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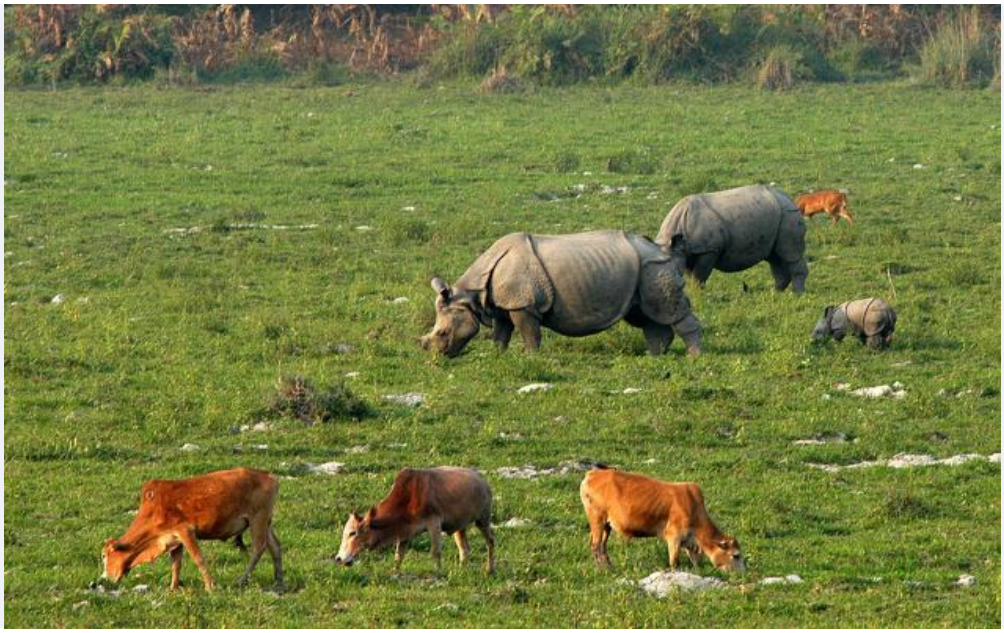
THE HINDU

# Concern over climate, compromise on nature



The Hindu

VAST CHANGES: “Some of India’s environmental laws were drafted decades ago, but since then species have become extinct, forests have shrunk and coastlines and rivers have been altered.” File photo shows the Kaziranga National Park in Assam. Photo: Ritu Raj Konwar

*While technological solutions like renewable energy are being aggressively pursued for combating climate change, little value appears to be placed on keeping natural systems intact*

On his visit to India, U.S. President Barack Obama and Prime Minister Narendra Modi have announced a landmark civil nuclear deal, which will give India access to generating nuclear power. This follows on the heels of several announcements made by Mr. Modi on making India a hub for producing clean or non-conventional energy, posited as a measure to tackle climate change. Simultaneously, decades after environmental laws were first conceived, a review of environmental laws in India has just been undertaken by a High-Level Committee. The report of this committee is in turn being considered by a Parliamentary Committee on Science and Technology, Environment and Forests. The ostensible conclusion is that the government

is serious about appraising existing policy and legislation at the highest levels, to strengthen environmental protection in India and tackle climate change.

**A peculiar quandary**

However, a peculiar quandary appears in the discourse on environmental protection in India today: on the one hand, technological solutions like renewable energy are being aggressively pursued for combating climate change; on the other, nearly no value appears to be placed on keeping natural systems intact. Consider this: in the High-Level Committee report, the only mention of 'climate change' is in the newly extended name of the Environment Ministry itself — from the Ministry of Environment and Forests, the Ministry is now called the Ministry of Environment, Forests and Climate Change. While the report asks if we will see more climate disasters such as the "Kedarnath or Srinagar valley disasters" in India, points out that governance of environmental clearances has been "flabby," the "legal framework has not delivered," and says environment should be considered as a "whole," it has not addressed ways to combat climate change through environmental acts, future legislation, or state-led policy. Gaping questions remain on the protection of natural ecology and climate action. The recommendations moot creating several new institutions: a new law, the Environmental Management Act; new and quicker environmental clearances processes; and a new Environmental Service cadre. But the question of which direction this proposed overhaul will take us in needs to be raised — and answered.

Among India's environmental laws are the Environment Protection Act, the Forest Conservation Act, the Wildlife Protection Act, Air and Water Acts, which were all drafted decades ago. Since then, much has changed. Species have become extinct, forests have shrunk, protected areas have been created and coastlines and rivers have been altered. We have witnessed droughts, floods, cyclones and cloudbursts; these have caused dams to burst, deaths and many forms of displacement. India has not been silent on the issue of climate action, and is likely to announce a few more national missions under climate change, with a focus on clean energy production. The stress on a diverse energy mix is a welcome step, but this appears to be confounded by an emphasis on altering natural ecologies through 'quick clearances' and a willingness to re-engineer natural systems in haste.

At one level, the government's approach seems to suggest that it is okay to quickly deal with impending projects to clear forests or natural areas, as stressed by the High-Level Committee report; this will subsequently lead to a release of emissions. At another level, the government will facilitate creating green energy to mitigate carbon emissions. While both scenarios will occur, the two do not, in fact, cancel each other out. As the Intergovernmental Panel on Climate Change (IPCC) points out in its latest (2014) report, resilient ecosystems offer effective adaptation to climate change. Resilience, as per the IPCC, is the ability of an ecosystem to bounce back to a previously undisturbed state without losing its fundamental character, even when disturbed. For instance, soil studies say soil with a range of biodiversity does not become barren easily; forests with natural diversity re-emerge afresh from forest fires, clean rivers filter their own water — all products of undisturbed or biodiverse ecosystems which are in turn resilient, a living carbon sequestering sink. For human beings the impacts are better ecosystem services, the stuff a lot of people living with nature have understood as '*prakriti ke karishme*' (miracles of nature).

Why does this not have more currency in combating climate change? Perhaps because there are no ribbons to be cut and no foundation stones to be laid for forests, mangroves, rivers, et al, and no budgets to be sanctioned for their development. But on the cusp of becoming a major manufacturing power, and in the middle of an environmental act review, it would be short-sighted to only focus on engineering solutions such as clean power. We also need to focus with our commitment on protecting our natural infrastructure — a veritable carbon sink, and a major tool towards climate adaptation — which we currently possess.

Perhaps the simplest example of systematic failure towards this carbon sink is in the current 'compensatory afforestation' system. Forests get diverted for projects; money for their destruction is paid to a compensatory fund. But often there is no land left for replantation. The money remains untouched, or gets used for making forest department buildings. These are 'virtual forests' floating about in governmental files. Then, there is always the issue of the 'new' forests, if created, being cut again.

