is fast finding acceptance among both the sectors, according to Dr. Mohan Saveri, Programme Coordinator of the Kendra.

The Indian Council of Agricultural Research, New Delhi had conferred the Kendra with the best KVK award for promoting IPM through Integrated extension approaches to the farming community.

For further details please contact Dr.N.Vijaykumar, Subject Matter Specialist (Agricultural Entomology), KVK Puducherry, Mobile: 9442525675, email:dr.nithyavijai@gmail.com and Dr. Mohan Saveri, Programme Coordinator, Mobile: 9442525674.

Hobbit and happy

Here students live in igloo-like houses and use recycled water for their gardens

The trill of panpipes, a musical instrument, wafted across the hillocks of the Domes.

These domes are a 1970s experiment in communal housing in which students live in igloo-like fibreglass domes and snuggle up in snow-white interiors of plastic foam.

Although plenty of campuses offer specialised housing often reserved for vegans, teetotallers, athletes and other like-minded souls it is probably safe to say that there is no place quite like the Domes, an early venture into sustainable living at the University of California, Davis. The complex of 14 tiny domes (elevation: 52 feet, population: 28-plus) is officially named Baggins End, after the Tolkien characters.

Handcrafted signs by Domies ask visitors to take their time and make a new friend while meandering through the Dome's gardens. There, amid fruit trees, scampering chickens and rows of spinach, they can marvel at among other things, a multicoloured apiary (a place where bees are kept) that sums up the Domes philosophy: Just bee.

Reduce, recycle

Clarke Love, a civil engineering junior and one of many green-thumbed Domies, relaxes by making prickly pear jam from scratch and smoothies from fresh-collard greens, dandelions, figs, mint and whatever else is in season on the Domes' 4 acres. Her gardens rely on recycled water from the Dirty Laundry Lounge, the Dome's outdoor laundromat.

Like the other Domes, it has sleeping lofts with steep steps.

When it rains, there is such a beautiful sound, like a rainstick, Love said of her dome.

You feel in tune with nature, she added. For me, it's pretty holy.

Together

Rituals at the Domes seem drawn from an earlier era. Students meet for potluck dinners four nights a week in the yurt (the dwelling), which functions as a circular town square.

Community decisions at weekly meetings are made by consensus. New Domies are required to attend an anti-oppression workshop to prepare for the

rigours of a cooperative existence in which even a decision about whether to have a party is discussed and then voted on.

In a world full of squares, Domies prefer the round. There are no right angles here, said Lucas Hill, a sustainable agriculture and food systems senior. It makes you think creatively.

Eco-friendly

Opened in 1972 and designed by a contractor, the Domes were a pioneering low-cost student cooperative. The fibreglass shells of these dorms were cast in one piece and then lowered by crane onto a concrete pad with prefabricated plumbing. They were intended to inspire personal growth and an eco-friendly, grow-your-own commitment to the land.

The spirit lives on in today's Domies, some with nose jewellery, who plant almond trees, roast chicken, make acorn flour and walk barefoot through the mulch.

The university, founded as an agricultural extension of the University of California, Berkeley, has long been recognised for innovation in breeding tomatoes, for example. Davis itself has been an early adopter of passive solar heating, ecologically planned communities, city bike trails and other progressive environmental amenities.

Support and survival

Several years ago, the structures were the subject of an impassioned 'Save the Domes' campaign when university officials considered closing them, citing the exorbitant costs involved in fixing degraded foam, providing wheelchair access and addressing other structural and safety issues.

Domies countered with wheelbarrows full of flowers and thousands of support letters. Eventually, hundreds of volunteers worked with the Solar Community Housing Association, which runs three eco-conscious co-ops in town. They patched foam, built paths and made two Domes wheelchair accessible.

Misconceptions

Very few artefacts from the period survive, said Kurt Kornbluth, the founder and director of the University's Program for International Energy Technologies and a Domes alumnus. Nevertheless, there can be misperceptions, even among peers, said Peter LaFollette, a chemistry senior.

People ask if we have toilets and showers, he said. I tell them we have Wi-Fi and live two minutes from a grocery store.

Not everyone in the Domes milks goats, LaFollette noted, unless you're taking a class on goats. Ashley Cable, a human development major, said that when she lived in a regular dorm she was lonely and shy. Over a potluck with bubble tea and drumming in the background, she explained that having a vote in everything we do has given her confidence. My social skills have developed like crazy, she said.

— New York Times News Service

When it rains, there is such a beautiful sound, like a rainstick

Weathering water woes

S. Vishwanath, who has been promoting water harvesting, stresses on the need to be water literate



water warrior S. Vishwanath

Water, the invariable backdrop of Kerala life. Be it the rains that lash out two seasons every year, the placid backwaters, or the many rivers that straddle through this narrow stretch of land, water is central to the defining image of Kerala.

It thus comes through as a strange contradiction that at 25 litres a day, Kerala scores low, lower than even Rajasthan, in the per-capita availability of water. The answer to this paradox lies squarely in not knowing how to manage this most precious of our natural resource, properly.

S. Vishwanath is someone who has been campaigning for long for a change in the way we think, or do not, about water. Based out of Bangalore, Vishwanath, a civil engineer and urban planner by training has been working, writing and communicating on issues related to water conservation and water sanitation in urban areas. “Access to good quality water is strongly tied-in with public health, economic activity, and the quality of life,” says Vishwanath.

As our cities grow bearing the brunt of overpopulation, access to clean water is emerging as a new concern. The only way to deal with it, according to Vishwanath, is to harness water through its manifold sources, rain water, ground water, and even waste-water recycled. “A city like Thiruvananthapuram with nearly consistent monsoons has a lot of potential for rain water harvesting,” says Vishwanath, who has been successful in promoting water harvesting designs in several household and commercial complexes in Bangalore. Adding to this, Vishwanath and his team at the Rainwater Club, have commissioned a working model, minimalist in design, that converts urban rooftops to agricultural spaces where food, including paddy, could be grown, fed fully on recycled waste water.

Kerala has the highest well density in India and is a treasure if maintained well. But keeping this ground water and other local water resources usable and free of contamination is an allied challenge. This is where the sanitation systems come in. Sanitation, according to Vishwanath, is as much an urban problem as it is in rural areas.

“Dumping of raw sewage and waste water without treatment into local streams and rivers, disposal of solid waste into drains and canals all contaminate our ground and surface water reservoirs,” cautions Vishwanath.

The sad plight of the Karamana river is a classic case of our callous negligence. As a reverse example, Vishwanath talks about Mahaweli Ganga, the river that cuts through the town of Kandy in Sri Lanka. “It’s an urban river. But there the water is pristine and pure. Strict laws and their enforcement combined with clever water management practices have made

the Mahaweli the lifeline of Kandy”. Vishwanath wonders why this cannot be the case with the Karamana river.

Outside of legal ways and government enforcements, Vishwanath feels, long term change for the good can come only through dissemination of information and spreading awareness on water. “When we are water literate we will take individual actions to conserve and protect water resources. We will create community action to ensure its cleanliness and not allow greed to overcome sustainable use. We will create institutions and arm them with finances and accountability so that they too help in ensuring that available water resources are taken care of,” he says.

Vishwanath is the director of Biome solutions, an architectural firm that designs and build homes and institutions using earth as the primary construction material, inspired by the principles of Laurie Baker. He also works as an advisor to Arghyam, a public charitable foundation that has funded over 120 projects on water and sanitation all over India.

For information on Rainwater Club: <http://www.rainwaterclub.org/>

Vishwanath delivers a lecture on ‘Towards a sustainable city: Water’ today at University Women’s Association Hall, Jawahar Nagar, at 5 p.m. today.

A city like Thiruvananthapuram with nearly consistent monsoons has a lot of potential for rain water harvesting

Consortium of young scientists to achieve ‘Zero Hunger’ goal



Founder chairman of M.S Swaminathan Research Foundation M.S Swaminathan speaking at the valedictory of the 6th Indian Youth Science

Congress in Guntur on Wednesday. Minister P. Pulla Rao and ANU Vice-Chancellor K.Viyanna Rao look on. Photo: T. Vijaya Kumar

The 6th Indian Youth Congress has resolved to set up a consortium of young scientists – ‘Youth against hunger’, to achieve the goal of ‘Zero Hunger’ by 2025.

At the end of 6th Indian Youth Science Congress, executive director of M.S. Swaminathan Research Foundation Ajay Kumar Parida said young scientists across India working on solutions to mitigate hunger would be made part of consortium.

The Science Congress recommended that universities should establish committees on public understanding of science to provide opportunities for young scientists to disseminate knowledge about biotechnology, information technology and eco technology in public domain.

Public good research undertaken by public institutions should receive more support and anticipatory research should be given a fillip to cope with the impact of climate change, Dr. Parida said.

Professor Swaminathan, founder chairman of foundation, batted for rain water harvesting and said water harvesting should be promoted at farm lands and community centre watershed should also be set up.

“Leveraging agriculture for overcoming malnutrition should become an integral part of farming system research and development,” Dr. Swaminathan said.

Since 2015 has been declared as International Year of Soil Healthcare, priority should be given to improve soil health by giving attention of microbiology of soils. Sustainable food security would depend on soil conservation and soil health.

