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THE HINDU

Big breakthrough in Beijing



APChina has publicly announced that its emissions of carbon dioxide will peak by 2030. Picture shows a traffic jam in Beijing. File Photo

To address climate change, India has committed itself to a 20-25 per cent reduction in intensity of carbon emissions by 2020, but the international community will want more

U.S. President Barack Obama and Chinese President Xi Jinping have just [signed a historic bilateral accord on climate change](#) and clean energy cooperation in Beijing. This accord will have impacts in the run-up to the Paris Conference in December 2015 when the world community is expected to clinch a new agreement to combat global warming. The agreement was in the works no doubt, but it certainly came sooner than expected.

Another agreement on trade in technology-intensive industries has been signed and this has great relevance for the World Trade Organization (WTO). With these two accords, the U.S. and China have signalled that they will influence multilateral outcomes through their bilateral agreements.

A historic accord

The accord is historic for a number of reasons. First, China has publicly announced that its emissions of carbon dioxide will peak by 2030 and that the intention is to have the peak year earlier. Second, China will increase the non-fossil fuel share (mainly nuclear, solar and wind) of all energy to around 20 per cent by 2030. Third, the U.S. will cut its carbon dioxide emissions by 26-28 per cent below 2005 levels by 2025 with an aspirational goal of an 80 per cent reduction by 2050. Fourth, the two countries will vastly expand cooperation in clean energy, phasing down of the use of hydrofluorocarbons in refrigerators and air-conditioners, demonstration of carbon capture and sequestration (CCS) technologies and climate-smart urbanisation.

The joint announcement recognises the special responsibilities that the two largest emitters have to curb their emissions. However, the statement understates their contribution to global warming. It acknowledges that “the U.S. and China account for over one-third of global greenhouse gas emissions” whereas the facts are that the U.S. and China account for around 15 per cent and 29 per cent respectively of global greenhouse gas emissions, making a total of about 44 per cent. China’s peaking year of 2030 means that it would peak at about 10 tonnes per capita (compared to the present level of around 7 tonnes per capita) while the U.S.’s per capita emissions then would probably be in the region of 15 tonnes.

China and the U.S. have been engaged at different levels over the past year at least to come up with such a joint announcement. The

recent commitments of the 28-member European Union to deep cuts in their emissions by 2025 and 2030 has undoubtedly put a little extra pressure on China and the U.S. not to lag behind in demonstrating to the world that they recognise the onus is on them to do something dramatic. And to the credit of both, the Beijing announcement is indeed a landmark. It is a hugely important starting point, even with all the political upheavals that the U.S. has witnessed in the recent midterm elections.

Also Read: [Obama to unveil historic climate change plan](#)

Significance for India

What does this agreement mean for India? To be sure, India with about 6 per cent of global greenhouse gas emissions is simply not in the same league as China, the U.S. or the EU. Even with 8 per cent economic growth over the next decade and a half, its share will not cross 10 per cent at most. Of course, in per capita terms India will be more advantageously placed simply because its population, already 1.24 billion, will increase by about 400 million over the next 35 years. But it would be extremely unwise to dismiss the significance of this agreement on the grounds that India is “different” because of the per capita argument. The international community will now expect India to make some firm commitments for 2025 and 2030. It has already committed itself to a 20-25 per cent reduction in emissions intensity (tonnes of carbon dioxide divided by dollars of GDP) below 2005 levels by 2020 and there should really be no problem to unveil plans for 2025 and 2030 as well. This would be in keeping with domestic imperatives as well.

The Planning Commission’s expert group on low carbon growth strategy had in its final report submitted in April 2014 projected that the contribution of solar, wind and biomass to electricity supply can realistically increase from the present 6 per cent to 18 per cent by 2030. Similarly, it had projected that nuclear energy (which does not

entail emissions of carbon dioxide) could increase its share in our electricity supply portfolio from the current level of around 8 per cent by 2030. It is the government's prerogative to do what it wants regarding the Planning Commission but it would be most unfortunate if this expert group's report is ignored even without a discussion in the Union Cabinet or in the newly reconstituted National Council on Climate Change chaired by the Prime Minister himself. The Prime Minister has, on occasions, maintained continuity. His September 30th joint statement with Mr. Obama, for instance, has remarkably similar (at times even identical) language on climate change, energy and environment issues as the September 27th 2013 joint statement of former Prime Minister Manmohan Singh with Mr. Obama. Hence, it should not be difficult really for the Prime Minister to have the targets suggested by the expert group accepted as publicly stated objectives both domestically and internationally. The passage of a new and comprehensive law with specified goals would also add to India's position as will demonstrable actions to ensure cleaner coal production and use actions which unfortunately have not been visible so far.

Balance of growth and ecology

The Sino-U.S. agreement does not automatically mean that the Paris Conference will yield something constructive that will meet political, economic and environmental objectives all at once. Paris will be more of a starting point rather than a final destination. But even for that starting point to be achieved, India has to start thinking creatively. It has long been a champion of equity in any international agreement but it has been opposing a concrete proposal put forward by the Africa Group in this regard. This has been a most unwise stance. In any case, equity gets reflected in the nature of mitigation responsibilities a country takes on — the fact that India is allowed to pledge reductions not in absolute levels of emissions but in relative levels measures of emission intensity is itself a reflection of equity

considerations. India's continued insistence on the Annex I (industrialised countries)/non-Annex I distinction that forms the bedrock of all climate change negotiations also needs to be relooked. Differentiation is essential but is this distinction made in a completely different era over two decades back still meaningful? Simply put, it is not.

Strong domestic actions are needed not just to strengthen our global standing but also to address growing public health and livelihood security concerns domestically. Rapid growth is imperative. But it needs to be sustainable as well. The current ruling dispensation seems to think that environmental and forest regulations and laws are a drag on economic growth. This is a profound misreading of the situation. In fact, in some cases, like in the case of emissions of sulphur dioxide and mercury, new concentration standards are required. To say that growth and ecology have to be integrated is fine in theory, but in practice there are choices to be made, complexities to be unravelled, contradictions to be understood and conflicts to be managed. There will be trade-offs and these have to be made public and transparent. The balance of growth and ecology calls for great nuancing and sensitivity which, alas, has not yet been in evidence.

(Jairam Ramesh is a Rajya Sabha MP and former Union Minister.)

India faces climate pincer

Experts disagree on impact of agreement on India

While the Union Minister of State for Environment Prakash Javadekar refused to comment on record on the U.S.-China climate deal, highly placed sources said the government has decided to adopt a wait-and-watch approach. The new deal puts pressure on India to decide on whether it wants to toe this line or create a new target for itself and also pressure the world to adopt stringent emission cuts.

The agreement that comes after months of talks will however, not impact the stand of the BASIC (Brazil, South Africa, India and China) group.

Experts differ on impact

There has been a mixed response from Indian experts to the U.S.-China agreement on a timetable for emission cuts.

Navroz K Dubhash, senior fellow, Centre for Policy Research and one of the lead authors of the recently released Synthesis Report of the Intergovernmental Panel on Climate Change (IPCC), said that “The new deal implies that smart politics for India requires it to support this process, to be in the negotiating room, and help create conditions for over-compliance and for tighter limits.”

However, Sunita Narain, director-general of the Centre for Science and Environment (CSE) said the agreement is not ambitious, effective or equitable. “The pledges by the two countries don’t add up to saving the world from the catastrophe of keeping global temperatures within 2 degrees Celsius. India made the mistake in Copenhagen of agreeing to a pledge and review system and this deal is the culmination of that,” she said.

Welcoming the deal, Dr Dubash said to create conditions for over-compliance and for tighter limits, India needs to put its weight forcefully behind national actions and develop its own contributions for the negotiations, he said. “This is smart politics by the two most powerful countries in the world. The U.S. target and the Chinese peaking year will certainly require some effort, but are probably not stretch targets. And it allows both countries to claim leadership in breathing life into climate talks,” he pointed out.

Dr. Dubash is optimistic that this move really infuses energy into the only global process there is for climate talks. However, he said the

reason for scepticism is that this is well short of what is needed from the two biggest polluters to limit warming to two degrees. The only way to square this circle is to create conditions to deliver more emission restrictions than countries actually promise and push for tighter limits, he said.