A starting point therefore would be to look at the issue of diversion of natural areas on a landscape scale, and not on a piecemeal basis. We need to consider, through field observations and modelling, how much disturbance a forest or a river can take before it loses its integral character and degrades;

we also need to consider that replacing these systems is not only expensive but sometimes also nearly impossible. In all this enters the even more problematic question of climate hazard. While forests, mangroves and wetlands form the basis of nature, they are no longer just trees, grasses and water, but also systems that protect us, at least in moderate amounts, from extreme events — not just during the event, but also after.

It is up to Parliament to decide whether we need separate and new legislation on climate change, but there are at least two things to be addressed. One, our existing laws need to now address the issue of climate change through environmental mapping and measuring impacts of projects at ecosystem or landscape levels; and two, the approach has to include setting thresholds for avoiding irreparable degradation of natural ecosystems.

The High-Level Committee report notes that there is "need to rationalise and amalgamate many of the existing Acts," noting the holistic nature of 'environment.' This observation is challenged by the report in the very next line, which suggests single-window environmental clearances; this suggestion is made without a reflection on how this "one" environment will respond, or is responding, to many sorts of unconnected pressures. Whatever system we set in place for project clearances, whether managed by a reformed ministry, a new law, or new acronyms, must take into account a serious understanding of natural systems — and how far the systems can bend. Our laws can no longer be blind to this.

## Weather station near Cumbum soon

*At Grape Research Station near Cumbum*

The Grape Research Station in Anamalaiyanpatti near Cumbum will soon have a sophisticated "A class" meteorological station to alert grape growers about change in climate, temperature and relative humidity well in advance and help them undertake weather-based plant protective and pest control measures.

The Tamil Nadu Agricultural University will commission the station at an estimated cost of Rs 12 lakh.

Talking to *The Hindu* , Grape Research Station Scientist S. Parthiban said weather-based information, including wind velocity, temperature, pest

control measures and application of fertilizers, would be sent to grape growers through mobile phones. “We have plans to develop 70 new varieties using tissue culture technology. Several varieties of grape seedlings from different parts of the country, especially from Maharashtra and West Bengal, were brought to the research station. Fruits from these plants could be used for different purposes, including table purpose and for making wine, raisins and juice. We will also try exportable grape varieties suitable to Cumbum valley,” he said.

To begin with, 17 varieties were successfully tried.

## Cotton auctioned for Rs.2.5 crore

Cotton was auctioned for Rs. 2.5 crore at the Pudupettai Agricultural Producers Cooperative Society near Attur in Salem district on Sunday.

## Farmers told to contact officials for farm equipment

Farmers in the district were asked to contact the engineers in agricultural marketing department to get required equipment for carrying out agricultural activities under various schemes.

Under the National Agriculture Development Programme, various specialised gadgets are provided to farmers for improving productivity.

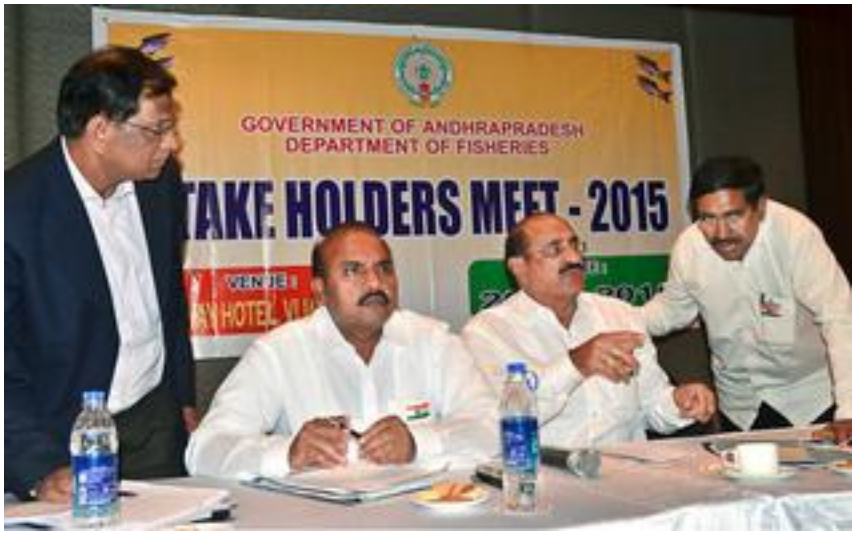
This includes machines for harvesting, fertilizer sprayer, crop planting machines, power driller, rotavator and other equipment.

These are provided to farmers with 40 per cent subsidy to general category farmers, tribes, and small and medium size farmers while 50 per cent subsidy is provided to women farmers.

Farmers in Tiruchengode and Paramathi Velur taluk can contact Assistant Executive Engineer (Agricultural Engineering) in Tiruchengode at 94457-37605, while farmers in Rasipuram and Namakkal taluk can contact the Assistant Executive Engineer’s office in Namakkal at 99656-67480.

## Fishfarmers getting raw deal : Kamineni

*'In other States, governments are encouraging aqua farmers by offering subsidies'*




Municipal Minister P. Narayana, Health Minister Kamineni Srinivas, Agriculture Minister Prathipati Pulla Rao and Principal Secretary (Fisheries and Animal Husbandry) Manmohan Singh participating in a meeting with aqua farmers in Vijayawada on Monday.— Photo: V. Raju

Health Minister Kamineni Srinivas has lamented that the State's fish and shrimp farmers have been given a raw deal and it is pushing them into losses.

Though the government was treating aqua sector under Agriculture, no facilities were being extended to aquaculture farmers on par with the ryots who were taking up paddy, horticulture and other commercial crops, said the Minister who attended a meeting with aqua farmers and stakeholders in Vijayawada on Monday.

"Government is collecting all taxes, VAT on feed and is collecting commercial slab rate on power, but is not providing insurance whenever aqua farmers suffer losses. In other States, governments are encouraging aqua farmers by offering subsidies," said Mr. Srinivas.

### No research

Stating that the government was not taking measures to rescue aqua farmers in strife, the Minister said there was no research on new fish varieties and

the old species like Rohu, Catla, Seabass are being cultivated, he said and stressed the need for introducing new variety fish to boost export revenue.

Stakeholders, hatchery owners, farmers and exporters who participated in the meeting from Nellore, Prakasham, Guntur, East and West, Visakhapatnam and Krishna districts said there was no supply of sufficient quantity of brood stock to the farmers. Many private hatcheries are supplying poor quality and disease-affected seed which was affecting the yield, they said.