Speaker Kodela Siva Prasada Rao, who was the chief guest at the valedictory function held at ANU, said that problem of hunger reached a dangerous and fearful proportion calling for immediate action.

Vice Chancellor of ANU K.Viyanna Rao presented a paper on ‘Achieving Excellence- the role of Universities’. Minister for Agriculture P. Pulla Rao and MLA Alapati Rajendra Prasad spoke.

‘Vivasaya Tiruvizha’ from January 23

In a bid to offer a platform for stakeholders in the agriculture sector, the Confederation of Indian Industry(CII) and Agricultural College and Research Institute (ACRI) in partnership with the State Government are organising a three-day ‘Vivasaya Tiruvizha 2015.’

Speaking about the programme, Kathir Kamanathan, event chairman said that the expo and conference would enable interaction between farmers, scientists and industry experts. “The conference will have different sessions where new technology will be showcased, live demos will be given, encouraging agri-entrepreneurship and attracting investments in the sector. Special emphasis on value addition and marketing possibilities of agri-products will be discussed,” he said.

Rohini Sridhar, Chairperson of CII Madurai Zone said that the event aimed at bringing all the stakeholders of the sector under one roof and provide networking as well as transfer of knowledge. “There were 8,650 registered participants during the previous edition and over 15,000 farmers are expected to attend this year,” she said.

Stating that there would be a special agri-clinic stall for the farmers to get their queries clarified, C. Chinnusamy, Dean of ACRI said that the Tamil Nadu Agricultural University(TNAU) was also setting up an input sales stall for the farmers among 30 other stalls.

The expo and conference is scheduled to begin at 10 a.m. on January 23 on the ACRI campus.

‘Usher in another Green Revolution, focus on dry land farming’

P.M. Salimath, Vice-Chancellor, University of Agricultural Science (UAS) Raichur, has underlined the need for a second Green Revolution with a focus on improving the yield from dry land farming.

Presiding over the inauguration of a Krishi Mela organised at the Agricultural Research Station at Hagari, on the outskirts of the city on Tuesday, he said that the first Green Revolution had helped improve agricultural production to a great extent. Over the years, agricultural production had got stagnated and efforts had to be made to break it by launching a second Green Revolution with stress on improving the yield from dry land, which depend

on the vagaries of monsoon, and constitute around 70 per cent of the total cultivable land in the country.

“Adopting improved farm techniques and mechanisation, advanced agricultural practices like conservation of moisture in dry land, soil conservation, use of micro-nutrients, quality seed variety and judicious use of chemical fertilizer and pesticides will help farmers get more yield even from dry land. Integrated farming is ideal for small and marginal farmers as it will fetch them regular income,” he said.

Lakshmikant Reddy, president of the Ballari District Krishik Samaj, alleged that the authorities were not fixing scientific prices for agriculture produce. A large number of farmers visited the demonstration plots of drought-resistant Navane and Bengal gram varieties.

Krishi Mela held at Hagari near Ballari

Areca nut growers seek I-T exemption

A panel of representatives of areca nut marketing societies met Governor Vajubhai Wala at the Rajbhavan in Bengaluru on Wednesday and submitted a memorandum seeking exemption from income tax.

Sirsi Totgars Sales Cooperative Society president Shantaram Hegde Shigehalli and general manager Raveesh Hegde, State Areca Marketing Cooperative Federation Shivamogga unit president H.S. Manjappa, and Siddapur taluk areca nut marketing society director Shanmukh Goudar were present. They sought exemption from income tax saying that cooperative societies were not profit-oriented and their revenue was being distributed among farmers. They demanded that the import of agriculture products be stopped as it would affect those depending on agriculture. They alleged that they were being harassed by I-T department officials.

Strawberry tastes sweet for Wayanad farmers



Director of an NRI firm based in Saudi Arabia E.R. Radhakrishnan with strawberry plants raised in a poly house at Korome at Thondarnadu grama panchayat in Wayanad district.

Sweet Charlie and Winter Dawn are proving to be very lucrative for farmers in Wayanad. These are two varieties of strawberries suited to the climate in the district.

Strawberry cultivation is not new to Wayanad. The fruit has been cultivated by the Kerala Agricultural University at its Regional Agriculture Research Station (RARS), Ambalavayal, for the past few years on an experimental basis. It has also started to market value-added products from the fruit successfully.

However this year, thanks to the initiatives of the State Horticulture Mission, the cultivation of the crop has received a boost.

As many as 35 progressive farmers have started cultivating strawberries on a commercial basis on 50 hectares of land with financial assistance from the mission.

While many of the farmers follow the open precision method, a few among them cultivate the fruit in poly houses.

“We have cultivated 15,000 strawberry plants of Sweet Charlie and Winter Dawn in a poly house set up at Korome in Thondarnadu grama panchayat on a commercial basis,” E.R. Radhakrishnan, Director, Thrissur Jilla Souhrudha Vedi Farms and Resorts Private Ltd., a non-resident Indian firm based in Saudi Arabia, says.

“We got nearly 75 kg of strawberry in the first harvest from a few mature strawberry plants, and are expecting close to 8 tonnes in the final harvest,” Mr. Radhakrishnan said. Marketing the fruit was not an issue, he said, as the fruits could be sold in the local market at Rs.250 to Rs.310 a kg.

We have constituted a strawberry farmers’ forum to clear the doubts of new farmers on the crop and explore new markets, Alex C. Mathew, Deputy Director, State Horticulture Mission, said. The mission, he said, had tied up with RARS, Ambalavayal, to produce value-added products such as crushed strawberry, jam, and squash from the fruit.

The SHM planned to expand the area under strawberry cultivation to 150 hectares in the next fiscal, he said.

Cane farmer tastes sweet success

I make up to Rs. 4,000 every day from sale of sugarcane juice, says Jogram



It’s hot! :Rathod Jogram crushing sugarcane near his field at Pulimadugu.-
Photo: S. Harpal Singh

A little planning and hard work have ensured that sugarcane farmer Rathod Jogram makes the most of his drive to do something worthwhile in

agriculture. He has doubled his already excellent earning of over Rs. 2 lakh by selling fresh sugarcane juice near his field at Pulimadugu in Indervelli mandal on the Gudihatnoor-Utnoor road.

“Selling sugarcane in shandies and jataras is not as fetching as it was a couple of years back. This way it is also easy for me to devote required time in field as well as for managing this business,” observes Jogram, as he begins to narrate his success story.

“I wanted to do something new to land with good profits so I started this joint three months back.

My crop will last only one more month but I am assured of supplies from my in-laws’ field in Tadihatnoor in Narnoor which will last me the entire summer,” the farmer says. Jogram spent Rs. 12,000 on purchase of the sugarcane crushing machine and hired a diesel engine to run it. Instead of selling sugarcane for Rs. 30 apiece in shandies, Jogram is now making Rs. 60 by crushing a single cane as it produces six glasses of juice each measuring about 150 ml.

“We had no doubt about success of this venture though we started a bit early in the season. Our customers get to taste pure juice as the canes are crushed in front of their eyes,” points out Kiran, the son of Jogram who studies Intermediate but helps his father most of the time.

At Rs. 10 a glass, the farmer sells over 400 shots of the natural juice everyday. “I take home at least Rs. 4,000 everyday,” reveals a beaming Jogram.

“I have never failed to stop at this joint whenever I travel on this road. The fresh juice provides me with good energy,” says Tambekar Ambaji of Indervelli mandal headquarters.

I make up to

Rs. 4,000 every day from sale of sugarcane juice, says Jogram

NABARD for creating 'agripreneurs' in State

The agriculture sector in the State needs a makeover from a livelihood activity to business venture leading to creation of a new class of 'agripreneurs,' the State Focus Paper for 2015-16 prepared by the regional office of the National Bank for Agriculture and Rural Development (NABARD) has said.

The paper, which was released here on Wednesday, cited the dismal level of gross fixed capital formation at 5.3 per cent of the GDP as against the national average of 17 per cent in 2009-10. It stressed the need for promoting producer collectives in the State.

The paper noted that the State government had committed to transforming farmers from being mere producers to agripreneurs through the route of producer companies.

Models put up by Forest, Horticulture, Agriculture depts. attract crowds

A festive atmosphere and an air of enthusiasm prevailed in this historic town as devotees and people from different parts of the State and the country kept arriving here to participate in the Mahamastakabhisheka.

This historic town, which was once the capital of the Bhairava dynasty, was all spruced up for the occasion. All the major roads were asphalted and decorative banners announcing the Mahamastakabhisheka could be seen at all major junctions.

A major pilgrim centre for the Jains, Karkala houses 22 Basadis. The statue of Lord Bahubali was installed by the ruler of the Bhairava dynasty Veera Pandya in 1432.

The main venue for the cultural programmes called the Veera Pandya Vedike on the Pattanashetti Maidan was tastefully decorated in the traditional architecture of Tulunadu. The decorated wooden pillars on the stage gave it an ambience of traditional household. Arrangements have been made by the organising committee for food and other facilities for the devotees.

The exhibition which was arranged at the foot of the Bahubali Betta had nearly 350 stalls. But the impressive stalls or models were that of the

Horticulture Department, which had several vegetable carvings. The structures of a boat and fish made of roses and a mantapa made of plantain trunks were the major attractions.