Ms. Narain on the other hand said, it's a deal good for the U.S. and China but bad for the planet. "It was perversely equitable and instead of reductions of emissions, we have convergence by 2030. Extrapolation of data by CSE indicates that in 2030, per capita emissions of the U.S. and China will converge at 12 tonne CO₂e (carbon dioxide equivalent)."

This is a disaster for climate change, she said.

China-U.S. deal on emission cuts



[AP](#)U.S. President Barack Obama, smiles as he walks with Chinese President Xi Jinping during a welcome ceremony at the Great Hall of the People in Beijing on Wednesday.

The surprise agreement has brightened prospects for a climate deal in Paris next year

China and the United States have agreed on a timetable to limit emission of greenhouse gases — a decision that will impose fresh pressure on India not to obstruct a binding treaty on climate change next year.

The breakthrough was achieved during talks between visiting U.S. President Barack Obama and his Chinese counterpart, Xi Jinping, ending a 20-year discord between the world’s two leading economies on how to combat climate change. In a joint announcement on Wednesday, the U.S. agreed to reduce by 2025 its emission of greenhouse gases by 26 per cent to 28 per cent below its 2005 level. China stated its intent to peak emissions of carbon dioxide in 2030, if not earlier. It also agreed to raise the share of non-fossil fuels to 20 per cent, in its primary energy mix, in the next 16 years. This would entail China shifting towards clean energy generated by nuclear, wind, solar and such zero-emitting resources.



The surprise agreement on Wednesday between the United States and China on a timetable for emission cuts to combat climate change has brightened prospects for a climate deal in Paris next year. The deal can tilt the scales at negotiations at the UN climate conference slated for Paris in 2015.

Three years ago, leaders from 200 countries had agreed to finalise an agreement in Paris, which would replace the Kyoto protocol — the only legally binding treaty on cutting emissions, signed in 1997.

Analysts point out that the U.S.-China deal is in tune with the target of avoiding a dangerous 2 degree rise in temperatures across the globe.

The agreement underscores the complexity of the U.S.-China relationship, which has otherwise nosedived after Washington announced its “Asia Pivot” — a strategic shift, which includes fresh troop deployments in China’s periphery.

The joint announcement could impose fresh pressure on India not to become a deal breaker in the run up to the Paris talks. India’s per capita emissions are estimated at one-tenth of the United States and one-fourth of China, but, without a significant shift towards non-fossil fuels, its carbon footprint could rise substantially between 2020-2040, out of sync with global expectations.

Row over weather guide based on almanac

The introduction of a weather forecast guide for this year by the Tamil Nadu Agricultural University, based on the almanac, has kicked up a controversy.

Without going into the question whether the contents of the almanac were scientific or not, the Madras High Court has directed the Deputy Commissioner of Police (Law and Order), Coimbatore, to consider a representation of the Dravidar Viduthalai Kazhagam to stage a protest.

Justice V. Ramasubramanian passed the order, disposing of a petition filed by Iniyana M. Nehrudhasu, president of the DVK, Coimbatore city. The petitioner said a request to stage a protest in front of the university on November 17 was rejected by the police.

The judge said the guide carried details of the dates when various districts of Tamil Nadu would receive rainfall. The petitioner's stand was that he would not have any objection had the predictions been made on the basis of satellite images. But they were based on almanac, and it was irrational.

Mr. Justice Ramasubramanian said that whether the contents of the almanac were scientific or unscientific was a larger debate. It could be seen that the petitioner merely wanted to propagate rationalistic ideas. There could not be any objection in view of the fundamental right guaranteed under Article 19 of the Constitution.

Life returning to normal in Vizag



[The Hindu](#) The road washed-away near the fishing harbour left unrepaired, even after a month of Cyclone Hudhud leaving a trail of destructions in Visakhapatnam. Photo: C.V. Subrahmanyam

A nine-member Central team will visit Vizag from November 25 to 27 to assess the damage. Even a month after the cyclone enumeration of agriculture crops is yet to be completed and survey of damaged houses is on. Cyclone victims are yet to receive the compensation.

It has been a month since the very severe cyclone Hudhud with a wind speed crossing 200 kmph had left a trail of destruction in the port city and several parts of the district.

While thousands of trees uprooted in the city and many houses and industries suffered extensive damage, the scene in the rural areas was even more path etic. Power and water supply were restored within a week in most part of the city, though it got delayed in rural areas. Roads were cleared, communication and transport links were re-established and people are travelling as usual in spite of the damage caused to the railway station and airport.

Industries like the Visakhapatnam Steel Plant, Hindustan Shipyard, HPCL Refinery, which suffered a loss of Rs. 10,000 crore, according to preliminary estimates, are back in production.

Even a month after the cyclone enumeration of agriculture crops is yet to be completed and survey of damaged houses is on. Cyclone victims are yet to receive the compensation.

Enumeration teams from others districts have left and the district teams are finding it difficult since the data is neither clear nor complete. Meanwhile, the Centre has announced that a nine-member team will visit the district to assess the damage. The team will tour the district from November 25 to 27 , Collector N. Yuvaraj said here on Wednesday.

Now high, now low of onion market in Karnataka



[The Hindu](#) Onion yield arriving at the APMC at Amaragol during August 2013, fetched Rs. 4,350 a quintal. File Photo

Cabinet announces relief, rules out MSP

The State Cabinet on Wednesday ruled out the possibility of a minimum support price (MSP) for onion while announcing a compensation of Rs. 9,000 a hectare for crops damaged due to rains in Chitradurga, Davangere, Gadag, Dharwad and Bellary districts. This has come on the heels of growers protesting crashing prices of their produce.

A macro view of market scenario shows that fluctuations are not a one-off phenomenon but a worrying trend for over a year.

Apprehension

Onion yield arriving at the Agricultural Produce Marketing Committee (APMC) at Amaragol here during August 2013, fetched Rs. 4,350 a quintal at higher end (with the Average Modal Price being Rs. 2,517 a quintal). It was due to apprehension that there might be shortfall of

supply in Nasik market (one of the main onion markets in the country) due to poor monsoon.

Just over a year and a quarter later, the price at higher end is now Rs. 1,900 a quintal (with AMP being Rs. 764). This is because of huge but poor quality arrivals in the market. In the intervening period, there have been constant fluctuations. At its lowest, it was Rs. 482 a quintal in May 2014.

One of the reasons attributed to the falling price is excessive rain this monsoon that has affected the quality of the yield and the merchants are not ready to pay more for the “wet” yield. Although the farmers admitted that their crop had been affected, they were of the opinion that “poor quality” was a mere ploy by merchants and brokers to reduce the price.

And despite protests and assurance by the government on intervention in the market, the price has only kept dropping since September this year. This forced farmers to resort to frequent protests last month and this month. On Tuesday, the auction of onion at the Hubballi APMC had to be suspended. While their protest resulted in intervention of the Deputy Commissioner of Dharwad, resulting in setting up of a committee for daily monitoring, the end result was just a slight upward revision in the prices.

Import norms relaxed

Onion trader Saleem Byahatti, however, said many farmers opted for onion cultivation hoping that they would get better price. Meanwhile, amid concerns about high prices, the government relaxed the norms for import of onion. “Now huge arrivals and the relaxed import norms have both contributed to the slump in the price,” he said.

Nallaponnu, Paniyaram seller



It has been 15 years since my husband passed away leaving behind me and my three children. I am 50 years old now and looking back I feel happy that I have been able to successfully bring them up despite the struggle I faced. Earlier, I started as a farm labourer and the daily wages was sufficient to take care of my family. With little money I saved over the years, I bought a small piece of land and started cultivating it. I was growing millets and groundnuts. After the consecutive drought for the past three years, I have taken up to selling paniyarams. Agriculture is no more lucrative and I have put the land for sale. My day starts with making batter and mixing the right amount of jaggery with it for making the sweet dish. Everyday I make around 100 idlis and 80 paniyarams that I sell for Rs.3 and Rs.1 each. The villagers around Alagar Koil are my regular customers. During the Chitrai festival, the sales peak as many tourists and pilgrims stop by to eat. I run the shop round the day during the festival season. Once a month, I travel to the wholesale grocery market at East Masi Street in Madurai, to procure rice and dal in bulk for making the batter. For now, I am heaving a sigh of relief that I have married off both my daughters. I owe it to the grace of Lord

Alagar. My son is studying in a city college. I hope he makes it big in life so that I can take a break from working for the family.