**Processing park**

They appealed to the government to set up quarantine, Aquaculture Research Institute, Aqua Disease Diagnose Lab, Aquaculture University, processing park, relaxation of tax on feed, exempt government permission for fish tank repairs and fill up vacancies in Fisheries and other allied departments.

Responding to the problems, Agriculture Minister Prathipati Pulla Rao discussed the problems with APIIC Chairman Krishnaiah, MPEDA Deputy Director S. Kandan, International Food Prize Laureate M. Vijay Gupta. Mr. Rao assured to take the problems to the notice of Chief Minister N. Chandrababu Naidu.

Municipal Minister P. Narayana who attended the meeting said the government in collaboration with National Fisheries Development Board (NFDB) will construct Model Fish Markets in all 110 municipalities in the State.

Officers from Fisheries, NFDB, Central Institute of Fresh Water Aquaculture, Marine Products Export Development Authority (MPEDA) and other departments participated.

## Agricultural varsity to come up at Pusa

The Bihar government and the Indian Council for Agricultural Research (ICAR) signed a memorandum of understanding (MoU) on Sunday to set up a central university, the Rajendra Agricultural University (RAU), at Pusa in Samastipur district.

Union Agriculture Minister Radha Mohan Singh and Bihar Chief Minister Jitan Ram Manjhi oversaw the signing of the MoU at a function organised here.

Expressing happiness on the occasion, Mr. Singh said, "A full-fledged central agricultural university was a long- pending demand of the State and it will prove to be a blessing for the farmers and people. It will lead to prosperity in the lives of small and poor cultivators. I will ask ICAR officials to expedite the work to establish the university." The Union Minister pointed out that agricultural productivity of Bihar was the highest in pre-Independence era and the new university would help in reclaiming the State's lost glory. — PTI

## Turmeric fetches good price

About 1,500 quintal of turmeric was auctioned at the Tiruchengode Agricultural Producers Cooperative Society here on Saturday. While 'Virali' variety fetched a price between Rs. 6,973 and Rs. 8,799 per quintal, 'Kizhangu' turmeric variety fetched a price between Rs. 7,309 and Rs. 8,255 per quintal and 'Panangali' variety fetched between Rs. 10,700 and Rs. 14,040. The 1,500 quintal turmeric fetched a sale turnover of Rs. 80 lakh at the auction, society sources said. The farmers who had brought turmeric to the auction centre said that they fetched about Rs. 720 more per quintal, compared to other societies.

## Organic vegetables getting popular

*State government's organic farming target to be met*

Anchal Government Agricultural Farm superintendent N. Chandrashekaran at a snake gourd crop that will soon be ready for seed production harvest. — Photo: C. Suresh Kumar

N. Chandrashekaran, superintendent of the Government Agricultural Farm at Kottukkal, near Anchal, in Kollam district has said that more number of farmers in the district are showing deep interest in organic farming. This is a positive sign and has to be tapped and promoted in the right manner, he said.

Talking to *The Hindu* at the farm where rich crops of ripe vegetables are being harvested for seed production, he said that when it comes to backyard vegetable farms for individual use, the farming medium has already turned organic. “The trend gives positive indications that the State government’s organic farming target will meet with success,” he said.

He said that this season the farm has a target of selling 1,500 kg of vegetable seeds to farmers in the district as part of the district panchayat programme to make Kollam self-sufficient in ten traditional vegetables. Harvest of the vegetables crops meant for the purpose on 10 acres in the farm is nearing completion.

The seeds are those of snake gourd, bitter gourd, ladies finger, pumpkin, cucumber, chillies, long beans, ivy gourd, brinjal and tomatoes. The farm will also supply five lakh vegetable saplings to farmers through the various Krishi Bhavans in the district. In addition to that, saplings of various tuber crops and various varieties of banana are also being sold to farmers.

Mr. Chandrashekaran said that the vegetables for seed production are harvested as they ripen. The programme managed by the Agriculture Department has already enabled the district to attain near self-sufficiency in the production of vegetables like snake gourd, bitter gourd and long beans during the season.

“The positive aspect is that even in the local markets, more and more people have started preferring and demanding locally harvested organically grown vegetables. He said that during this season the farm expects a revenue of Rs.12 lakh through the sale of seeds.

During last fiscal, the farm was able to generate revenue of Rs. 1.05 crore and this fiscal the revenue expected is Rs.2 crore.

Last Onam season, 10 tonnes of organically grown vegetables was sold through Onam markets.

## Will handle water crisis during rabi: Collector

District Collector Bhaskar Katamneni on Monday said the State government had sanctioned a National Institute of Fine Arts and Craft (NIFAC) for West Godavari, and that the administration was in the process of locating land for establishing NIFAC and a National Institute of Technology in the district. He was delivering the Republic Day address here after unfurling the tricolour.

He added that the official machinery was prepared to overcome water crisis during rabi. He also sought cooperation from farmers for effective water management. Mr. Katamneni said the administration was taking all steps not to let even a single acre of paddy field wither for want of water in the delta.

The Collector recalled a decision of the district administration to introduce turn-system from February 1 for effective water management. A task force has been constituted with 24 engineers from the Irrigation Department for the purpose with focus on tail-end fields, he said.

Mr. Katamneni added that the official machinery was working hard to make arrangements for the

Godvari Pushkarams. “Repair of roads and bathing ghats along the river up to Narsapur from Pattisam are under way” he said.

***‘District administration locating land for setting up NIFAC and NIT’***

## Alarms that keep beasts at bay

Mahesh S.S., Chief Executive Officer, Grus Ecosciences, Bengaluru, displaying the alarm device at the farm machinery fair at Puttur on Monday.— PHOTO: BY SPECIAL ARRANGEMENT

How about recording alarm, distress and predator calls of animals and birds, and playing them back to keep beasts away and save the crops?

Chasing wild animals from farms is getting craftier and man appears to be attempting to beat the beasts at their own game. This is what emerged on the final day of a three-day farm machinery fair here on Monday.

“We have done it,” said Mahesh S.S., Chief Executive Officer, Grus Ecosciences, Bengaluru, who is also a member of an expert panel for birds — the National Bird Control Committee, under the Union Ministry of Civil Aviation. His group has developed devices that produce natural calls of animals and birds. One of them keeps away three species of monkeys and squirrels, wild boar, elephant, three spotted deer, sambar, fruit bats, rabbit and neelgai at bay. He told *The Hindu* that the group was developing another device to keep away bison and bear.

When beasts and birds hear the alarm — especially distress and predator calls — they sense trouble and stay away. What matters is the regional sound as you cannot get a foreign-made equipment and play it here, he said. “It is like me speaking to you in German,” he said.

Mr. Mahesh said 70 species of birds, and eight species of animals obstruct aircraft. His group has developed devices to keep away birds also.