The Forest Department had created a small forest, where one had to walk over a hanging bridge, in a small cave structure, and on a watch tower. There was also a person sitting outside a thatched hut making a basket out of natural material. In fact, one felt that one was in the midst of a forest.

The model of effective water management put by the Agriculture Department was also attractive. People flocked to these stalls to see the models and also to the commercial stalls to make purchases.

Honey bees can help drive away paddy bugs, says farmer



Ramakrishna Shenoy

Can honey bees keep away “gundhi bug” (locally called bambuchi) in paddy? Definitely, says Ramakrishna Shenoy, an agriculturist and an ex-serviceman, from Beluvai in Mangaluru taluk.

Mr. Shenoy said that the “gundhi bug” was a major menace in his paddy field for rabi crops (November-February) and not for kharif crop (June). Though the government’s agricultural scientists suggested chemical spray to drive away the bugs, he preferred not to use it. Instead, he used an organic mixture prepared by himself. But it was not very effective to keep them away permanently and the bugs returned after a few days of organic spray.

As he was also an apiculturist, he had kept five honey boxes in the surroundings of the paddy field three years ago. He kept the boxes there because honey bee colonies had multiplied and he had to find them new homes (boxes). To his surprise, after some days, he noticed that the “gundhi bugs” had disappeared from the paddy field. Till then, he never had an idea that honey bees could drive away the bugs. Mr. Shenoy (52) believed that, probably, the constant buzz of the honey bees disturbed the bugs forcing them to fly away.

H. Kempe Gowda, Joint Director, Agriculture, Dakshina Kannada, told *The Hindu* that he was hearing it for the first time and would have to verify it. Mr. Shenoy said that following this till the last rabi paddy crop, the “gundhi bugs” had not attacked his field.

Though he continued to grow paddy for this kharif, this year, for the first time, he has grown maize as rabi crop in the paddy field. Maize helped honey bees in honey production. In addition, last year the peacock menace during the rabi paddy crop was also high, he said. Mr. Shenoy said that he joined the IAF in his teens and served there for 20 years. He took up farming on his three-acre land 16 years ago.

Mr. Shenoy has taken up integrated farming with apiculture, arecanut, coconut, cocoa, paddy, pineapple and vermi-composting.

Joint Director of Agriculture says he is hearing it for the first time and will verify it

Young scientists gear up to meet food security challenge

A young agriculture graduate, working on a project to mitigate hunger among Jaunsari tribals in Uttarakhand, has proposed an inter-tribal network based on the community farming concept.

Aravind Sharma has proposed that tribal hamlets can be interlinked by setting up a marketing cooperative society at a central location. “The society should be under the local zilla panchayat member with village elders as members. I am working on ways to improvise simple grinding stone to perform multiple functions, including chopping vegetables and weaving yarn, so that my community can save a lot of time and energy while preparing food,” he said. His paper on ‘Modification in Agriculture and Livelihood Techniques of Jaunsari Tribals’ won him an award.

Another young researcher, Keya Ganguly from Presidency University, Kolkata, is experimenting on cultivating transgenic Zoysia grass, which is widely used as sports turf across the world to bring down costs. These are among the several innovative projects and paper presentations that impressed senior scientists at the 6th Indian Youth Congress organised by the M.S. Swaminathan Research Foundation and hosted by Acharya Nagarjuna University here.

The three-day Youth Science Congress, which concluded here on Wednesday, provided a platform for several young scientists, researchers and students to share their thoughts on meeting the challenges of achieving zero hunger using science and technology. For some like Dharani Doss, Dharaneeswari and Nagasai Muttu, graduates from the Gandhigram Rural Institute, Dindigul, the meet opened new windows to innovations in food science. With Dr. Swaminathan lending a keen ear, the students had to simply put their best foot forward.

“We gained immensely by listening to lectures on agriculture and technology. It was a great learning experience to listen to Dr. Swaminathan. This congress had further strengthened my resolve to undertake organic farming,” said Dharani.

More than 350 students presented papers at the Congress. A selection committee chose papers on innovation and gave them commendation certificates. The 6th Indian Youth Congress is supported by SRM University, Chennai, and the Rajiv Gandhi National Institute of Youth Development. The next edition will be held in Bhubaneswar.

Project on inter-tribal network for Uttarakhand tribals wins award

RIL net drops 37 %

McLeod Russel India, the world's largest bulk tea producer, has taken a hit to its net profit in the quarter ending December 2014. The net profit, at Rs.80.43 crore, was lower 37 per cent over the same period in the previous year.

The company which now has operations in Vietnam and Africa, attributed its results to crop loss due to unfavourable conditions. The Indian production continued to be lower till November due to unfavourable conditions in Assam which accounts for half of India's tea production.

While overall Indian tea output was down by 15 million kg, MRIL's crop was lesser by 0.15 million kg. Tea production in Africa, on the other hand, was higher. The company said in an update that higher production in the African region, along with additional pipeline stocks, impacted prices negatively. Global demand was also impacted by geo political issues in West Asia, Russia and Pakistan.

Govt. may provide all kinds of farm machinery, implements on rent



Minister of State for Agriculture Krishna Byre Gowda inaugurated a Customised Agriculture Service Centre in Hunsur taluk on Wednesday.—
FILE PHOTO: M.A. SRIRAM

Krishna Byre Gowda, Minister of State for Agriculture, said that the government had realised that farmers had been facing scarcity of agriculture labour or could not afford to hire manual labour for agriculture activities.

Therefore, the State government was contemplating providing all kinds of agriculture machinery and implements, including combined harvesters, to farmers on rent.

Machineries like combined harvesters are expensive, he said, adding that he would discuss the issue with the Chief Minister and get funds allotted in the next Budget to buy such machinery which could then be rented out to farmers through 'Customised Agriculture Service Centres' (CASC).

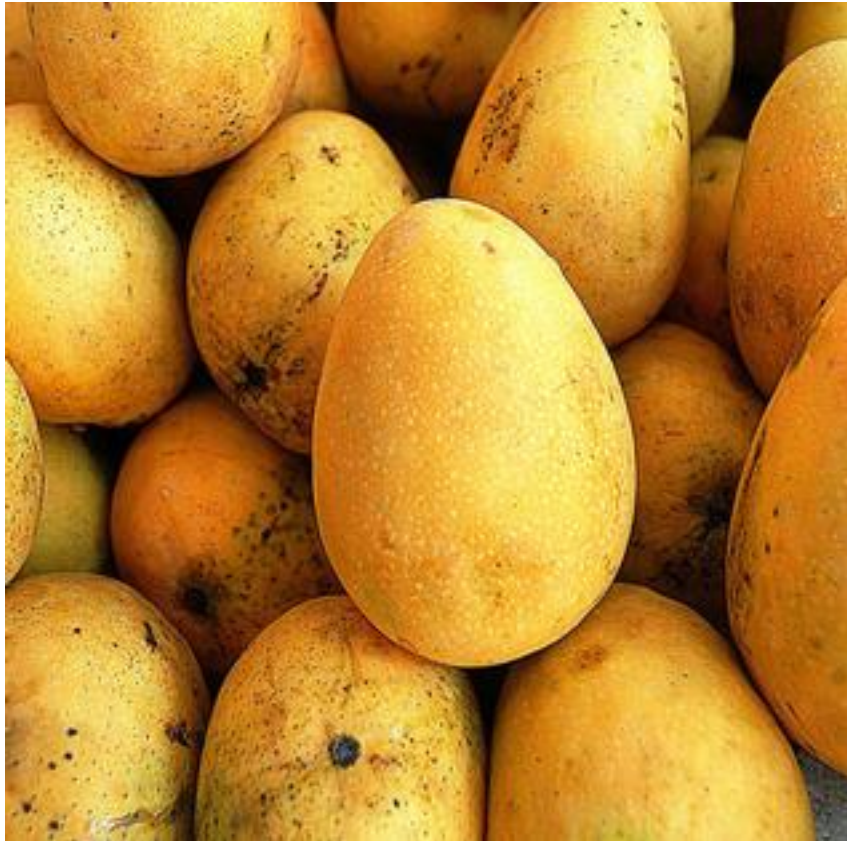
Inaugurating one such centre at Bolenahalli village in Bilikere hobli, in Hunsur taluk, on Wednesday, the Minister said that several machines like power tillers, tractors, disc ploughs, paddy transplanting machines, rotavators, and multi-crop threshers, were being rented out to farmers rent through 180 CASCs across the State, of which seven were in Mysuru district. He said that he got feedback from farmers and officials that farmers had been benefited by these centres. Hence, he had come up with the idea to provide all machineries and implements to farmers on rental basis from next year.

Small and medium farmers could not afford such machinery costing lakhs of rupees, he said.

M. Mahanteshappa, Joint Director of Agriculture, said that CASCs are run by the Dharmasthala rural development centre and machinery were purchased by both the government and the rural development centre on 75:25 per cent basis respectively. Manjunath, MLA, and Pushpa Amarnath, president of Mysuru Zilla Panchayat, were present.