Award for agricultural scientist

The senior agricultural scientist and former Director of the National academy of Agricultural Research Management (NAARM), Surender Lal Goswami has bagged the prestigious M.S. Swaminathan Award. It will be presented to him by the Retired Indian Council for Agricultural Research Employees' Association in association with Nuziveedu Seeds, here on November 16.

Union Minister for Urban Development and Housing M. Venkaiah Naidu will give away the award to Dr. Goswami in the presence of P. Pulla Rao, Minister for Agriculture, AP, and K.T. Rama Rao, Minister for Information Technology and Panchayati Raj, Telangana, a press release said.

Chithira Kayal fields to go green after two decades

Paddy cultivation will commence in 500 acres



District Collector N. Padmakumar inspects facilities at the Chithira Kayal fields on Wednesday. — Photo: By special arrangement

(Alappuzha district): After a gap of nearly two decades, fields of the Chithira Kayal will see green again. Chief Minister Oommen Chandy will formally launch the cultivation of paddy at the fields on Sunday.

Cultivation will initially commence in a plot of around 500 acres (out of the nearly 715 acres) in the fields that have been prepared for farming. The exhaustive efforts to recommence cultivation, which began close to a year ago, involved dewatering and filling deep pits that were created by the large-scale clam mining that had taken place in the area. Official documents say that the area was last cultivated in 1996.

During an inspection that was conducted on Wednesday, District Collector N. Padmakumar expressed optimism that cultivation in the entire region that includes the Rani and Chithira Kayal fields, having total area of nearly 1,500 acres, could be launched next year.

Twenty tonnes of paddy seeds of the 'Uma' variety, which have been procured from the Kerala State Seed Development Authority, have been stocked at the fields. The plot has been dewatered within a month using four 60-HP pumps and one 40-HP pump. Channels have also been created through the field for effective water drainage, said an official.

Official sources also claim that nearly 85 per cent of the works for strengthening the outer bunds, utilising Rs. 24 crore sanctioned under the Kuttanad Package, were complete. Electricity connection has been provided to most part of the Rani-Chithira fields at an expense of approximately Rs. 90 lakh. The paddy clusters will utilise Rs. 4 crore for resuming cultivation. The government had sanctioned an amount of Rs. 3.6 lakh for establishing the required drainage facilities.

Mr. Padmakumar said that the district administration has succeeded in clearing the anxieties of the local farming community regarding the feasibility of dewatering huge amounts of water from the region and adopting measures to relaunch cultivation.

He added that vegetable cultivation will also be facilitated in 100 acres in the Chithira fields. A proposal has been prepared by the Agriculture Department, Kerala State Horticultural Products Development Corporation and Agricultural Technology Management Agency to launch organic farming on a plot where paddy farming will not commence this season.

Punjab looks at China to increase fish produce

Most of the fish and even prawns on the plates of most North Indians could soon be from Punjab, as the State – which already boasts of the highest per unit area fish production -- has embarked upon an ambitious plan to not only quadruple its fish production but also use some of the waterlogging in three of its southern districts to its advantage by tapping them for fresh water fishery.

Eager to exploit its vast fishery potential to the hilt, Chief Minister Parkash Singh Badal is these days on a trip to China along with a delegation of fish farmers, academics and bureaucrats. The main item on the agenda is promoting fresh water fishery in the State as a part of its crop diversification programme.

Though Punjab does not have a coastline and still does not rank among the top fish producing States in the country, it is eager to utilise the abundance of water to good effect. With the soil quality of Jiangsu province in China and Punjab quite similar, the two States are embarking on 'Twin Province' project for improving fish output.

During a meeting with Jiangsu Governor Li Xueyong earlier this week, Mr Badal spoke about how his State intends to develop fresh water fisheries to bail out its farmers from the prevailing agrarian crisis.

With the per area fish productivity in Punjab being the highest at over 6 tons per hectare, Mr Badal said there was huge scope for improvement and his government aspires to double this to around 12 tons per hectare in the next three years. Also the area under fishery would be doubled from 14,400 hectares at present in the same period. This, he hoped, would help increase the fish production at the 21 hatcheries from about 222 million to 900 million.

Since high salinity and waterlogging has impacted farming in many parts of Punjab, the State has taken to fish farming in a big way to provide the farmers an alternate source of livelihood. As such while the common Sole and the Singhara are usually caught in the rivers, the exotic Mrigal, Rohu and Katla that are being farmed in the village ponds, a number of fish are now becoming the staple for much of this water-rich State.

Since the high demand for fish has ensured handsome remuneration for the farmers, who are easily able to earn around Rs 4-6 lakh per hectare in a year, Punjab has urged Jiangsu to send its experts to update the Punjabi farmers about their latest technology. Mr. Li on his part asked director-general of Jiangsu Oceanic and Fishery Bureau, Tang Jianming, and president Jiangsu Academy of Agri Sciences, Yi Zhongyi, to personally ensure that both the States are able to forge an alliance in this regard.

As a step forward, on Tuesday, Mr. Yi gave his in principle approval to collaborate with Guru Angad Dev Veterinary & Animal Sciences University (GADVASU), Ludhiana, in fresh water fisheries besides other fields related to agriculture and allied agricultural activities and animal husbandry.

TRS MPs urge Centre to increase MSP of cotton

Meet Union Commerce Minister

The TRS MPs urged the Central Government to come to the rescue of cotton farmers in Telangana.

MPs B Vinod Kumar and A Sitaram Naik said the party MPs met Union Commerce Minister Nirmala Sitaraman and requested her to enhance the minimum support price (MSP) for cotton from Rs 4,050 to Rs 5,000.

They wanted the Central Government to set up more ginning and yarn mills and other cotton related industrial units in Warangal and Karimnagar where cotton is produced in huge quantities.

“The Telangana is third largest cotton producing State in the country after Maharashtra and Gujarat. In Telangana cotton is cultivated in 17.5 lakh hectares producing 65 lakh bales that accounts for 20 per cent total cotton production in India,” Mr Vinod Kumar said.

The TRS MP said he had requested the Union Minister to visit agricultural markets at Warangal and Karimnagar and interact with the cotton farmers.

More troubled period is ahead for the cotton farmers of Telangana as China which is the largest importing country would not be buying any cotton from India for next two years.

“In China there is a buffer stock of six crore bales and it will not be in a position to buy cotton from India. The Central Government should devise a mechanism like setting up more ginning and yarn mills to sustain the cotton farmers,” he said.

The TRS MPs also met the Union Home Minister Rajnath Singh and impressed upon him to ensure the need of strict implementation of Bifurcation Bill and allocate civil servants without any further delay as the administration was paralysed in Telangana. Mr Vinod Kumar said still some officers and politicians of Andhra Pradesh were trying to create differences among people.

The people of both States were reconciled and were happy but some vested interests were trying to create trouble, he observed.

Stress on checking spread of invasive plants

Experts have stressed on the need to develop biological mechanisms to control the spread of invasive species.

Forest officials, scientists, college and school teachers and representatives from non-governmental organisations participated in a three-day workshop on invasive species organised by the Kerala Forest Research Institute (KFRI) here on Wednesday.

The introduction of invasive species to a particular ecosystem resulted in socio-cultural, economic, environmental and health problems to human beings, said Melanie Newfield from the Ministry of Agriculture and Forestry, New Zealand.

Serious threat

Invasive species are a serious threat to forestry and tree crops worldwide. Invasive species are introduced either intentionally or accidentally from another country or region. In Kerala, *Mimosa diplotricha*, *Mikania micrantha* and *Lantana camara* are the common invasive species posing great threat to the local biodiversity, the workshop noted.

Some species can be killed simply by cutting them down below the lowest shoot. But it wasn't effective for all species as some would re-sprout even from a tiny part of the plant, the experts noted.