P.S. Bhat Upponi, a farmer and researcher from Honnavar said an agro burglar siren made by Milk-C Technologies, Shivamogga, had helped him keep away wild animals, barring the porcupine. Bharat Kumar Shetty of the agency, which made the siren, said a device to keep monkeys away could be ready soon.

Nilesh Prabhu Velguenkar, a farmer from Goa, said a gadget that irritates monkeys had helped him.

## Conflict of interest, the bugbear?

*Sugarcane growers yet to get dues even after a year*

It has not been all sugar and spice for sugarcane growers in the State. Sugar factory owners have not paid them their dues for over a year now, despite an order by the High Court of Karnataka.

The farmers are an angry lot as repeated promises and deadlines set by the government for payment of the dues — amounting to around Rs.1,800 crore — have been flouted by factories. Farmers' leaders allege that the issue has exposed the influence of the sugar lobby on the government, especially since families of 27 prominent elected representatives, including three Ministers and legislators from various parties, own sugar factories.

The trouble over non-payment of dues had created unrest among sugarcane growers in 2013. A protesting farmer committed suicide outside the Suvarna Vidhana Soudha at Belagavi when the legislature session was on.

As of now, of the 60 sugar factories in the State, only four have paid the full State Advisory Price (SAP) of Rs. 2,500 a tonne, while others have paid only Rs. 2,100 a tonne. They also ignored the latest deadline of December 31, 2014, to pay half the dues. The government has been hinting that it is "helpless", saying that any tough measure, such as closure of the defaulting factories when sugarcane crushing is on, would harm the interests of farmers as their standing crops on about 4.20 lakh hectares would dry up.

# Cauliflower, a new crop taking root in Nellai soil

Deputy Director Horticulture S. Raja Mohamed (left) at a cauliflower field at Bangalow Surandai in Tirunelveli district recently.

*It is mainly cultivated for its white tender head called 'curd'*

Cauliflower, which is being cultivated only in hilly regions and in places where the temperature falls below 20 degrees, has been successfully cultivated by a few farmers of Bungalow Surandai near Alangulam in the district.

Cauliflower is the most popular cole crop among the winter vegetables. The crop is mainly cultivated for its white tender head called 'curd'. It is rich in protein and vitamin C and A. It also contains minerals like potassium, sodium, iron, phosphorus, calcium and magnesium.

Cauliflower could be cultivated in almost all types of soils with good fertility and drainage. Soil with slight acidic to neutral pH of 6.5 to 7.0 gives better crop. Cauliflower needs specific temperature and photoperiod for better curd development.

Taking advantage of the chill climate prevailing in their areas during this season, six farmers from Bungalow Surandai have cultivated cauliflower in smaller areas on a trial basis and are about to reap the benefits with the crop showing excellent growth.

The optimum temperature for cauliflower ranges from 20 degree Celsius to 25 degree Celsius in September to October. Based on the temperature, the Indian cauliflower is grouped in the tropical type and the other called as 'snowball' type. The tropical types form curd at 20 degree Celsius to 25 degree Celsius while the other type needs 10 degree Celsius to 16 degree Celsius for curd formation. The tropical types are resistant to water-logging and heat to some extent.

"Our trial has yielded better results as we're selling cauliflower at Rs 15 per kilogram to traders. We'll certainly increase the area in the next season," said Socrates, one of the farmers who have cultivated cauliflower.

Deputy Director of Horticulture S. Raja Mohamed, who visited these farms recently, said cauliflower cultivation would certainly be encouraged next year in other areas having similar climatic conditions.

***"Our trial has yielded better results as we're selling cauliflower at Rs 15 per kg***

***to traders"***

## Farmers seeking equipment hit by technical glitches

Farmers have lost a valuable season in using farm equipment due to the inability of the authorities and personnel at e-Seva centres to use the technology properly.

According to sources in the Agriculture Department, so far about 200 applications were uploaded by farmers seeking subsidised equipment in farming activity. The condition of allowing applications only online and undue delay in finalising subsidy for various equipment pushed the farmers to the corner without any escape. Till a week ago the farmers were asked to pay the entire amount of the equipment if the subsidy was more than Rs. 30,000 stating that the entire amount would be credited to farmers account once the subsidy was released. This also stopped many farmers from coming forward to use the equipment.

"At many places e-Seva operators are not cooperating with farmers. They are busy with filing various applications of different government schemes and farmers were forced to wait for hours together. On the other hand, there are some technical problems in uploading the applications. You have to

begin all over again if the application was not uploaded at single stretch, which takes long time," said an officer in the department.

"Farmers are approaching us for the equipment but we are not in a position to dispose them off immediately as sufficient number of equipment is not available. The process is also cumbersome," said a dealer on condition of anonymity.

Out of the total Rs. 22 crore released for the district for use of farm equipment only Rs. 5 crore worth equipment was handed over to farmers so far. The department has to hand over another Rs. 17 crore worth of instruments to farmers.

"It was decided to accept off-line applications from farmers as well in addition to online after realising the problems. We are also ensuring that mandal level agriculture officers assist farmers in filing the applications online," said B. Hukya Naik, Joint Director, Agriculture.

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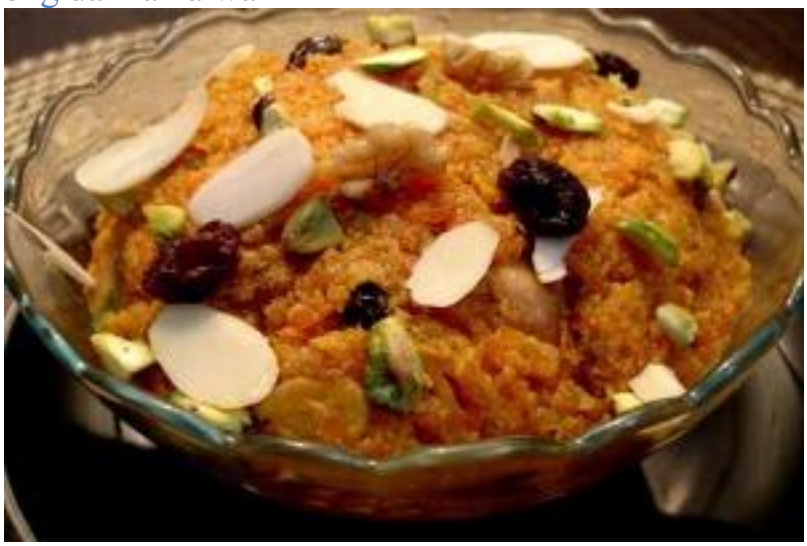
## Recipe: Moong dal ka halwa