Lifting of ban brings cheer to mango farmers, traders

The decision will boost Indian economy, they say



Alphonso mangoes are raised in 6,000 acres in Salem. A variety of mangoes are cultivated in 5,000 acres in Krishnagiri. European Union's decision to lift the seven month ban on import of Indian mangoes has brought cheer to the mango growers and exporters in Salem and Krishnagiri.

Alphonso mangoes are raised on 6,000 acres in Salem district and over 5,000 acres are under cultivation of table varieties of mangoes in Krishnagiri district.

Loss

Farmers in Krishnagiri who suffered a loss last year because of the ban are hopeful of a revival this year.

Each export variety fruit is grown to weight 300 gm to 400 gm.

“We used to sell them for exports at Rs.100 a kg. Soon after the ban, we had no option but to sell it for Rs. 30 to Rs. 40 a kg. Now, with the ban lifted, we hope to make a profit this season,” said Rama Gownder of TamilNadu Vivasayigal Sangam.

The scale of finance for manufacturing export quality mangoes is very high. The ban last year had led to a steep loss for farmers, who were ready with their cultivated varieties, he says.

Though Salem ‘Alphonso’ mangoes have carved out a prestigious place of its own in the South Indian market, they are not exported to European Union.

Yet, revival of bulk export of Alphonso from the North Indian States will ultimately increase the demand for Salem Alphonso in the country, said A. Jayapal, president of the Salem Mango and Other Fruit Merchants’ Association.

The lifting of the ban has immensely pleased the mango growers and dealers alike in Salem district as elsewhere in the country.

It will improve the image of Indian mangoes as a whole in the world market, said a cross section of the mango traders.

The Salem Alphonso was exported mainly to Singapore, Malaysia and West Asian countries. The other famous varieties such as Salem Bengalura, Imampasand, Nadusalai etc are all choice varieties which have good demand in the local markets itself.

Since the EU has stringent conditions for the import of mangoes, the Salem traders found it very difficult to cope up with the same. Hence they preferred to export the mangoes to Gulf and East Asian countries, he says.

“The sudden ban imposed on the import of Indian mangoes shocked the entire mango trading community. Now we heave a sigh of relief and we welcome it. We are all happy that this decision will pave way for more exports to European countries which in turn will boost the Indian economy,” he said.

Says Mr. Gownder, who cultivates all table varieties on 15 acres: “We cultivate export varieties such as Alphonso and Sendhura organically for the export market. These table varieties fetch a high price.”

Dharmapuri

The neighbouring Dharmapuri has over 500 acres under export variety mangoes. Besides the pulp exporters, who rely on rejected fruits for the pulp export market, exports of table varieties provide a remunerative bargain for the farmers here.

- *Alphonso mangoes are raised in 6,000 acres in Salem*
- *A variety of mangoes are cultivated in 5,000 acres in Krishnagiri*

Clutch and gearbox turn up in insect flight



The Hindu

The insects utilised a ‘clutch’ mechanism to engage and disengage a wing from the thoracic coupling. — PHOTO: V. RAJU

Insects can be pesky creatures, with flies and mosquitoes able to skillfully avoid attempts at swatting them away. Their ability to fly — and manoeuvre

dexterously — is made possible by some remarkable adaptations they possess, including a clutch and even a gearbox, according to research from a team of Indian scientists.

Insects are the most successful organisms to inhabit the earth, notes Sanjay P. Sane of the National Centre for Biological Sciences (NCBS) in Bengaluru. They were the first living things that evolved the ability to fly. Mastery of the air, along with miniaturisation of their bodies, gave them incredible access to ecological niches that other animals could not reach.

But such miniaturisation also made flight more challenging. The laws of aerodynamics demand that the smaller an animal becomes, the faster it must flap its wings in order to fly, remarked Dr. Sane.

Houseflies and fruit flies flap their wings at between 200 to 300 times a second, with each wing stroke being carried out in about four to five milliseconds. A blink of an eye, on the other hand, takes about 150 milliseconds. “We are extremely slow compared to insects,” he said.

To remain airborne, flies must synchronise the movement of their wings as well as those of a pair of sensory organs (one on each side) known as halteres. The halteres, which are essential in giving insects a sense of their orientation as they fly, move in the opposite direction as the wings.

In a paper published this week in the *Proceedings of the National Academy of Sciences* (PNAS), Dr Sane, along two students in his lab, examined how flies coordinate the movement of their wings and halteres at such high rates of flapping. Nerve cells would be far too slow for this purpose.

When the wing of a dead fly was manually manipulated, the wing on the other side also moved as did both halteres, showing that mechanical linkages were involved. Using the soldier fly, *Hermetia illucens*, Tanvi Deora, a graduate student and the paper’s first author, was able to painstakingly figure out what those connections were.

A structure in the insect’s thorax, the scutellum, linked its wings. The wing and haltere on each side were connected by another structure, the subepimeral ridge.

However, a fly is also able to move just one wing. During courtship, for instance, a male fruit fly vibrates a wing to create a distinctive sound for attracting females.

It turned out that the insects utilised a 'clutch' mechanism to engage and disengage a wing from the thoracic coupling used to coordinate wing and haltere movement. This clutch was controlled by nerve cells, said Dr. Sane.

In another remarkable similarity with automobile transmission systems, flies also had the insect equivalent of a gearbox at the base of each wing. An imaging system set up by Amit Kumar Singh, the paper's second author and now a graduate student in Australia, showed the gearbox in action.

This gearbox has four modes, with one mode used during the insect's resting state and the other three during flight. The flight modes set how far up and down the wings could move, thus varying the force they created.

The ability to change modes in mid-flight appeared to be under the insect's neuronal control, according to Dr. Sane. A fly may be setting different modes on its two wings so that it could turn and manoeuvre rapidly, he added. Bees and beetles too use similar mechanisms for flight, said Ms. Deora.

Wholesale price of eggs come down

The wholesale price of eggs came down to Rs. 2.95 on Wednesday. Officials at the National Egg Coordination Committee (NECC), Namakkal Zone, said that the price of egg dropped from Rs. 3.05 owing to poor demand.

The price of Rs. 2.95 is the lowest in the country fixed by respective NECC zones apart from Hospet Zone that too fixed the same price on Wednesday.

During the same day in previous years, the wholesale price fixed in Namakkal Zone is Rs. 3.50 (2014), Rs. 3.42 (2013), Rs. 2.65 (2012), Rs. 2.82 (2011) and Rs. 2.60 in 2010.

Poultry farmers said that price of eggs are normally expected to be at peak in January every year because of higher demand.

But the price has fallen from Rs. 3.36 on January 1 to Rs. 3.30 on January 9, and to Rs. 3.10 on January 18.

The drop in wholesale price is yet to have an impact on the retail price.

The retail price ranges between Rs. 3.15, and Rs. 4 in the region.

Farmers awaiting guidelines on poly-house cultivation



Capsicum being cultivated in a poly-house near Nakrekal in Nalgonda district.—Photo: Singam Venkataramana

State Government's announcement that it would encourage poly-house cultivation by giving substantial subsidy has spurred interest among farmers for taking up modern farming.

But, the government which is yet to issue a notification on poly-house cultivation, has framed guidelines for the subsidy. Initially, the government said that farmers residing within 100 km from the State capital would be eligible for the subsidy for vegetable cultivation under poly-house.

A farmer from Kanagal mandal P.Shiva Reddy said parts of mandal is less than 100 km from Hyderabad while a few other villages are located 125 km from the State capital . There is no clarity on whether the distance should be calculated from the city outskirts or Public Garden in Hyderabad. It was pointed out that if Public Gardens was taken as the cut off point for calculation of distance, many mandals would be left out.

It may be mentioned here that in the maiden Telangana budget, the State government had allocated Rs. 250 crore with Rs. 25 lakh subsidy on each acre of vegetable cultivation under poly-house, out of 35 lakhs to be invested. Since Nalgonda is located very close to Hyderabad as many as 200

enthusiastic farmers evinced interest and knocked the doors of the horticulture office.

Officials were not accepting the applications since they had not received guidelines. However, the officials are registering the details of all those farmers who have approached them .

Assistant Director, Horticulture, T. Nagaraju said that the farmers from Nalgonda are eager to take up poly house cultivation. “The government must list out the mandals that are eligible for subsidy, the officer added.

Way for Wellness

January is all about detox, cleansing the over-assaulted mind-body system, after a hectic New Year.

January is a cruel month. After stuffing the face all through December, many find themselves struggling to get back into dietary routine in January. Weight-gain, lethargy, mood swings are all common, say nutritionists.

Scientifically, winter is the month when one should eat less, as the body tends to store up fat to insulate against the cold. “Winter is the time for having vegetable soups, and increasing the intake of fruits and vegetables. Unfortunately, these are the two months when we tend to load up on calories in the form of cakes, meats and alcohol,” says wellness expert Nuthan Manohar. “In January, I have observed that many of my clients don’t wake up and come to class. They complain of headaches, irritability, bloating, and body pain. It is because of the toxins in the body,” she says.

Detox seems to be the word of the month. Following a detox regimen for two to three days will help flush out the toxins from the body, says Gayathri Asokan, consultant nutritionist. “There is no need for drastic dieting, because that will lead to nutrient deficiency. All you need to do is follow some simple detox methods,” she says.