"Here biological control systems do the job. Classical bio-control involves the release of natural enemies for the target pest. Natural enemies can be a microbes, insects or vertebrates," experts noted.

The workshop will discuss the principles of risk and impact assessment of alien invasive species and will provide basic methods for qualitative impact assessment. It mainly covers topics such as invasive species found in forests, traits that contribute to their spread, how to observe them in the field and the strategic management of those species. Hands on training to destroy the invasive species or techniques to slow down their growth speed are the main focus of the workshop. KFRI director P.S Easa inaugurated the workshop.

Introduction of invasive species to an ecosystem results in socio-cultural, economic, environmental and health problems to human beings, says expert.

'Services exports vital for economy'

Says they compensate for deficit in merchandise exports, create jobs



Finance Minister Arun Jaitley with Commerce and Industry Minister Nirmala Sitharaman during the Services Conclave 2014 in New Delhi on Wednesday.—
Photo: R.V. Moorthy

Union Finance Minister Arun Jaitley said here on Wednesday that more jobs should be created in the service sector, in addition to those in the manufacturing sector, so that large sections of the underemployed population in the agriculture sector could get “meaningful” employment.

Mr. Jaitley was delivering the inaugural address at the second edition of Services Conclave, 2014, jointly organised by the Commerce Ministry and the Confederation of Indian Industry.

He said research and development (R&D), tourism, education and healthcare services had the potential to lead exports growth in the service sector. Exports from the sector were important as they compensated for the deficit in merchandise exports created as India imported more goods than it exported.

The Minister said the government was making efforts to raise the share of the manufacturing sector in the Gross Domestic Product from 15 per cent to 25 per cent, a target set by the previous UPA government. The pharmaceutical sector had the potential of providing global quality healthcare in a cost-effective manner, the Minister said. There was an abundance of quality scientists and research professionals, and India could become an R&D hub.

Noting that the tourism sector needed to be given a push by providing quality hotels, faster domestic travel, easier visa, visa-on-arrival and e-visa facilities, cleaner trains and so on, he said it could be a driver of services exports.

Mr. Jaitley noted that in the entertainment sector, one-sixth of the global viewership was in India and hence there was immense scope for services export. He highlighted that India could become a regional hub for providing quality education.

Earlier, delivering the special address at the conclave, Minister of State for Commerce and Industry Nirmala Sitharaman said the immense untapped potential in the services sector should be harnessed for increasing the share of India's exports in the global services arena. She said the sectors of entertainment, wellness, hospitality and professional services could provide a platform for services export from India.

Why do our scientists not speak out?

With his comments that we knew and practiced stem cell medicine in *Mahabharata* times, and Lord *Ganesa* obtained his elephant head through plastic surgery, Prime Minister Modi has raised a debate, and a necessary one, on the connection between imagination and mythology, history and science. As the physicist Vikram Soni and the historian Romila Thapar write in *The Hindu* (Nov 7, 2014): "of course imagination has been a creative force and continues to be. Such imagination, on occasion, turns out to be prophetic... (it) sometimes makes a link with reality as projected for the future, whereas in India today the claim is that it connects to a reality from our past". They further say: "myths are old legends, history is what is thought to have happened, of which science is a part. To replace the latter with the former is incorrect and some would say, rather fanciful".

In God we trust, all others must bring data

Why is it incorrect to use mythology as proof that modern science was known to, and used by our ancestors millennia ago? Because we need proof. Science proceeds through logic, analysis of data, repeatability, falsifiability, proof and prediction. If one claims that the Harappan community were adept at city planning and architecture, we accept it since we see proof through archaeology and excavations.

That the sages *Baudhayana* and *Apasthamba* discovered power series expansions in mathematics or came out with the “Pythagoras Theorem” before Pythagoras, we accept it because they left behind their writings which we use and find correct. The physicians *Susruta* and *Charaka* , who left behind texts (the latter so ably translated from the original Sanskrit into today’s English and medical terms by Professor M.S. Valiathan) which give us proof of the practice and how applicable and successful many of their suggestions are. As the American Professor William Doming remarked, “In god we trust, all others must bring data.” I am afraid we therefore cannot accept the suggestions about *Kunti* or *Gandhari* , nor of the birth of *Jarсандha* in Mahabharata, who was supposed to have been born as two halves and brought to life as a whole body by the demoness *Jara* , or that we had airplanes then.

The television commentator, Mr Karan Thapar, in his article in *The Hindu* (Nov 1, 2014) says that to his astonishment, no Indian scientist has refuted Mr Modi’s claims and that this silence is perplexing. This important point needs our attention. Indeed, some of the responses to Mr. Thapar’s piece, also published in *The Hindu* , are neither here nor there. But one of them by the scientist Sharath Ananthamurthy, is of some interest. He talks of three varieties of scientists in India. One type is too embarrassed to react. The second type is indifferent to any view aired by public persons, and who are comfortable in their labs as long as research funds flow uninterrupted. And the third type of scientists who go around giving speeches in schools and colleges on such “mumbo-jumbo” in their zeal to “recover our great Indian heritage.” And he rues, correctly, that in all this, we may lose sight of some of the achievements in ancient India in mathematics, astronomy, metallurgy and so on.

Let a hundred flowers blossom

What are the factors and causes behind this triad of reactions, and how do they compare with those in other countries, say the U.K. or

the U.S.? Unlike there, science and higher education here are supported essentially by the government, often to the point of what the curricula should contain. Directors and Vice Chancellors are government appointees. The career graph of academics and scientists, their salaries and such too are largely government-determined. Research grants for science, technology, medicine, agriculture, social sciences — all are *sarkar*-funded. Just as in over 80 other countries across the globe, our science academies, at the national and regional level, too are supported by the governments, unlike those in U.K. and U.S., which do not depend solely on their governments. Given this “he who pays calls the tunes” type atmosphere, speaking out becomes a hesitant act. Note too that it does not matter which party or ideology the government belongs to; intellectual freedom is curtailed either *suo motu* or by hidden/perceived pressure. Is there even one private, non-governmental foundation (NGOs) in India, which we can compare with the Wellcome Trust of UK, Champalimaud Foundation of Portugal, or the hundreds of huge and small Foundations in the U.S.? As Mao Zedong said, “let a hundred flowers blossom and a hundred schools of thoughts contend.” When will our business magnates (some richer than our government) think of these? They have the money, not the philosophy. Until such non-government foundations are set up to support scholarly activities, it will only be “retired” scientists like me, who no longer depends on the government for his paycheck or sops, who will make noise (maybe I spoke too soon, I still need research money!)

Controlling pod borer in pigeonpea

Manually collect grown up larvae

Pigeonpea is one of the most important grain legume crops of tropical and subtropical environments.

More than 200 species of insects live and feed on pigeonpea, though relatively few cause heavy annual yield losses.

Among the important insect pests, podborer has become serious production constraint in pigeonpea.

The caterpillars destroy buds, flowers and pods. Larva feeds on pods by making holes, seen feeding with the head alone inside and rest of the body hanging out. If flowers and pods not available, larvae will feed on foliage.

Medium-sized light brown moths have a dark speck and dark area on the forewings. Hind wings are light in colour with a dark patch at the outer end.

Management

— Summer ploughing should be done to expose the hidden stages of the pest to natural predation.

— Instal *H. armigera* pheromone traps at 3-4traps /acre.

— Fix bird perches with branched tree twigs to attract predatory birds for insect predation. Sow redgram mixed with pundi or local sorghum for attracting birds.

— Hand collect grownup larvae of the pod borer by manually shaking the plants and dislodging them.

— First spray can be taken up with thiodicarb 75 WP 0.6 g or profenophas 50 EC 2 ml or methomyl 40 SP 0.6 g per litre of water to control eggs.

— Second spray to be done with spraying of 5 per cent neem seed kernel extract

— Third spray to be done with viral pesticide, HaNPV at 100 LE /acre along with 0.5 per cent jaggery and 0.1 per cent boric acid.