*It's difficult to resist the temptation of delectable Moong Dal Halwa. Though it's generally a winter fare, in summers it will taste best when combined with a scoop of vanilla ice cream. Here how you can make it.*

**Ingredients**

3 cups of yellow lentil (moong dal)
1 cup of sugar
1 small cup of ghee
Cardamom splits (5 in number)
3 cups of water
1 cup of milk
Finely chopped dry fruits

**How to make it**

-First of all soak moong dal in water, preferably for 12 to 15 hours
-After that make a smooth paste out of dal in a processor. Avoid using water.
-While the paste is ready, make sugar syrup by putting raw sugar into the water. Heat the mixture to prepare the syrup.
-Now, put cardamom pods into it.
-Now, heat ghee or butter in a pan on a slow flame.
-After the process is done, add dal paste and keep stirring it. Do it till it gets golden.
-Now add milk or khoya and cook it for some time. In case you are using khoya cook for 4 minutes whereas with milk you need to wait till it becomes thick like a cream.
-Now put sugar syrup into the paste.
-Turn off the fire and add chopped nuts. It's ready to serve.
-It will be fun to serve dal halwa with vanilla ice cream.

Karan Mehra's Sarson ka saag

*Celeb cook in: Karan Mehra, actor* **My earliest memory of food:** I was brought up in a typical Punjabi household. I remember eating all kinds of parathas -aloo, gobi, muli etc. -with lots of butter.

**My favourite recipe:** Butter chicken... need I say more!

**Staying away from home, I miss:** Getting a scolding for not eating and sleeping on time.

**What I like cooking when I have the kitchen to myself:** Nothing because I cannot cook to save my life. But one day, l will learn. My wife says a man who cooks is sexy.

**When I am on a tour, I eat:** Whatever is served to me. I am not a fussy eater, but I do like to eat healthy.

**My favourite cuisine:** I love Mughlai but these days, I am also enjoying eating Japanese food like sushi.

**I have a sweet tooth for:** Luckily, I don't have a sweet tooth but when it comes to gajar ka halwa cooked by my mother, there is no stopping me.

**I love to share my meal with:** My co-actors on the sets. In return, I get to eat their food!

**Perfect dinner-date companion:** My wife, sister and mother are all equal contenders. Ideally, when the four of us eat a meal together, we have a ball.

**A favourite from my mom's kitchen:** Sarson ka saag. She makes it every time I visit her in Delhi and I eat it for at least three to four days in a row.

**My daily constitutes:** You will be surprised to know that I don't follow any diet, I eat whatever is served with love.Usually, I eat out thrice a week. I eat more than my body can take, but I work out a lot to compensate for it.

**One country other than India, that serves heavenly food:** I like South Africa. There is a restaurant called Mama in Cape Town, where I ate crocodile meat. It is the most delicious food I have ever eaten.

**SARSON KA SAAG**

**INGREDIENTS**

Fresh mustard leaves (sarson): 5 bunches, Fresh spinach leaves (palak): 1 bunch, Bathua: 1 bunch, Olive oil: 5 tbsp, Ginger (sliced): 2 one-inch pieces, Garlic (sliced): 6-8 cloves, Onions (sliced): 2 medium, Green chillies: 4, Salt to taste, Cornmeal: 2 tbsp

**METHOD**

Heat three tablespoons of olive oil in a pan, add ginger, garlic and onion and saute for two to three minutes.Roughly chop mustard leaves. Add to pan and stir.Roughly chop spinach and bathua and add them to pan.Break the green chillies and add. Add salt to taste and stir well. Let it cook till the greens turn soft. Dissolve the cornmeal in a little water and pour in the pan. Continue to cook till the greens are completely cooked. Cool and grind them into a coarse paste. Transfer into the pan. Add the remaining olive oil and mix. Simmer for two to three minutes.

Serve hot with makki ki roti.

How to pep up the rasam

*Your rasam can be a treat for a gourmet with add ons like chives, drum stick vegetable and tomatoes*

Instead cooking a plain rasam with just tomatoes and rasam powder, a dash of vegetables which gel well in the preparation can make a lip-smacking combo when had with piping hot rice.

Here's a list of what all the vegetables you can add to this tangy combination.

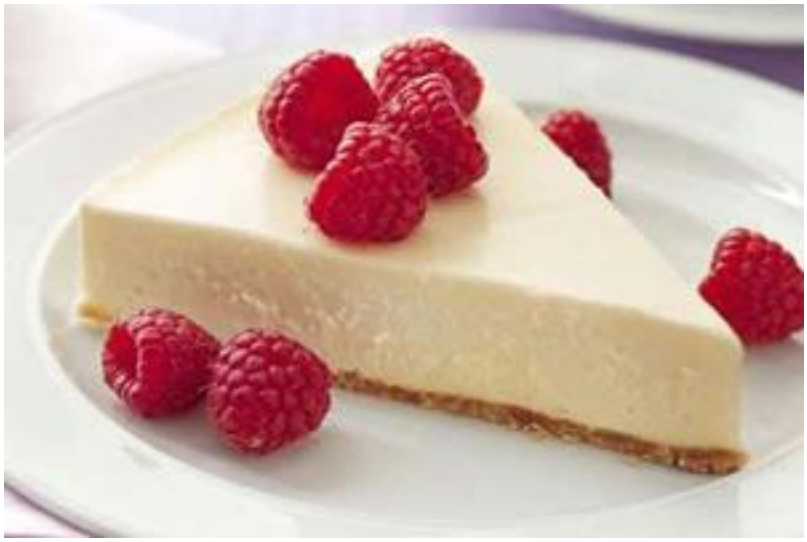
**Spring onion:**
Winter is the perfect time when you get the farm fresh spring onion. With all its health benefits, this vegetable surely adds more flavour and taste to the rasam. Use the green stem liberally as it is nutritious as well.

**Garlic:**
Chopped garlic added to the tadka not only fills the kitchen with wonderful aroma, but it also adds a unique taste to the rasam. Spring garlic, if available, can be another good alternative. Also, different types of chives can be used along with spring garlic.

**Drumstick vegetable:**
You don't need any other additional vegetable or a chive when you put drumstick vegetable in your rasam. Avoid using this vegetable if you are allergic.

**Green coriander:**
Add the chopped coriander leaves (green) while bringing the rasam to boil. And cover the rasam with a lid. The aroma will be simply too appetizing to resist.