The easiest way is to include a lot of green leafy vegetables, which are rich in iron, folic acid, vitamin A and fibre and help detoxify the liver. “We need at least 100 gm of leafy vegetables daily. Very few people take care to include that amount of greens in their daily diet,” she observes. Follow this up with yoghurt, which has probiotics, which helps to keep the gut healthy. Increase the consumption of water. “If you can drink 2.5 – 3 litres of water a

day, there is no better detox than that,” Gayathri says. Adding dried ‘amla’ powder to the water or just adding ‘amla’ pieces to the water would make it vitamin C-rich, she suggests, as it would help reduce weight, too. Including dried fruits and flax seeds would also help. “Though it is better to avoid non-vegetarian food while on detox mode, egg whites are good,” Gayathri says.

While some people prefer to do a “fruit cleansing” some others opt for a “vegetable cleansing”, says consultant nutritionist Mumtaz Khalid Ismail. “If that gets monotonous, try a combination of both fruits and vegetables. Since they are rich in minerals and vitamins and are low on calories, they help remove harmful substances from the body.” Mumtaz recommends a rainbow for the platter. “Try to include rainbow colours when you go shopping for fruits and vegetables. The focus should be on red, yellow/orange, green and blue.” She explains: for red, go for tomatoes and carrots that are rich in carotenoids. Greens include spinach and palak. Orange/yellow includes citrus fruits, which are rich in vitamin C. They are great antioxidants, too. Since blueberries are not easily available, blue can include brinjal and grapes.

While a detox diet is on, there is no need to totally avoid carbohydrates. Complex carbohydrates such as oats, whole wheat, millets, ragi and quinoa are good, Mumtaz says. Reduce salt intake, 4-5 gms a day is ideal. Have sprouted pulses that are rich in protein. Even fats are not taboo. “Have good fats such as corn oil or bran oil. But not more than 500 ml per month for a person,” she adds.

A detox diet is best implemented when combined with the right kind of physical exercises. Nuthan says her detox yoga includes *kapalbhati*, a breathing exercise that makes the body alkaline. Then come some twisting poses, which start working on the abdomen. “When you do these exercises, your heart rate goes up instantly and toxins are released,” she says.

“The actual body cleansing practices include enema and vomiting. But through simple detoxifying methods too, one can remain healthy. In the olden days, people would fast once a week at least, that was their way of giving the body some rest. Some foods can take up to 16 hours to digest completely. So, a break in between helps the body a great deal,” Nuthan adds.

Increasing consumption of fruits and vegetable raises concerns about their safety, especially in these ‘pesticidal’ times. Mumtaz says the easiest way to deal with them is to soak the fruits and vegetables in salted water for about 15 minutes. “Always wash before chopping the vegetables. Adding a bit of turmeric powder or some drops of vinegar to the water while soaking. It will help remove surface-level impurities,” she says.

Getting rid of the toxins applies not just to the body, but to the mind and the surroundings as well. Eating detox food would automatically help detoxify the mind, too. “Clean the surroundings of the house if they are cluttered. De-clutter your room. Bring things with more energy into the house, such as green plants and water and make sure you lead a balanced life,” Nuthan says.

Nuthan Manohar and Gayathri Asokan will conduct a workshop “3 Days Quick Detox” from January 24 to 27 at ‘Me Met Me’, Nuthan’s centre, at Panampilly Nagar, in the mornings and at the Kerala History Museum at Edapally in the evenings. The participants will be given ‘detox kits’ containing ingredients and recipes. For details about the workshop, call 9567366250 / 9947257776.



Nutrient facts



Urea is the only fertiliser whose maximum retail price (MRP) is still fixed by the government, with imports also permitted only through designated state trading enterprises.

Having decontrolled petrol and diesel, the government's next focus is on containing fertiliser subsidies. Key to this is decontrol of urea and ushering in a system of crediting subsidy payments directly into the bank accounts of farmers. HARISH DAMODARAN explains the existing subsidy regime and the road ahead.

What's so special about urea decontrol?

Urea is the only fertiliser whose maximum retail price (MRP) is still fixed by the government, with imports also permitted only through designated state trading enterprises. Moreover, there is a significant domestic industry in urea. In 2013-14, production at 22.72 million tonnes far exceeded imports of 7.09 Mt. This is unlike for other fertilisers, where India is 100 per cent import-dependent either for the final product (muriate of potash or MOP) or raw materials/intermediates (rock phosphate, sulphur and ammonia for manufacture of di-ammonium phosphate or DAP).

What does decontrol entail?

Decontrol would mean allowing the MRP for urea to be market-determined, as it is with other fertilisers. Besides, there will be no import restrictions. Anybody can import urea, not just MMTTC, STC or Indian Potash Ltd.

The government has already, since April 2010, freed non-urea fertilisers from price controls, following which the MRP of DAP has gone up from Rs 9,350 to around Rs 23,000 a tonne, and of MOP from Rs 4,455 to Rs 16,650. During the same period, the MRP of urea has been raised only marginally from Rs 4,830 to Rs 5,360 a tonne. In the event of price decontrol of urea, farmers would obviously end up paying much more for it as well.

The impact of decontrol on the industry would be mainly on account of imports. The landed price (cost plus freight) of imported urea in India is currently about \$300 a tonne, which is lower than the average of \$322 in 2013-14 and \$413 the year before. On the other hand, the average production cost for domestic plants is roughly Rs 18,000 or \$ 290 per tonne, ranging from a low of Rs 11,000 to as high as Rs 41,000. In a free import regime, the high-cost units may face closure.

But why protect inefficient manufacturers? Also, if farmers are already paying more for other fertilisers, would they not be able to absorb similar price rises in urea?

The second question first. Urea has a disproportionately high share — over 55 per cent — in India's total fertiliser consumption. A wheat farmer typically applies 2.5 bags (125 kg) of urea per acre over the full cropping

period, compared to just one bag (50 kg) of DAP and half a bag (25 kg) of MOP. He is, therefore, that much more sensitive to an increase in the price of urea. Also, the decontrol in other fertilisers happened at a time when minimum support prices (MSP) were going up. Today, given falling global prices for agri-commodities, there isn't much scope for MSP increases to compensate for costlier urea. As regards inefficient urea plants, there are those whose costs are high only because they are using imported liquefied natural gas (LNG) as feedstock. This is far more expensive, at \$14-15 per MBTU, relative to the \$5-6 for domestically produced gas. But there are also units with very high energy consumption requirements, which probably deserve to be shut down. The resultant production loss of 1.5-2 Mt can easily be covered by imports without really pushing up prices. What is the government's game plan? Ideally, it would want to decontrol urea, which accounts for two-thirds of the annual fertiliser subsidy bill of Rs 100,000 crore-plus if one includes unpaid liabilities. But given the political costs involved, it is seeking to do this over three years or so. This period should suffice for having systems in place to credit subsidy payments directly into the Aadhaar-seeded bank accounts of every farmer based on proper identification and digitisation of land title records. How is this different from the existing nutrient-based subsidy (NBS) regime? Under NBS, there is a fixed per-kg subsidy on each nutrient. Right now, it is, for example, Rs 20.875 for nitrogen (N), Rs 18.679 for phosphorous (P) and Rs 15.5 for potash (K). Based on this, the subsidy payable on DAP (which contains 18 per cent N and 46 per cent P) works out to Rs 12,350 a tonne, just as it is Rs 9,300 in the case of MOP. But this subsidy is today paid not to the farmer, but to the manufacturer who is also free to set the MRP. Besides, the NBS is not applicable on urea, whose MRP is fixed by the government. In the proposed new NBS regime, the MRPs of all fertilisers, including urea, would be market-determined. Further, the subsidy will be paid directly to the farmer. Currently, farmers buy urea mainly because it is the cheapest fertiliser available. In a genuine NBS system, they would value urea basically for its high N (46 per cent) content. Further, they may increasingly demand fertiliser products customised to their specific crop needs or soil conditions, rather than blindly choosing urea or DAP.

4 junk foods masquerading as healthy foods

Protein bars: Protein bars are very close to being considered junk food if not eaten in the right manner. Dr Seema Tyrewala, celebrity nutritionist, says, "People have a huge misconception about protein bars. For those who don't work out, a lot of protein increases uric acid levels, and is heavy on the kidney." She cites the example of a client who snacked on many protein bars in a day as he thought he was getting his dose of protein from them, plus they were tasty. "They also add to the cholesterol content of the body as they are heavy on sugar," she adds.

Breakfast cereal: The popularity of breakfast cereal can be attributed to heavy marketing, which began in the early 19th century in North America. While earlier, they were oats and corn 'grits', it was the cornflakes that took the market by storm. But what's available these days is quite different, "Breakfast cereals are loaded with sugar. The ones that are made of chocolate and other sweetened dried fruits are high on calories. People should buy non-branded corn flakes that are cheaper. For sweetness, fruits or honey can be added as that's a healthier option," says clinical nutritionist Shilpa Mittal. "While cereals do provide nutrition, one doesn't know in what quantity they are absorbed by the body and we often end up consuming large amounts of sugar instead," she adds.