Severe

If the infestation is severe, new insecticide molecules like 0.3 ml indoxacarb 14.5 SC or 0.1 ml spinosad 45 SC or 0.75ml navaluron 10 EC or 2.5ml chlorpyriphos 20 EC can be applied. For one hectare area around 500 litres of spray solution is recommended.

(Dr. D.N.Kambrekar, Scientist (Agricultural Entomology), Regional Agricultural Research Station, UAS Campus, Bijapur-Karnataka, email: kambrekardn@gmail.com: Phone: 08352 230568.)

Encapsulating bio inputs for crops has several advantages



The cost to manufacture these capsules is quite low. Photo: Special Arrangement

The Indian Institute of Spices Research (IISR), Kozhikode, has made a significant breakthrough in bio-fertilizer production by successfully encapsulating plant growth nutrients.

“The encapsulation process is simple, does not require sophisticated equipment and comes at a low investment” says Dr. M. Anandaraj, Director, who also happens to be the inventor of this benign and simple technology.

In present-day agriculture, bio-fertilizers are of great economic importance because they partially replace chemical inputs and play a vital role in enhancing soil and environmental quality.

Plenty in market

Different formulations of bio-fertilizers like liquid, peat, granules, and freeze-dried powders are available in plenty in the market and their success depends on the crop, environment, ease-of-use, cost and availability.

But a perfect bio-fertilizer formulation does not exist till date and each type has its own limitations.

Nevertheless, a promising advancement has been the development of this capsule technique that allows encapsulating the required nutrition in a capsule and delivering them to the crops, according to Dr. Anandaraj.

While such methods have been fairly successful inside laboratories, practical attempts to implement the same in the fields have been largely unsuccessful. Presently no such commercial products are available in the market. “Termed as bio-capsule, the other advantages of this technology include reduced cost and easy handling and transport, no harmful by-products, less requirement of inorganic and inert material, storage at normal temperature and more importantly, enhanced shelf life (18-24 months)” says Dr. Anandaraj.

Less requirement

Besides, the number of capsules required will be markedly less compared to other bio formulations.

For instance, the normal requirement of any other bio-fertilizer for ginger crop is 20 kg for a hectare.

It can be replaced with just 200 capsules weighing 200gm (each capsule weight being 1.0gm), a marked decrease of 100 times by volume.

The main components in the capsule are the essential nutrients packed in a hard gelatin capsule (like the ones we get in medical stores). The whole process of encapsulation can be done at room temperature.

No special equipment

Apparently, this means one does not need any sophisticated equipment or special conditions. This is significant because the investment cost to manufacture these capsules is low.

“The encapsulation technique appears to be significant because it can be used to deliver all kinds agriculturally important microorganisms like nitrogen fixers, nutrient solubilizers/ rhizobacteria, trichoderma, etc to any crop, whatsoever.

Field testing

“The technology has been successfully tested in farmers’ fields and patent for this delivery process has been filed for,” he explains.

On how it should be used he says:

At the time of application, the required capsules should be mixed in water and the seed/ planting materials are soaked in the solution for 30 minutes before sowing. The remaining liquid can then be drenched in the field or pots.

“We field tested it for two years in ginger and its performance was way ahead of talc-based formulation and at par or sometimes even

better than chemicals like Metalaxyl-mancozeb which is commonly used in reducing soft rot disease and enhancing growth” he adds.

Yet to be licensed

Since it has not yet been licensed to prospective entrepreneurs, the bio-capsule is being given to farmers for testing through the Agricultural Technology Information Center (ATIC) of the institute.

Further details can be obtained from Dr M. Anandaraj, Director, Indian Institute of Spices Research, Kozhikode, phone: Phone0495-2730294, email: anandaraj@spices.res.in, and Business Planning and Development Unit , email:bpd.iisr@gmail.com

Horticulture fair to be held in Bagalkot from Dec 12



The Hindu Vice Chancellor, UHSB, D. L. Maheshwar. Photo: Special Arrangement.

With an objective of promoting horticulture in the State, the University of Horticulture Sciences-Bagalkot (UHS-B), will organise a four-day mega horticulture fair from December 12 in Bagalkot, said, Vice Chancellor of the University, D. L. Maheshwar.

Addressing presspersons here on Wednesday, he said that ‘Mechanisation for Prosperity’ was the theme of the fair. The objective is to encourage the farmers to use mechanical equipments for farming, mainly to tide over the labour shortage.

Dr. Maheshwar said that nearly 450 vendors would set up their stalls during the fair.

He said that organisations such as National Horticulture Board, National Horticulture Mission, NABARD, Karnataka Farmers Resource Center, Karnataka Pradesh Krishik Samaj, Indian Council of Agricultural Research and their constituent research institutions, Karnataka Vikasa Grameena Bank, State Bank of India and other stake holders were joining hands with University in the event.

Other attractions of the fair were; exhibition & sale of quality seed and planting materials,

show comprising of fruits, flowers, vegetables, plantation crops, spices, medicinal and aromatic crops, post harvest technologies.

On the occasion, best Horticulture Farmer and Farm women award would be given to achievers of 23 districts of the State. Best innovator award, best innovator award for students (Farm machinery) and best livestock breed award would also be given, Dr. Maheshwar said.

Monsoon gets vigorous in Tamil Nadu



[The Hindu](#)Braving heavy rain, people wait for U.S. visas on Anna Salai on Wednesday. Photo: R. Ragu

Life was affected in coastal districts, especially in Nagapattinam and Karaikal

Even as a low pressure area now lying over the southwest Bay of Bengal is expected to bring more rains to the State till Friday, life in the coastal districts, especially Nagapattinam and Karaikal, was affected on Wednesday as the monsoon became vigorous.

For the second consecutive day, heavy rains lashed the coastal areas. A holiday was declared for schools in Karaikal in the Union Territory of Puducherry, reports received here said.

However, the rains were expected to decrease by the weekend, said S.R. Ramanan, Director of the Area Cyclone Warning Centre in Chennai. Isolated heavy rains were likely to continue in some parts of the State, but the chances “are slim” for the low pressure to intensify, he said.

Nagapattinam district has been bearing the brunt of the latest spell, with Mayiladuthurai, Thalaignayiru, Kollidam, Sirkazhi and Tharangambadi recording good rain. Paddy crop, raised on 1.05 lakh hectares in the district, face the risk of being inundated.

The rains are expected to benefit the tail-end and middle reaches of the Cauvery delta districts where nurseries have been transplanted. But wherever the samba paddy crop is 50-60 days old, water logging would make them vulnerable to pest attacks, farmers say. Salem and Namakkal districts also received fairly good rains in the last couple of days, and the water level in the Bhavani Sagar dam increased marginally to 85.28 feet.

Focus on clean water

For the Directorate of Public Health, the focus is on ensuring clean drinking water to all, said Director of Public Health K. Kolandaisamy. “Apart from our mosquito control drive, we have a system in place to check for cases of fever,” he said.

Farming has a different meaning for him



THE HINDUSrinivas along with his sons Jeevan Phani Kumar and Ganapathi at his leased farm at Kavalmpet in Medak. Photo: Mohd. Arif

Tenant farmer Katakam Srinivas, who is making profits in farming, treats crops like new born babies that have to be nurtured with love and care

For this tenant farmer, agriculture has a different meaning. “Plants are like new born babies and farmers have to nurture them with love and care,” says Katakam Srinivas, a farmer who had migrated from Kadiyam in East Godavari district to Medak in search of greener pastures about a decade ago.

Well, he seems to have found the greener pastures, as he has been successful in making profits out of farming, quite a rarity these days.

But it didn't happen in a day or a year. It took him over a decade of hard labour which finally has made him a happy farmer.

His day begins at 4.30 in the morning and ends late in the evening. And if it's the harvesting season, the working hours stretches even further. At 10 in the morning, he is usually seen supervising the sale of vegetables like snake gourd and bottle gourd. And his two sons – Jeevan Phani Kumar and Ganapati – assist him and see to the finer aspects of growing vegetables.