Recipe: Delicious Cheesecake



*You would have tried some of the best cheesecakes in town well it's time you learnt how to make that soft creamy cheesecake that simply melts in your mouth. Here's an easy recipe to get started.*

**Ingredients:**
1-1/2 cup butter based biscuit crumbs
1/2 cup walnuts, finely chopped
2 tablespoons light brown sugar
6 tablespoons butter, melted

**Topping:**
2 cups sour cream
1/4 cup fine granulated sugar
Assorted candies or sprinkles

**Filling:**
1 cup cream cheese, softened
1 cup fine granulated sugar
3 teaspoons vanilla essence
4 eggs, lightly beaten
1 cup chocolate chips

**Method:**

-Place an un-greased 9 inch pan in a double thickness of heavy-duty foil. Securely wrap foil around pan.
-In a bowl combine the biscuit crumbs, walnuts, brown sugar and stir in the butter. Press the batter on the bottom and up the sides of the prepared pan. -Place on a baking sheet. Bake at 350°c for about 5 minutes until crust becomes hard. Cool on a wire rack.
-In another a large bowl, beat the cream cheese, sugar and vanilla essence until smooth and fluffy. Add the eggs and beat on low speed just until combined. Fold in the chocolate chips. Pour into the now backed crust. Place the cake in a larger baking pan and add 1 inch of hot water to a larger pan.
-Bake for 1-1/2 hours at 325°c or until the center is just set and top appears dull.
-Now combine the sour cream and sugar in a small bowl until smooth. Spread this mixture over the hot cheesecake until it's covered. Bake for another five minutes longer or until topping is just set.
-Remove the pan from the water and let it cool on a wire rack for 10 minutes then carefully run a knife around edge of pan to loosen the cakes grip. Let it cool.
-Add the toppings of assorted candies or sprinkles and refrigerate overnight.

# Vegan and gluten free recipe: Raw chocolate pudding

*Looking for a gluten and vegan recipe? You have come to the right place. Anjali Shah shares her personal recipe that brings back memories, the raw chocolate pudding. For more healthy recipes check out Anjali Shah's blog, The Picky Eater.*

**Makes 6 (huge) serving**

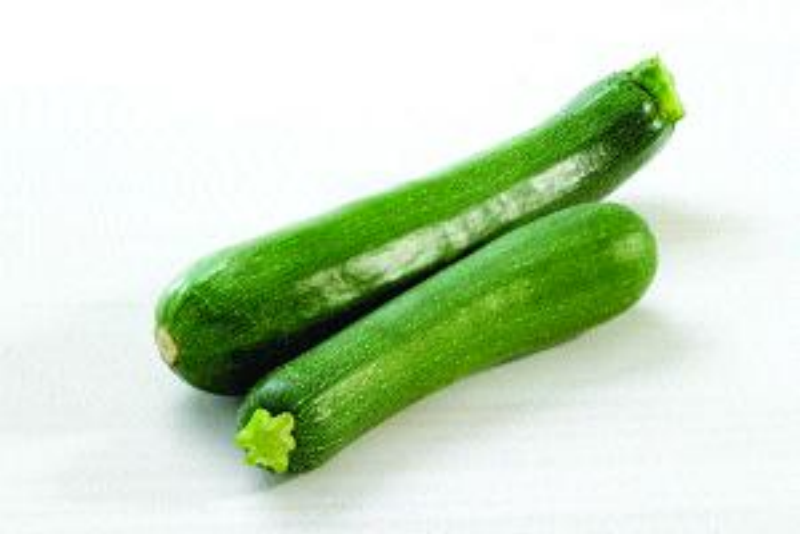
**Ingredients**

2 avocados - peeled, pitted, and cut into chunks
1/2 to 1 ripe banana, peeled and cut into chunks
1 cup unsweetened almond milk
1/4 cup raw cocoa powder (or more to taste)
2 tablespoons honey or maple syrup or agave nectar (more to taste if needed)
1 tsp vanilla extract
1 tbsp almond butter (optional)
1/4 tsp cinnamon
Pinch of salt

**Directions:**

Put everything in a blender and blend until smooth! Serve chilled.

## Benefits of having zucchini



*Want to knock off calories? Then, include zucchini in your diet. The vegetable, 100 gm of which approximately has 18 calories, helps in weight management.*

That's not all. The fibrous vegetable also has other health benefits that we list below...

- Zucchini is high on water content and it helps remove puffy bags around the eyes. Like cucumber, keep a slice of the veggie on your eye to help reduce swelling.

- The vegetable is high in Vitamin C, which protects your cells from free radicals. Having raw or grilled zucchini every day also helps your immune system.

- The potassium and magnesium found in zucchini also help lower blood pressure. This further relieves stress.

Consume it every day in a liquid form this summer as it can prevent dehydration.

THE HINDU BusinessLine

# Alltech India to expand with crop science, dairy focus

**Hyderabad, January 26:**
Animal health products maker Alltech has invested $2 million ( Rs. 12 crore) to upgrade its Bengaluru production facilities for feed additives, said Aman Sayed, General Manager-South Asia of Alltech Biotechnology.

The company will focus on poultry, dairy and aquaculture to script its growth story in India in the next few years. It has opened a warehouse in Kolkata last year to meet the demands of Eastern India and Nepal, he told *Business Line* .

Alltech India, which is 10 years into production in the country, offers over 70 customised solutions across species to farmers and feed millers. It helps partners with the latest technologies to reduce costs, a big concern of the Indian feed industry which faces rising cost of raw materials, antibiotic resistance, etc. These include enzymatic technology in animal feed additives and enrichment of eggs and milk with minerals.

The Bengaluru unit with a 14,000 tonnes a year capacity is situated near the electronic city. After the expansion, it will be able to meet demands for the next three years. Similarly, the warehouse opened in Kolkata will take care of the poultry, dairy and aquaculture needs, Sayed said.

With just over 100 employees in South Asia, Alltech registered a 20 per cent growth last year. The company has been successfully using its own psychometric testing strategy in talent spotting, which has led to gains, said Aoife Lyons, global director of education initiatives and adviser for business leaders.

Psychometric testing looks at people's soft skills such as compassion, team work, creativity and flexibility as opposed to their hard skills, she said.