Sports drinks: Marketed as 'beneficial to all', sports drinks are far from that tall claim. "Most sports drinks have sugar content that is three times more than what is needed," says Dr Tyrewala, who has often encountered patients who were actively working out but had sugar problems. "If you are consuming that much sugar, what is the use of working out?" she asks. People, she adds, need to read the labels carefully and see the amount and forms of sugar — including dextrose — that is included in the drink. Mittal recommends homemade nimbu-paani as a better alternative. "It has the electrolytes you need, and one can control the amount of sugar they want to consume," she explains.

Multi-grain products: Products like flour and bread are often sold as containing 'seven-grains' , 'multigrain' and 'bran', but what the clever labelling hides is that the nutrients are added later, after the processing step. Says Mittal, "Most multi-grain products have very smart labelling. They cover up how there's very little multigrains present in the mix. At times, multigrain flour merely has 10% of wholegrain, which means it's not even one percent in one roti," she says, adding that people should instead make the flour at home.

Three ways to spice up your salad



They are a burst of health and happiness on a plate - and the best part is that it's guilt-free food!

Here are the ingredients you can add to your regular salad and make it interesting!

Go nutty Add that crunch and sweetness to your regular salad with a hearty handful of nuts. Get creative and combine the earthy crunch of almonds with the creaminess of the spinach. While apples and walnuts go hand-in-hand, try walnuts with cucumber too. Jalapenos teamed with raisins and cashews is a great combo too!

The seedy touch Who knew that bird food would end up being so delicious, not to mention healthy! With their natural oils, seeds have a unique taste. Try dry roasting some sunflower, pine and pumpkin seeds and add this mix to your regular lettuce or even fruit salad.

Dress well Make your own kitchen inspired dressing. Add things you like from the pantry and watch the magic happen in a bowl. Some cool yogurt with crushed mustard seeds and salt and chilli powder to dress crisp green veggies will do great. If you like Indian dressing, give your salad a desi tadka by heating up some olive oil, throw in a little cumin, whole red chillies and ajwain and drizzle on your veggies. So, go ahead and get creative with your salads.

Recipe: Mutton jaldi and garlic bread

As a child, Aniket Chattopadhyay would celebrate Puja at his paternal house in Ariadaha. His parents being atheists, festivities would boil down to gorging on the delicacies prepared at home. So, Puja became synonymous with kumror chhakka, maachher matha diye dal and khashir mangsho - served and eaten in plenty . Years later, the director still equates Puja with food.

"The Puja at our Ariadaha house is 300 years old. It's still being celebrated with the same gusto, but I'm no more a regular. There, Durga would be referred to as Buri Ma and boli (sacrifice) was a must. The meat would then be cooked and eaten by all. Neither garlic nor onion was used in the dish and even widows could savour it. Though we would get just a piece of mutton or an aloo, its taste was unparalleled. For Dashami, my aunt and grand mother would prepare narkel chhapa, goja and tiler naru, while my mother was in charge of making mangsher ghoggni," says Aniket. The director, who started taking interest in cooking as a child, is now a pro at making kochu saak, mocha and lau chingri, among others. For him, cooking is like making films. "There are several ingredients, which finally becomes a composite whole. It's the same with filmmaking -you need good planning and patience," he quips.

Aniket spends a lot of time experimenting with new dishes on the festive days. "I look up recipes and then improvise. I decide for myself if garlic should be used in a dish and how much of rosemary oil will make a dish taste good. It's great fun.

Mutton Jaldi is one such improvisation. For people, who wish to cut down on kitchen time during Puja, it's bound to be a huge help." Pet Pujo, after all, is no less a ritual for Bangalis!

PREPARATION FOR MUTTON JALDI

Heat oil in a pressure cooker. Add whole black pepper, cinnamon, cardamom and cloves. Let those crackle. Add mutton and dry chillies. Saute it for 3-4 minutes. Add garlic, onion, ginger. Saute it for another 34 minutes. Add the curd and salt to taste. Pour 3 cups water. Cover the lead and after a single whistle, cook it for another 10 minutes on low heat. Leave it for 20 minutes after taking it out of the fire. Your Mutton Jaldi is ready.

FOR GARLIC BREAD

Preheat oven to 375°F (190°C). Cut bread without cutting all the way through the loaf, known as making jackets. Mix the ingredients in a small bowl. Spread mixture between slices. Wrap loaf in an aluminium foil. Bake in preheated oven for 15 to 20 minutes, until butter is melted and bread toasted. If you don't want to use an oven, put those breads in a pot. Close the lid. Boil water in a bowl. Place the pot on top. Cook for 15 minutes. Your garlic bread is ready to be served.

Healthy soups for winter

With winter whetting your appetite, food usually becomes the centre of attention.

When the ambient temperature drops, the body generates heat by increasing its basal metabolic rate in order to keep up the body temperature. There are two ways in which this metabolic feat is achieved - by increasing the breakdown of the body's stored fat, and by providing the body more fuel to burn in the form of food. Thus, in cold weather, the feeding centre is stimulated, increasing the food intake.

Another important reason for a noted increase in hunger is a marked drop in water intake during colder days. When the temperature is low, you don't really feel the need to drink more often, as you don't feel thirsty again and again. As the fluid intake reduces, you tend to confuse thirst with hunger, which leads to increased consumption of food and thus, a bigger appetite. So, focus on keeping the fluid intake constant throughout the year, not just in summer. Less hydration has many disadvantages. It is the underlying reason for cold sores, dry and flaky skin, itching, cracked lips and lacklustre hair.

If gulping down glasses of water doesn't appeal to you, try increasing the intake of other fluids like milk, juices and caffeine-free tea, like jasmine, chamomile and other natural flower extracts. Do remember that caffeinated beverages are never counted as liquid intake; instead, they sap your system of water. Soups are a healthy and delicious way to stay hydrated and warm during winter. Soups need not be loaded with cream and grease; opt for recipes that contain chicken or vegetable broth and a variety of vegetables, beans, and lean meat - the kind of ingredients that make you feel light and healthy.

Soups are a great way to incorporate nutritionally-rich foods in your diet. Plus, they work as a wonderful option for picky eaters. You can cook your soup longer or shorter to vary the crunchiness of the vegetables. You can also puree the ingredients to add a creaminess.

CHICKEN TOFU LEMON CORIANDER SOUP

Ingredients: Olive oil: 1 tsp, Garlic cloves: 2, Green chilli (small, crushed): 1, Oil: ½ tsp, Vegetable or chicken stock: 500 ml, Coriander leaves (finely chopped): 2 tbsp, Cornflour: 2 tsp, Fish sauce: ½ tsp, Boneless chicken or tofu (small pieces): 50 gm, Carrots and beans (finely chopped): 50 gm, Egg: 1, Salt and lemon juice to taste

Method: Take one tsp olive oil and saute garlic and green chillies in it for 1 min. Add tofu chicken pieces and saute further for 2 mins. Add stock and boil for 10 mins. Add salt. Turn off the gas and add coriander leaves. Just before serving, bring to a boil and add fish sauce. To thicken the soup, take two tsp cornflour in a bowl and dilute it in little water. Add this diluted cornflour to the soup and stir it well. Add the beaten egg as well. Add lemon juice as per taste. (Vegetarians need to do away with fish sauce and egg; the soup tastes delicious without them too). It is a healthy, nourishing soup that tickles the tastebuds with chillies and garlic and hydrates the body.

POTATO AND MUSHROOM SOUP

Ingredients: Boiled potatoes (medium, grated): 2, Mushrooms (sliced): 50 gm, Garlic cloves (crushed): 1 to 2, Vegetable stock: 2 cups, Celery (finely chopped): 1 tsp, Dash of butter, Salt and pepper to taste

Method: Saute garlic in a dash of butter. Add grated potatoes, 1 cup water and boil it till it becomes smooth. Add the vegetable stock and sliced mushrooms. Boil for 5 to 7 mins. Add salt to taste and coarsely ground

pepper. Garnish with finely chopped celery. This thick, smooth soup is very filling and warms you on cold winter nights.

By Pooja Makhija, Consulting Nutritionist & Clinical Dietician

Stay healthy with these drinks

The thought of taking time for a healthy breakfast rarely breaks the stride of the jet-setting business traveler. Why not opt for a few healthy drinks that are loaded with nutritional benefits instead.

Balance Smoothie

Ingredients

70 g Banana, 250 ml Orange juice, 5 ea Baby spinach leaves, 1 tsp Cocoa powder, 125 ml Soya Milk, 2 tbs (20 g) Ground Almonds

Method

Blend the banana, baby spinach, almond and cocoa powder with the Soya milk. Then add the orange juice and blend until completely smooth. Serve chilled.

The nutritionist's comments

Banana is rich in the important electrolyte potassium. A diet rich in potassium seems to have a blood pressure lowering effect. Banana is also rich in the water soluble fiber pectin's and acts soothing on the gastro intestinal tract. Pectin's have a cholesterol lowering effect too.

Nutritional information

Energy 1520 kJ, Protein 12 g, Fat 11 g, Carbohydrates 53 g, Fibers 4 g

Health Smoothie

Ingredients

60 g Banana, 100 ml Fresh squeezed orange juice, 120 g Strawberries, 6 Mint leafs, 125 ml Soya milk, 2 tbs (20 g) Ground Almonds

Method

Blend the banana, strawberries and mint leafs with the soya milk. Add the orange juice and almond and blend until completely smooth. Serve chilled.