Mr. Srinivas came to Medak in search of a job in a private factory, but failed to get one. After working as a daily labourer for some time, he approached some locals for help. As he had prior experience in cultivation, he was asked to take up farming and that changed his life for better. Now, he cultivates about 30 acres of land as a tenant farmer and has a dozen labourers to assist him. "I also have cattle to take care of. After supplying milk to the canteen of a local factory, I go to the farm," says Mr. Srinivas. He is also into banana cultivation this year. "If the weather conditions are good, banana is one of the best crops that generate good revenue. We got saplings from East Godavari where banana crop is largely cultivated," he says.

His belief that Mother Earth never deceives farmers only if they care for the crop they grow has yielded him good result. He suggests the other farmers to take up multi-cropping instead of a single one as it is profitable.

Govt to sponsor students, farmers for training in fisheries

The Punjab Government is set to sponsor students keen to undertake a four-year Bachelor's or three-year Masters programme in fisheries from Freshwater Fisheries Research Center at Wuxi, China. Fish farmers from Punjab would also be sent in batches for training in fisheries from the FFRC, according to a Government statement here.

This was decided by Chief Minister Parkash Singh Badal during a meeting with FFRC director Hu Zhong at Wuxi on Tuesday evening.

No change in sugarcane SAP in U.P.

About 40 lakh sugarcane farmers of Uttar Pradesh will get the procurement price for their produce at last year's rate. There has been no increase in the State Advised Price (SAP) of sugarcane for the 2014-15 crushing season, which will continue to remain at Rs. 290 per quintal for early maturing variety, Rs. 280 per quintal for common variety of cane and Rs. 275 per quintal for the rejected variety. The SAP is the same as that of 2013-14 sugar season.

Apart from not increasing the SAP, notwithstanding the demand of cane growers and political parties, several incentives for the sugar mills have been announced by the Samajwadi Party Government. These include society commission and rebate in entry tax on sugar and purchase of cane. In fact, the "new" SAP has been announced against the background of Rs.1,850 crore cane price arrears of the previous crushing season still pending on the sugar mills.

The sugar season in the State begins in November and till date only two to three mills have started crushing sugarcane. A senior official said about 80 per cent mills will begin cane crushing by the end of November

The SAP for 2014-15 sugar season was approved at the meeting of the State Cabinet, presided over by Chief Minister Akhilesh Yadav on Wednesday.

The sugarcane farmers and their representatives as well as the Opposition have been demanding a price of Rs.350 per quintal even as the Indian Sugar Mills Association (ISMA) and its affiliate, the UP Sugar Mills Association (UPSMA), have expressed their inability to pay beyond Rs. 221 per quintal.

Principal Secretary (Sugar Industry and Sugarcane Development) Rahul Prasad Bhatnagar said the SAP to the farmers would be paid in two instalments. "The first instalment would be paid by the mills within 14 days of procuring sugarcane by deducting Rs. 40 from the SAP, which would be at the rate of Rs. 250, Rs.240 and Rs.235 per quintal respectively for the three cane varieties", Mr. Bhatnagar told reporters. He added the remaining Rs. 40 would be paid by the mills within three months from the date of the conclusion of the cane crushing operation.

Mr. Bhatnagar said for those sugar mills which failed to clear the first instalment within 14 days, the interest on the amount would be added to the arrears pending on them. The same principle would apply on the mills which failed to pay the second instalment within three months of closure of crushing operations with the interest being added to the arrears, he said.

Of the remaining Rs. 40, Rs. 20 would be given to the sugar mills in the form of rebate in cane purchase at the rate of Rs.2 per quintal, rebate in entry tax on sugar at the rate of Rs. 2.80 per quintal and society commission at the rate of Rs. 6.60 per quintal, which would be borne by the Government. Additional help by the Government to the sugar mills would be at the rate of Rs. 8.60 per quintal.

Meanwhile, the Bharatiya Janata Party has flayed the State Government's decision to continue with existing price of for the new season. Stating that the cane farmers have been deceived by the Government, BJP State unit president Laxmikant Bajpai has said that protests would be staged by the party's Kisan Morcha at the district headquarters. The BJP has demanded a price of Rs. 350 per quintal.

Several incentives announced for sugar mills; Opposition demands Rs. 350 per quintal

5,500 tonnes of urea reach Tiruchi

To be distributed in five central districts



IFFCO urea bags being unloaded from a goods wagon at the yard in Tiruchi on Wednesday.— PHOTO: R.M. RAJARATHINAM

A consignment of about 5,500 tonnes of urea arrived in Tiruchi on Wednesday for being distributed to five central districts.

The Tamil Nadu Cooperative Marketing Federation (TANFED) has been making arrangements for the supply of urea to Tiruchi, Karur, Perambalur, Ariyalur, and Pudukottai districts. Arrangements have been made for ensuring timely supply of urea to farmers during the current samba season, said S. Parthiban, Regional Manager, TANFED.

While 2,900 tonnes had been supplied by IFFCO, the balance is supplied by Kriphco, he said.

The arrival of the urea consignment should come as a relief to farmers who have been complaining of a severe shortage of urea at this crucial stage in cultivation.

N.Veerasekaran, coordinator, Ayyan Vaical Pasanatharar Sangam, said the urea consignment should be made available to farmers without being supplied to complex fertilizer manufacturers.

Mr.Parthiban said that the consignment had been brought by IFFCO from Kakinada and by Kriphco from Surat. TANFED had made arrangements for ensuring prompt supply of urea. Action had been taken for meeting the demand of urea for the entire 'samba' season. He allayed farmers' apprehensions about any scarcity of urea during the season.

Meanwhile, a private firm also stepped up its supply to the dealers in the central region.

Water release from Bhavani

Chief Minister O. Pannerselvam ordered water release for irrigation from the Bhavani Sagar reservoir in the Arakkankottai and Thadapalli channels from November 13. The decision following a request by farmers will benefit about 24,504 acres in the Gobi and Bhavani taluks, an official release said.

'Fix pumpset prices'

President of the Kalaburagi District Krishik Samaj Sidramappa Patil Dhangapur has urged the State government to finalise the rates of PP equipment and micro-irrigation sets to be supplied on subsidy to farmers for the year 2014-15. In a statement issued here on Wednesday, Mr. Dhangapur said it was unfortunate that the State government had not yet finalised rates of these equipment. Early availability of these equipment would have helped farmers whose crops were facing moisture stress due to deficient rainfall.

Record opium cultivation in Afghanistan

Opium poppy cultivation in Afghanistan reached a record high in 2014, a United Nations report revealed Wednesday, highlighting the failure of the multi-billion-dollar United States-led campaign to crack down on production of the lucrative crop. The total area under cultivation was about 224,000 hectares in 2014, a seven per cent increase on last year, according to the Afghanistan Opium Survey released by the United Nations Office on Drugs and Crime (UNODC). Just 74,000 hectares was being used to grow poppies in 2002, a year after the Taliban regime was toppled.

Despite a decade of costly U.S. and international counter-narcotics programmes, poppy farming has boomed in the south and west regions. Poppy farmers are often taxed by the Taliban, who use the cash to help fund their insurgency. Afghanistan produces about 80 per cent of the world's opium. The survey said that potential opium production was estimated at 6,400 tons in 2014, a rapid increase of 17 per cent from 2013. — AFP

Best App in Asia award to Hyderabad entrepreneur

The app helps coffee growers to get instant returns for their produce



Raghu Kanchustambham explains his application in Hyderabad on Wednesday.— Photo: G. Ramakrishna

The coffee farmers of Araku valley these days get instant returns for their produce. Gone are the days when they had to wait for nearly a month till the buyers completed the weighing process of the produce and release money through co-operative society. Thanks to a mobile application developed by Hyderabad-based entrepreneur, Raghu Kanchustambham, there is no waiting period.

The app dubbed as 'Livelihood 360 (L360)' was adjudged the Best App of Asia in the Telenor Digital Winners Conference, a global competition held in Oslo, Norway this month. The award came with a cash prize of Rs. 9,79,000, which will be utilised by the developer to further "scale up" the concept. It all started when Mr. Raghu, who has a start-up 'Concept Wave', met the officials of Naandi Foundation, which was already working with the coffee farmers of Araku valley. "The basic premise was to utilise technology and reach to those people not having access to technology and internet. I visited Araku valley and spent time with them and learnt a lot about their lifestyle and livelihood," he said.