The year 2012-13 was not very good for the company in India, especially in the dairy sector, due to the dipping global prices. However, with the sector going through consolidation and industry getting more organised, last fiscal

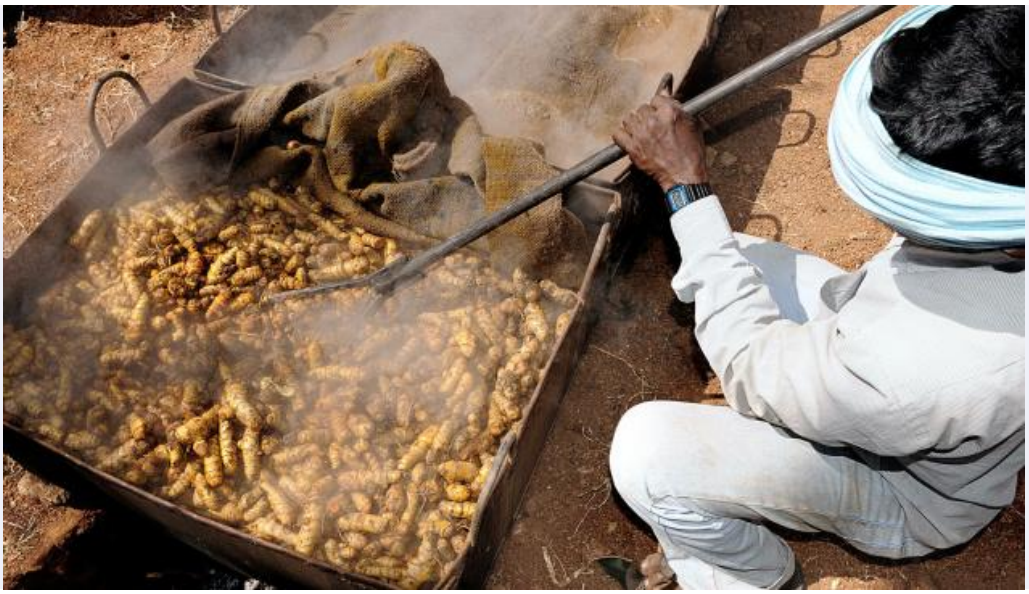
had improved. Overall, Alltech India is quite upbeat now on the sector, Sayed said. On product diversification, he said the company is open to bring in beverages and in the long term, beer and spirits with a potential partner.

## Coffee firms up; sugar rebounds

**London, January 26:**
Arabica coffee futures rose slightly on Monday but remained close to Friday's six-month low in choppy dealings, still under pressure from forecasts for more rain in top grower Brazil's coffee belt. Raw sugar futures firmed in a technical correction after a sharp slide on Friday while New York cocoa recovered from a one-year low hit earlier in the session on the back of worse-than-expected grind data, a measure of demand. ICE March arabica rose 1.75 cents to $1.6420/lb. March robusta coffee was up $15 at $1,946 a tonne.March raw sugar was up 0.12 cent at 15.29 cents a lb. March white sugar was up $3.60 at $397 a tonne. "Dry conditions this year are reminiscent of last year's drought in the first quarter, but with a better moisture build-up in November/December 2014 helping cane," Green Pool Commodities said in a weekly report. Cocoa steadied, but with gains capped by concerns over this month's disappointing grind data in Europe, North

America and Asia. New York March cocoa was flat at $2,755 a tonne. London May cocoa was down £5 at £1,911.Reuters

## Losing colour



Sliding output A farmer from Nizamabad in Telangana sweats and boils turmeric at the Horticulture Expo 2015 in Hyderabad on Monday. Turmeric production in India, which accounts for nearly 90 per cent of the global produce, is expected to be lower by around 20-25 per cent in 2015, according to growers. The spice is selling at ₹6,700/quintal and the season peaks in February-April PV SIVAKUMAR

## Monocropping to hurt cotton farmers in Gujarat

**Mehsana (Gujarat), January 26:**
A monocropping culture, driven by healthy returns, threatens to hurt cotton farmers in Mehsana and other districts in the country's largest cotton-producing State, say agriculture experts working in the region.

As the price of cotton slips due to excess supply and China scaling back on purchases, farmers in north Gujarat risk mounting their losses and the likelihood of reduced sowing in May. They had increased cotton plantings over the last decade due to higher yields driven by Bt cotton varieties.

“Cotton acreage has kept increasing since 2003-04, when Bt cotton was first introduced in the area. Farmers only realise that it’s a problem when the market crashes. There is lower production this year, in part due to unseasonal rains, and prices have declined,” said Manish Patel, programme coordinator of the Krishi Vigyan Kendra (KVK) located in Kherva.

Bt cotton is genetically modified (GM) one with *Bacillus thuringiensis* gene being inserted in it to resist bollworm attacks. Over 95 per cent of cotton grown in the country is GM.

**Poor practices**

Patel believes that while the technology did little harm, poor practices involved in cultivation has led to problems ranging from lower production of other crops, depleted soil and rising crop diseases, such as parawilt and root rot. “For instance, farmers don’t take our advice about following refuge area guidelines to plant non-Bt varieties as a control for pests. Parawilt has appeared in greater numbers over the past three years. While Bt varieties resist pest attacks, borers now attack pulses, wheat, tomato and tobacco, something which didn’t happen as much earlier,” said Patel.

Farmers in Mehsana have moved away from the traditional two-crop cycle in the hope of making more money, explained Bharatbhai, a KVK extension officer, who said soil nutrition has been hurt by monocropping.

Cotton is generally planted in May, with the first picking of the early variety happening around October-early November, after which wheat is sown. “They (farmers) grow cotton in both cycles now. Ideally, they should replace the field with another crop – as they used to with wheat and pulses earlier which is locally consumed as well – to help regenerate the soil after the first picking. Maximum rates are offered for the first pick and yields are better,” he said, adding that the cotton is now picked in 90 days against the recommended 120 days.

Locally manufactured non-certified Bt cottonseeds, at about half the price of Government-licensed ones priced between Rs. 930 and Rs. 980 for a 450 gm packet, is another issue, with the spread in some villages being nearly 75 per cent.

“Farmers buy the cheaper varieties and use almost twice as much, hoping there will be higher production. That isn’t the case and such seeds damage soil productivity further,” added Bharatbhai.

**Dwindling profits**

At the APMC market in Unava, *kapas* (raw cotton) was trading at Rs. 807 per *maund* (of 20 kg) around the minimum support price (MSP). Farmers said they received as much as Rs. 1,200 last season.

The KVK estimates the cost of production in 2013-14 at Rs. 82,000/hectare with realisations of Rs. 1.1 lakh/hectare. Kanhaiyalal, a farmer from Tunda village in Unjha taluka, who produced about six quintals this year from two and a half *bighas* , said he was unlikely to sow cotton in May since returns for six months of work were paltry.

“There is no profit in cotton this year. I spend about Rs. 6,000 a *bigha* but my margins are too little,” he said, adding that he will grow castor, wheat and guar instead.

The district is yet to benefit from the Sujalam Sufalam canal project with minor canals likely to irrigate fields only in 2016-17. Currently, farmers incur costs to draw water from about 1,000-1,200 ft using motor pumps. “The water table is low, irrigation is costlier here than other parts of the State. We’re struggling to get Rs. 850 a *maund* now. In my village, most farmers will move away from cotton next season,” said Mahendrabhai, a farmer from Kansarakui village, Vishnagar taluka.