The nutritionist's comments

Apart from the great sweet taste of summer, strawberries offer support for optimal health due to the phytonutrient that gives the vibrant red color in the skin of the berry. Strawberries tend to give us protection against inflammation and heart disease.

Nutritional information

Energy 1290 kJ, Protein 11 g, Fat 12g, Carbohydrates 39 g, Fibers 5 g

Good energy juice

Ingredients

400 g Beetroot, 40 g Baby Spinach, 500 g Carrots, 100 g Apple red, 1 Tsp Chopped dill

Method

Cut the beetroot, baby spinach, apple and carrots and extract juice with a extractor. Add the chopped dill. Mix until juice is smooth. Add a table spoon of crushed ice and stir before serving.

The nutritionist's comments

This juice is rich in healthy vegetables and helps you balance the blood sugar and gives you great energy and helps enhance your mood. Spinach helps detoxify hormones and beetroot supports digestion, which is important for absorbing nutrients.

Nutritional information

Energy 2141 kJ, Protein 8,5, Fat 4, Carbohydrates 115, Fibers 23
(Courtesy Park Hyatt Goa Resort and Spa)

THE HINDU BusinessLine

Mixed trend in rubber



Kottayam, January 21:

Spot rubber was mixed as RSS 5 and ungraded rubber firmed up on enquiries from the non-tyre sector. But sheet rubber continued to rule unchanged in the absence of genuine buyers and sellers .

The daily reference price for RSS 4 dropped to Rs.124.80 (Rs. 125.10) a kg, according to the Rubber Board. The grade was quoted steady at Rs. 120 by traders.

February futures closed at Rs. 120.50 (Rs. 121.25), March at Rs. 121.33 (Rs. 122.17) on the National Multi Commodity Exchange. RSS 3 (spot) weakened to Rs. 103.99 (Rs. 104.27) at Bangkok. January futures closed at ¥185 (Rs. 96.88) on the Tokyo Commodity Exchange.

Spot rubber rates (Rs. /kg): RSS-4: 120 (120); RSS-5: 112 (110); Ungraded: 102 (100); ISNR 20: 106 (106) and Latex 60%: 78 (78).

Payment of dues from sugar mills: growers seek Tamil Nadu government support

Delegation meets Chief Minister Panneerselvam



Price tag A farmer with the sugarcane crop. Tamil Nadu has fixed a State Advised Price of ₹2,650 a tonne of sugarcane for this season

Chennai, January 21:

Representatives of sugar farmers in Tamil Nadu have sought the Government's support to ensure proper payment from mills for the current season to September and for clearing dues from the previous season.

A farmers delegation under the Consortium of Indian Farmers Associations (CIFA) met with Tamil Nadu Chief Minister O Panneerselvam, Industry Minister P Thangamani, and senior government officials, according to RV Giri, General Secretary, CIFA-Tamil Nadu.

Tamil Nadu has fixed a State Advised Price of Rs.2,650 a tonne of sugarcane for this season against the statutory Fair and Remunerative Price of Rs.2,200 announced by the Centre.

However, private sector sugar mills in Tamil Nadu have refused to pay the higher price as they find it unviable with sugar prices ruling low at about Rs. 26 a kg. Sugar prices do not cover the cost of production for the mills.

Last year, Tamil Nadu had set a price of Rs. 2,650 a tonne against the Centre's FRP of Rs. 2,100 a tonne.

Mills paid about Rs. 2,350 a tonne and had asked the State to pay the rest.

The other side

Sugar company representatives under the South Indian Sugar Mills Association – Tamil Nadu had met with the Chief Minister recently urging that the government to provide financial support to pay sugarcane farmers.

Giri said the farmers' delegation had asked the State government to take steps to ensure the farmers are paid fully, including the last season's dues amounting to about Rs. 350 crore.

Tamil Nadu should emulate other sugarcane producing States such as Uttar Pradesh and Karnataka, which have supported sugarcane payments with financial assistance either directly to farmers or to mills, Giri said. He added that at the meeting Chief Minister referred to the delegation from the South India Sugar Mills Association and assured that the State government will consider the demands of both the sides.

Private sector sugar mills in Tamil Nadu have refused to pay the higher price as they find it is unviable with sugar prices ruling low at about Rs. 26 a kg. Sugar prices do not cover the cost of production for the mills

Rabi prospects continue to be bleak in Telangana

Coverage of almost all crops below average



Powerless The power-starved State is planning to provide power six hours a day to the farm sector

Hyderabad, January 21:

Prospects for Telangana farmers during the current rabi season continue to be bleak. The total area as on Wednesday was way below the average area of 9.61 lakh hectares.

According to latest figures, farmers could sow only on 65 per cent of the average area of 9.61 lakh hectares that they would have sown by now. The State has a total cropped area of 13 lakh hectares in the rabi season.

Paddy, which generally takes half the rabi area, is the worst hit. "Farmers would have sown paddy in 3.50 lakh hectares by now. But they could cover 1.61 lakh ha or 48 per cent of the average sown area," a senior government official told *BusinessLine* .

Seeing bleak prospects for paddy in the season, the Government has advised the farmers not to go for the water-intensive crop.

Instead, the Government has asked farmers to choose irrigated dry crops that require less water. But such crops have not fared any better either.

Power crisis

Dwindling groundwater levels and a crisis in the power situation offer no reprieve to the farmers. The power-starved State is planning to provide power six hours a day to the farm sector.

Not a single crop has crossed average (as on Wednesday) levels. Maize, suggested as one of the alternatives by the Government, was sown on about 80 per cent of the normal area of 1.50 lakh ha. Bengal gram (69 per cent), groundnut (76 per cent) and chillies (78 per cent) are the other crops that have fared badly this season.

‘FCI must stop grain buy in states with surplus output’

Panel to rejig nodal procurement agency suggests direct cash transfer in some States

New Delhi, January 21:

The eight-member high-level committee, set up in August, on the restructuring of the Food Corporation of India (FCI) submitted its report to

Prime Minister Narendra Modi here on Wednesday. It has reportedly pitched for exiting procurement in surplus-production states, such as Punjab and Haryana.

The panel, led by former Food Minister and BJP MP Shanta Kumar, submitted the report in five months after initially being directed to complete it within three months.

Quick comments

The recommendations were presented by Ashok Gulati, former Chairman of the Commission for Agricultural Costs and Prices (CACP), in the presence of the Prime Minister and Food Minister Ram Vilas Paswan.

“The Prime Minister has asked the Department of Food and Public Distribution to expeditiously give its comments on the report so that it can then be implemented in a time-bound manner,” read an official statement.

The panel had been set up to recommend restructuring of FCI, the country’s nodal agency for procurement of foodgrains and distribution through ration shops.

“The Committee was required to examine the present day administrative, functional and financial structure of FCI and *modus operandi* of its various operations, and suggest a model for restructuring FCI to improve its operational efficiency and financial management, and suggest measures for overall improvement in management of foodgrains by FCI,” the statement said.

Reports indicate that the committee has suggested that the agency could exit procurement operation in surplus-production states like Punjab and Haryana that are well-equipped to undertake such operations.

It could focus on restricting such operations to larger states, like Bihar and Uttar Pradesh.

Suggestions

It reportedly suggests that food subsidy disbursement through direct cash transfer should be taken up aggressively in States with surplus grain and big cities.

The FCI held excess grain stocks of 50 million tonnes (mt) at the beginning of the month against a buffer requirement of 21 mt.

Its operations cost the Centre Rs. 93,000 crore this fiscal.

A statement from the Food Ministry stated that Shanta Kumar would brief reporters about the panel's recommendations on Thursday.

The FCI held excess grain stocks of 50 mt at the beginning of the month against a buffer requirement of 21 mt

Nabard tells farmers to convert to 'agripneurship'

State Focus Paper for 2015-16

Thiruvananthapuram, January 21:

Agriculture in Kerala needs a makeover from a livelihood activity to business venture, leading to creation of a new class of 'agripneurs.'

This is one of the key observations made in the State Focus Paper for 2015-16 prepared by the regional office of the National Bank for Agriculture and Rural Development (Nabard).

Capital formation

Citing the dismal level of gross fixed capital formation at 5.3 per cent of GDP as against the national average of 17 per cent in 2009-10, it felt the need for promoting producer collectives in the State.

It noted that the state government has committed to transforming farmers from being mere producers to agripneurs through the route of producer companies.

It also viewed with concern the declining trend in disbursement of investment credit over the last few years.

Nabard has specified funds that the state government may access suitably to tide over these two crucial issues, it said.

Intensive efforts to promote collective farming have not succeeded in the state due mainly to weak linkage to the banking system.

Land usage

The banks are not able to proceed since the usage rights of the land are not available to them. The Kerala Land Reforms Act prohibits leasing of agriculture land.

The government should initiate steps to provide legal backing for transfer of usage right of land to lessees while protecting the ownership in the lines of Andhra Pradesh.

Digitisation of land records could be one solution for separation of usage rights from ownership rights.