Mr. Raghu said the previous system of remittance to coffee growers in Araku was taking about a month. The coffee growers would take their produce to a prescribed 'adda' where the truck drivers would collect and transport coffee beans to another location for weighing and valuing. "We gave the truck drivers an application that would quantify the yield and also determine the quality instantly. The drivers will immediately remit the amount on the spot to farmers," he explained.

Livelihood 360 is also capable of estimating quantity of the produce in the fields and sell the crop at fair price.

Easier norms for killing crop-raiding boars

Now, they can be shot sans Forest dept. nod

The government proposes to relax norms for killing wild boars raiding crops.

The Cabinet on Wednesday decided to amend the rules to allow farmers to shoot the boars with licensed guns or other weapons on cultivated land without prior permission. Earlier, the farmers had to get permission from the Forest Department.

The farmer will be required to leave the carcass of the boar with the forest officials and produce the weapon used for killing the boar for examination in the presence of independent witnesses. The Cabinet also decided to increase the maximum compensation payable for deaths caused by attack by wild animals from Rs.3 lakh to Rs.5 lakh.

Briefing the media on the Cabinet decisions, Minister for Rural Development and Planning K.C. Joseph said that farmers faced serious threats from wild animals in hilly areas. At some places, even children could not be sent to schools for fear of attack by wild animals.

- *Farmers should hand over carcass to forest officials*
- *They should produce weapon for examination*

Nano materials in cancer therapy

In spite of many advances in cancer treatment, one of the biggest challenges is to ensure that normal cells do not get damaged while destroying malignant tumours.

In the case of most therapies, either oral or intravenous, the drug gets distributed throughout the body. As a result, higher dosages are required, which makes the treatment expensive.

Targeted therapy

To overcome the problems faced in current treatment methods, scientists are trying to take advantage of the increased proliferation activity of cancer cells by adopting targeted therapy through the use of nano materials without causing much harm to a non-cancerous tissue.

In a collaborative venture, researchers from Centre for Cellular and Molecular Biology (CCMB) and Indian Institute of Chemical Technology (IICT) have synthesised iron oxide nanoparticles and attached a drug called photo-sensitiser and a peptide to provide targeted photodynamic therapy.

In this type of therapy, a photo-sensitiser is used along with a specific wavelength of light to kill cancer cells. On exposure to light, the photo-sensitiser releases free radicals that kill the cancer cells.

In laboratory studies, the scientists created a tumour in mice, injected the drug and shone light on the malignant tissue. They found that peptide-bound nano particles retarded the tumour growth significantly when compared with controls or treatments with nano particles without peptide.

The paper on the research was published in an international journal earlier this year. Lead author, Dr.N. Madhusudhan Rao termed the results of their studies as quite promising.

He said they were also looking at finding solutions to treat cancers that would not be accessible to light.

While photodynamic therapy would be useful in treating cancers of the skin, neck, head and mouth, they were trying to seek endoscopic treatment modalities for cancers of organs inside the body.

In view of the regulatory and toxicology issues involved in the use of gold nano particles, Dr. Rao said they started work on dendrimers (organic molecules).

It could be beneficial especially for treatment of eye cancers as also those of mouth and uterus. They would like to collaborate with other research institutes involved in treatment of eye diseases in this regard.

Role of El Nino in heat build-up in Indian Ocean



[The Hindu](#) The frequency and magnitude of El Ninos have increased in the recent decades. Photo: B. Jothi Ramalingam

The Indian Ocean has been warming at a rate faster than thought before (1.2 deg C during the past century). It is also the largest consistent contributor to the global ocean warming trends. Recent studies show that a warm Indian Ocean can in turn modulate the Pacific conditions including the El Nino events. So basically, such large warming over the Indian Ocean has implications on the global climate.

The western Indian Ocean, traditionally thought to have cooler sea surface temperatures (SSTs) than the central and eastern Indian Ocean, is surprisingly showing an even stronger summer warming trend over the whole of the 20th century than the central and eastern Indian Ocean. The warming is significantly so large that it may alter the monsoon circulation, monsoon rainfall over the ocean and land, marine food webs and fisheries (western Indian Ocean is one of the most productive oceans) and global climate including the El Nino.

A recent study focused on the causes for this warming and found that it was mainly due to El Nino events, which are getting stronger and more frequent during recent decades, possibly due to a changing climate. These El Nino events weaken the summer westerly (blowing from west to east) winds over the Indian Ocean. Winds have the effect of cooling the sea surface. Strong winds cause evaporation and loss of latent heat from the ocean leading to cooling. When the winds are weakened the opposite happens — the ocean warms.

The study published recently in the *Journal of Climate* was undertaken by Dr. Roxy Mathew Koll of the Indian Institute of Tropical Meteorology, Pune and co-authored by Ritika Kapoor, Pascal Terray and Sebastien Masson. This work is part of an Indo-French collaboration, carried out under the National Monsoon Mission set up by the Ministry of Earth Sciences.

The study found that the ocean atmospheric phenomenon — the El Nino, and its influence on the Walker Circulation were responsible for periodic weakening of monsoon westerlies and led to abnormally high summer sea surface temperatures in the western Indian Ocean. Walker Circulation represents the zonal (east-west) circulation over the tropics. In the Pacific, the trade winds blow from east to west. This is because of the low pressure in the west and high pressure in the east, which drives these winds. This is linked to the warm waters over the west Pacific and cool waters over the east Pacific. In the

upper atmosphere, this trade wind circulation is completed by winds blowing from west to east.

During summer, this Pacific cell is linked to the monsoon westerlies in the Indian Ocean. During an El Nino, due to warm waters in the east and cool waters in the west, the pressure systems also change, reversing (shifting) the Walker circulation. The wind direction reverses and the whole circulatory system shifts eastward leaving only weak surface westerlies in the western Indian Ocean. This results in ocean warming in the Western Indian Ocean.

A simultaneous correlation analysis between the eastern Pacific and global summer mean SST anomalies, after removing the global warming trends, depicts significant positive correlation over the western Indian Ocean. This indicates that ENSO dominates the western tropical Indian Ocean variability during summer.

“The frequency and magnitude of El Ninos have also increased in the recent decades, possibly due to global warming. This means a piling up of heat on the Indian Ocean,” notes Dr. Roxy Koll in an email. Unlike the Pacific or the Atlantic Oceans, the Indian Ocean is land-locked on the north. This means that the ocean circulation which carries the tropical heat towards the poles is restricted in the Indian Ocean, withholding the piled up heat.

When queried how Indian Ocean warming affects the El Nino, Dr. Koll noted: “Earlier studies have shown that enhanced tropical Indian Ocean warming in recent decades favours stronger trade winds in the western Pacific via the Walker circulation and hence is likely to suppress the El Nino events.” “The western Indian Ocean, due to its cool, nutrient rich waters, is abundant with marine phytoplankton and the fisheries thrive on it. Excessive warm waters can be detrimental to phytoplankton production which in turn affects the fisheries,” he notes.

|



Chennai - INDIA

Today's Weather

Tomorrow's Forecast

Rainy

Thursday, Nov 13

Friday, Nov 14

Max 28° | Min 24°
Cloudy

Max 28° | Min 23°

Rain: 0

Sunrise: 06:06

Humidity: 100

Sunset: 05:39

Wind: normal

Barometer: 1013

Extended Forecast for a week

Saturday
Nov 15

Sunday
Nov 16

Monday
Nov 17

Tuesday
Nov 18

Wednesday
Nov 19

29° | 23°
Cloudy

34° | 27°
Sunny

33° | 26°
Partly Cloudy

32° | 26°
Partly Cloudy

33° | 26°
Partly Cloudy

THE TIMES OF INDIA

Is your child diabetic?

Till about a decade ago, diabetes was known to affect only adults in their mid-30s. However, with changing lifestyles, it has become one of the most common lifestyle diseases affecting teenagers, between the age group of 12 to 18.