To check sliding prices and distress sales, the State-owned Cotton Corporation of India (CCI) has procured about five million bales (of 170 kg each) and is likely to pick up about 3-5 million more bales this season. The Cotton Advisory Board estimates a record 40 million bales output in 2014-15.

The writer visited Mehsana, Gujarat, on the invitation of ABLE-AG, a body of biotech firms.

## Small tea growers' venture gets going

**Coimbatore, January 26:**
HN Sivan, a small tea grower from Hubathalai village in the Nilgiris, is back from the Vibrant Gujarat Summit 2015 flooded with orders for speciality teas.

Speaking to *BusinessLine* , Sivan said, "The response was overwhelming. Some 25 overseas buyers have confirmed their interest to procure speciality teas (both green and white teas) from us. There were enquiries for black tea as well from the domestic market. We will now have to step up production," he said.

Sivan, who is also the Founder-President of the Nilgiris Nelikolu Micro and Small Tea Growers and Farmers' Development Society (NSTF), said that a movement for production and sale of speciality teas under "Ooty Fresh" brand has been initiated by uniting like-minded small tea growers in the district.

### Processing

"We will process, blend and package the Ooty Fresh speciality teas at the central processing unit of the Nilgiris Integrated Tea Park, proposed at Mettupalayam in Coimbatore district," he said.

Currently, NSTF members are using the model Speciality tea factory facility located on the Ooty-Coonoor Main Road for processing and blending of the leaf and marketing the Ooty Fresh Speciality teas, which was commissioned a year ago.

**Primary objective**

Speaking about the Integrated Tea Park project, Sivan, without identifying the investor or disclosing the sum, said that Ooty Fresh had already received sizeable venture capital from a Chennai-based investor.

"An overseas investor has evinced keen interest in the Nilgiris Integrated Tea Park," he said.

He said the main objective of this integrated tea park would be to bring together quality conscious small tea growers, processing units that make quality teas, marketing, price fixation and payments, centralised procurement of inputs and organising training programmes and best cultural and ethical practices in tea.

The country's current green tea market is estimated at around 10 million kg/year and worth around Rs.500 crore.

"We are processing about 45 lakh kg of green tea a year. Through this integrated approach, we want to capture 5 per cent of this market in 5 years," he said.

## 'Doubling farm production should be a sustainable process'

Call to focus on the livelihood of farmers, demand management

**Coimbatore, January 26:**

Agricultural production should be an evolutionary model and not a revolutionary one. Any intensive production system has the danger of extensive use of land and material, T Ramasami former Secretary, Department of Science and Technology, Government of India, said.

Speaking at a seminar titled '500 MT – 2025, Doubling Food Output in 10 years' organised by the Department of Agricultural Research – ICAR in association with the Tamil Nadu Agricultural University, State Planning Commission and Agriculture Consultancy Management Foundation at the Farm Varsity here, he said, "We have for long not focussed on intensive production. While it is possible to double food production in 10 years, we should tread the path carefully and take a cautious approach.

“Achieving production targets alone would not do; we will have to take into account the livelihood of the farmers and demand management.

“Our agriculture policy and technology should be designed to address the needs of the poorest of the poor in the country.” “The emphasis is on doubling food production. But how can this be achieved without enhancing water productivity?” he asked, but not before stating that the country has not done much towards increasing water productivity.

Citing reports, he said, “The availability of water per person has fallen from 5,000 cubic metres during the mid-40s to 1,650 cubic metres at present. If this dips below 1,000 cubic metres, we will be declared a water-starved state.

“The technology to address this issue is available, but not affordable,” Ramasami said and pointed out that farmers took to livestock-based farming practices to tide over this issue as also crops that offered price stability.

Vice-Chancellor of TNAU, K Ramasamy, emphasised the need to retain youngsters in agriculture and make farming remunerative.

oHeraldo
The Voice of Goa — since 1900

## Training held in green mussels’ cultivation

TEAM HERALD OLD GOA: TERI, in partnership with Syngenta, organized a half- day training programme to create awareness and encourage the fishing community of Gaundalim- Cumbharjua to cultivate green mussels ( Perna viridis) using the rope cultivation technique. Fishermen of St Estevam, Divar, Goltim Navelim and Corlim were also present.

Dr Fraddry D’Souza, area convenor, the Coastal Ecology and Marine Resources Centre of TERI, welcomed while Martin Ghosh, site manager from Syngenta inaugurated the programme.

Dr Z A Ansari, NIO scientist presented an overview of various mussel cultivation methods that could be practiced in Goan waters.

## Warm ocean melting East Antarctica's largest glacier

The 120-kilometre long Totten Glacier is more than 30 kilometres wide.

SYDNEY: The largest glacier in East Antarctica, containing ice equivalent to a six- metre ( 20- foot) rise in global sea levels, is melting due to warm ocean water, Australian scientists said Monday.

The 120- kilometre ( 74.4 mile) long Totten Glacier, which is more than 30 kilometres wide, had been thought to be in an area untouched by warmer currents.

But a just- returned voyage to the frozen region found the waters around the glacier were warmer than expected and likely melting the ice from below.

" We knew that the glacier was thinning from the satellite data, and we didn't know why," the voyage's chief scientist Steve Rintoul told AFP. He said that up until recently the East Antarctica ice sheet had been thought surrounded by cold waters and therefore very stable and unlikely to change much.

But the voyage found that waters around the glacier were some 1.5 degrees Celsius warmer than other areas visited on the same trip during the southern hemisphere summer.

" We made it to the front of the glacier and we measured temperatures that were warm enough to drive significant melt," Rintoul said.

" And so the fact that warm water can reach this glacier is a sign that East Antarctica is potentially more vulnerable to changes in the ocean driven by climate change than we used to think." Previous expeditions had been unable to get close to the glacier due to heavy ice, but Rintoul said the weather had

held for the Aurora Australis icebreaker and a team of scientists and technicians from the Australian Antarctic Division and other bodies.

Rintoul said the glacier was not about to melt entirely overnight and cause a sixmetre rise in sea levels, but the research was important as scientists try to predict how changes in ocean temperatures will impact on ice sheets.

" This study is a step towards better understanding of exactly which parts of the ice sheets are vulnerable to ocean warming and that is the sort of information that we can then use to improve our predictions of future sea level rises," he said.

" East Antarctica is not as protected from change as we use to think," he said.

The melt rate of glaciers in the fastestmelting part of Antarctica has tripled over the past decade, analysis of the past 21 years showed, according to research published last month.

The 120- kilometre long Totten Glacier is more than 30 kilometres wide.