As for infrastructure, at least 780 projects worth Rs. 3655.17 crore have been identified in various sectors related to agriculture. These could be posed to Nabard for consideration under relevant schemes.

Implementation of the Food Security Act in the state would require creation of additional storage capacity at taluk levels to ensure smooth supply of foodgrain through the public distribution system.

Grain storage

Here again, uncertainty in transfer of land for storage purposes or non-availability of land has been a major hurdle in creating the required capacity.

The Paper also observed that Rupay card-based kisan credit card is seen as the next-generation reform so that the state progresses from total financial inclusion to meaningful financial inclusion.

Meanwhile, the Nabard state credit plan for 2015-16 has estimated an exploitable credit potential of Rs.1.08 lakh crore in the priority sector, which is 14 per cent more than previous year's estimates.

The share of agriculture and allied sectors in gross state domestic product has declined steeply from 32.6 per cent in 1980-81 to 14.46 per cent in 2012-13. Of this, agriculture alone accounted for 11.8 per cent.

Business Standard

FCI revamp panel suggests cash transfer of food subsidy

Modi wants quick comments by FoodMin; cash transfer of food subsidy recommended in 52 cities, plus build-up of operations infra in east India

A committee asked to study how to reform the [Food Corporation of India](#) (FCI) gave its report to Prime Minister [Narendra Modi](#) on Wednesday.

It is believed to have recommended that food subsidies be transferred in cash for the 52 cities having a population of more than a million, over the next two years.

The panel was chaired by Shanta Kumar, a two-time chief minister of Himachal Pradesh and a former Union food minister.

“The prime minister has asked the department of food and public distribution to expeditiously give its comments on the report, so that it can then be implemented in a time-bound manner,” went an official statement.

Officials said Ashok Gulati, former chairman of the Commission on Agricultural Costs and Prices, also a member of this panel, gave a presentation on Wednesday regarding the various recommendations. [Food Minister](#) Ram Vilas Paswan was present.

[FCI](#) is the nodal agency for procurement of foodgrain and its distribution through the Public Distribution System. Its chairman and managing director, C Viswanath, was part of the committee.

Officials said the panel had also recommended that the major foodgrain growing states of Punjab, Haryana and Andhra Pradesh become decentralised procurement ones, taking over the job of purchases from the Corporation. FCI should, it has reportedly said, focus on the eastern states, where it has a limited role as of now, due to lack of an appropriate structure.

The previous government had explored the idea of providing the [food subsidy](#) in cash and planned an experimental project in 2012 for six months in the Union Territories of Delhi, Andaman & Nicobar Islands, Chandigarh,

Dadra & Nagar Haveli, Daman & Diu and Lakshawadeep. However, this was discontinued after a while, for lack of political backing.

The eight-member committee was set up in August 2014. It was asked to suggest a model for restructuring FCI, to improve its operational efficiency and financial management. And, suggest measures for overall improvement in management of foodgrain by FCI, the nodal agency for procurement and distribution of [foodgrains](#) through PDS.

The committee was initially asked to give its recommendations in three months. It later sought and got a five-month extension.

Other members of the committee were Ram Sewak Sharma, the government's secretary, electronics and information technology; the chief secretaries of the governments of Punjab and Chhattisgarh; academicians G Raghuram and G Nancharaiah from the Indian Institute of Management, Ahmedabad, and Hyderabad University, respectively.

[Indian crop protection industry will grow at 12%, predicts FICCI](#)

According to Indian Journal of Ecology report, major crop losses due to non usage of pesticides were about 17.5 per cent of the yield amounting to Rs 90,000 crore per annum (2011 estimated)

The Indian [crop protection industry](#) is expected to grow at compound annual growth rate (CAGR) of 12 per cent to reach \$7.5 billion by FY19, according to a paper released by [FICCI](#) (Federation of Indian Chambers of Commerce & Industry), in association with Tata Strategic Management Group, in Chandigarh on Wednesday. It was estimated to be \$4.25 billion in FY14.

Further, the paper said the exports currently constituted almost 50 per cent of the Indian crop protection industry and were expected to grow at a [CAGR](#) of 16 per cent to reach \$4.2 billion by FY19, resulting in 60 per cent share in Indian crop protection industry. While the domestic market on the other hand would grow at 8 per cent CAGR, as it was predominantly monsoon dependent, to reach \$3.3 billion by FY19.

The paper stated that India's crop protection chemicals industry, which is the second largest in Asia, second only to Japan, and with a size of above Rs 26,000 crore (with almost 50 per cent of production getting exported) had huge unrealised potential. The per capita consumption of crop protection products in India is amongst the lowest in the world. The per-hectare usage of agrochemicals is only 0.6 kg in India, while for UK it is 7 kg and for China and Japan it is 13 kg and 17 kg, respectively. Low purchasing power of farmers, lack of awareness amongst them and limited reach are some of the reasons for low consumption of pesticides in India, thus creating a tremendous opportunity for the growth of crop protection industry.

According to Indian Journal of Ecology report, major crop losses due to non usage of pesticides were about 17.5 per cent of the yield amounting to Rs 90,000 crore per annum (2011 estimated). To bring focus to this important issue, FICCI in association with the department of chemicals & petrochemicals, and department of agriculture & cooperation, organised a seminar, 'Safer and Judicious Use of Crop Protection Chemicals & Application of Green Chemistry', in Chandigarh.

The seminar debated on various issues of concern to the sector. Issues included large-scale usage of spurious pesticides which has serious implications on the farmers, Indian agriculture, Indian society and the economy at large. Judicious use of pesticides involve using the right product of correct dosage and with appropriate application methodology to ensure minimal impact on non-target species.

It is not only the responsibility of the government but also moral responsibility of manufacturers to work closely with farmers to educate them on safe and judicious use of pesticides.

[NABARD sets up research chair at IRMA](#)

To encourage applied and empirical research in agriculture and rural development

In an attempt to encourage applied and empirical research in agriculture and rural development, National Bank for Agriculture and [Rural Development](#) (NABARD) has signed an agreement with the Institute of Rural Management Anand for setting up a [NABARD research chair](#) at IRMA.

The agreement was signed by Jeemol Unni, Director, [IRMA](#) and MV Ashok, Chief General Manager, NABARD at IRMA on January 20, 2015.

The objective of the chair is to encourage applied and empirical research of a high standard in a bid to promote agriculture and rural development while broadening perceptions and gaining insights into these areas.

The NABARD Chair Professor at IRMA shall collaborate with NABARD with regard to joint activities and shall engage in policy issues. A lecture series touching upon issues of mutual interest to both IRMA and NABARD is also being contemplated. Prof. Rakesh Saxena has been nominated NABARD Chair Professor at IRMA.

IRMA, already has some of the renowned research chairs such as RBI Endowment Unit Chair with an RBI Chair professor in Rural Economics.



Greens' to make fresh demand for declaring Mhadei wildlife sanctuary as tiger reserve

Call grows louder after Census reports presence of five big cats in Goa region

TEAM HERALD

PANJIM: The Union Ministry of Environment and Forests' survey, which reported the presence of five tigers in Goa's eastern mountain range, has boosted environmentalists' call for declaring Mhadei wildlife sanctuary, as a tiger reserve.

A fresh demand to declare the core of the sanctuary as 'tiger reserve' would be placed before the National Wildlife Board (NWB), headed by Prime Minister Narendra Modi.

Environmentalist and member of NWB Rajendra Kerkar has decided to petition the MoEF and the State government to declare Mhadei wildlife sanctuary as tiger reserve, following proper conditions laid down by the

National Tiger Conservation Authority.

“ It was a known fact that the sanctuary is a tiger habitat.

This fresh survey by MoEF has authenticated this. I would urge the government to take this survey into consideration and declare the core of the sanctuary as a tiger reserve,” he said.

Mhadei wildlife sanctuary, is a 208 sq kms protected area in the Western Ghats.

Kerkar, who has been urging the State government to consider the proposal, said that though the Mhadei sanctuary has over 1000 people residing in the protected areas, the core area, which is frequented by tigers, has no human population.

“ Even the national tiger conserv a t i o• authority has proposed to rehabilitate people from the protected areas or to safeguard the interest of these people once the area is declared as tiger project,” he explained.

The State Forest department is currently undertaking a tiger census to ascertain the existence of wild cats and the same will continue till 2017.

Environmentalist Nirmal Kulkarni also believes that the MoEF’s findings will give a boost to the pending demand to make Mhadei a tiger reserve.

“ This is one step closer to the demand. The fact that there is the presence of tigers cannot be ignored,” he said, adding “ at the same time, there is a further need for a long term study to prove breeding population of tigers in the Mhadei area.” The Forest department survey carried out in April 2014, had shown the presence of tigers in the State. Also the 2010 and 2013 censuses had surprised observers with the claim of presence of five tigers in Goa’s wild, and an increased number of leopards and wild dogs.

MoEF since 2011 had been asking the State to submit a proposal to declare Mhadei wildlife sanctuary as a tiger reserve. The MoEF proposal was supported by NWB and National Tiger Conservation Authority. Even in 2014, the State was asked to submit a fresh proposal. But the State did not show any interest in taking the proposal forward.