Known as juvenile diabetes as it occurs in children right from the age of 10, it is a growing concern among urban parents today, says lifestyle nutrition consultant, Tripti Gupta, adding, "Ten per cent cases of children and teenagers who are consulting me for obesity, sports nutrition, nutritional deficiencies, stunted growth and lack of stamina are also suffering from diabetes, which is getting increasingly common."

According to bariatric physician and obesity consultant Dr Kiran Rukadikar, research has shown that nearly one in four urban Indian teenagers aged 12-18 years is on the verge of developing diabetes. Here's an expert guide to help you and your kid cope with this lifestyle disease:

Check your kid's waistline: Obesity remains one of the main causes of this disease. While diabetes are of two kinds — Type I and Type II— more teens are prone to develop the former, which is insulin dependent. "But with bulging bellies in teenagers, the Type-2 diabetes (which was common only in adults) is now common in children and adolescents as well," says Dr Rukadikar. Adds Gupta, "Hereditary, hormonal imbalances and poor lifestyle are the leading causes of diabetes in young age. Lack of physical activity, over consumption of junk and processed food and imbalanced

nutrition cause fluctuation in the hormonal levels of growing children. As a result, the insulin levels go into an imbalance causing diabetes mellitus and other related diseases."

PCOD can trigger it off too: According to weight management expert Dr Amrapali Patil, PCOD (Polycystic Ovarian Disease), which is on the rise among girls can also lead to weight gain, increasing the risks of getting diabetes. "In those suffering from PCOD, other than the ovaries having cavernous fluid filled sacs, there is a co-existing insulin resistance and propensity towards developing full blown diabetes," cautions Dr Patil.

Early check up is a must: Unlike other diseases, this lifestyle disease is not easy to detect, especially at a young age. "A teenager might not show any outward symptoms. His/her diabetes gets detected accidentally during blood tests or when a physician suspects diabetes and gets such lab tests done," says Dr Patil. Adds Gupta, "It's difficult for a parent to suspect diabetes for their child, but it's important to watch out for symptoms like polyuria (frequent urination), polyphagia (excessive eating), polydipsia (excessive thirst), mood swings and irritability, itching of the genitals and sudden weight loss." Moreover, make it a habit to get a bi-annual full body check up for your kid, as soon as he/she enters the teens.

Help your kid deal with it: While diabetes is not a fatal disease, it is long term and can lead to a host of other problems where diabetic teens are more prone to heart ailments, high cholesterol, stroke, heart attack and a constant fatigue. Moreover, it can take a mental toll on your kid. "Once diagnosed, a child is more likely to be depressed, feel isolated and even embarrassed about this medical situation, worrying that their mates and friends might reject them/or exclude them from the group," says Dr Patil. In such a scenario, it is important for parents to first help their kid accept the problem and be supportive instead of blaming them. "Make your kid understand that

diabetes is not the end in life, and that it can be controlled by lifestyle modification," says Dr Rukadikar. If your child is genetically predisposed to diabetes, make sure that his/her friends know about this issue and they are aware of the symptoms of low sugar. "Ensure that your child drinks plenty of non-alcoholic fluids. Avoid risks by discouraging body piercings and tattoos. If these are indulged in, add foods like flax seeds, onion, garlic, methi, bitter gourd etc to your teen's diet," says Dr Patil.

Modify your lifestyle: Kids tend to follow their parents. So, it's important to change the lifestyle habits of the entire family. Says Gupta, "The first thing every parent needs to incorporate is enough activity and healthy eating habits among their kids. If your kid is very fond of junk food, ensure that he/she has it only once-a-week. Incorporate enough fibre and omega-3 in your kid's diet. This maintains the fat balance, which in turn controls the hormonal balance in an individual. Green leafy vegetables, fruits, nuts, cow's milk and healthy proteins should be a large part of the meal. Due to its high estrogen properties, soya can be given in moderation to growing boys. Drinking healthy cow's milk is another key factor for growing kids."

Watch out for these symptoms

1. Drinking a lot of water and being very thirsty
2. Frequent urination
3. Losing weight without trying to lose weight
4. Having sores or wounds which are slow and difficult to heal
5. Having itchy, dry skin
6. Having blurry eyesight
7. Feeling very tired and hungry
8. Tingling sensation in feet
9. Dark, thick or velvety rash on the neck

Things parents must ensure to do

1. Inculcate a habit of eating smaller portions among your kids; it should be based on the calorie requirement.
2. Include more vegetables and fruits, low fat dairy products, fish and poultry in your kid's diet.
3. Make physical activity compulsory for your kid. You can set an example by exercising yourself.
4. Reduce stress and parental pressure.
5. Encourage healthy sleeping habits.
6. Avoid giving high calorie foods like sweets to your kid as a way of showing love and affection.
7. Monitor your kid's health by encouraging half yearly and yearly hospital visits. Monitoring vital organs like eyes, kidneys etc on a regular basis is a must.

Control your kid's sugar

If your kid is diagnosed with high blood sugar, avoid any extra sugar in their diet. While adults often opt for sugar-free foods, they are a strict no-no for kids, say experts. "Flavour the food with lime juice and black salt. Include curds, paneer and fresh fruit in the diet. Honey, dates, jaggery and brown sugar are eventually high in sugar content, so do not use them as substitutes for white sugar. You can satisfy your child's sugar cravings by giving black raisins. While it may be impossible to restrict your teenager totally from a birthday cake or an occasional cola, help him/her balance by indulging in sport or substantial physical activity," says Gupta.

Why thinking skills go down with age

If your grandparents take a long to recognise known faces from a fleeting glance, that may well signal their declining intelligence. The slowing of simple, visual decision-making processes might be

part of what underlies decline in the complex decision making that we recognise as general intelligence, says a study.

As the basic ability to make correct decisions based on brief visual impressions declines with age, so does intelligence, said Stuart Ritchie from University of Edinburgh in Britain.

"The typical person who has better-preserved complex thinking skills in older age tends to be someone who can accumulate information quickly from a fleeting glance," Ritchie added.

The evidence comes from experiments in which researchers showed 600 healthy older people very brief flashes of one of two shapes on a screen and measured the time it took each of them to reliably tell one from the other.

Participants repeated the test at ages 70, 73, and 76. The longitudinal study is among the first to test the hypothesis that the changes they observed in the measure known as "inspection time" might be related to changes in intelligence in old age.

"Since the declines are so strongly related, it might be easier under some circumstances to use inspection time to chart a participant's cognitive decline than it would be to sit them down and give them a full, complicated battery of IQ tests," Ritchie noted.

The study appeared in the journal *Current Biology*.

Foods to eat for healthy skin

If you want the perfect skin, you don't necessarily have to go out and hunt for expensive products, there are some miracle workers lying in your kitchen cupboard itself. Here are a few

Carrots: Because of its rich Vitamin A content, carrots are the

perfect food to munch on for that beautiful, glowing skin.

Salmon: If you suffer from acne and are looking for some way of making your skin smooth and blemish free, try some salmon.

Oranges: Oranges are rich in Vitamin C and can leave your skin feeling refreshed and rejuvenated. They also prevent wrinkles.

Yogurt: Yogurt is not only refreshing but an essential food to add to your diet if you want that glowing, flawless skin.

Spinach: Spinach is rich in antioxidants and can give you blemish-free and happy skin. It is also rich in several nutrients including iron, fiber and protein.

Celery: This helps immensely in reducing high blood pressure and keeping a regular blood circulation, thereby reducing stress that as a result gives you good skin.

Papaya: This fruit is not only low on calories but also has several nutritional benefits. Many beauty experts will advise you to use papaya as a facemask as well.

9 foods men need to eat

While many men are less conscious about what they eat, experts say that at times, eating healthy can mean different things for men and women because both sexes have their own set of dietary requirements.

Tomatoes

Tomatoes are also known as superfoods because of their numerous benefits. Tomatoes contain lycopene, which, studies say help reduce

the risk of colorectal cancer, prostate cancer, heart disease and lower cholesterol — all common ailments in men.

Oysters

Oysters have high levels of zinc — essential for men's fertility and sexual health. Zinc maintains healthy testosterone levels and is excellent for healthy sperm production. It is also great for the hair.

Whole grains

Whole grains contain healthy levels of vitamins, minerals and fibre. Whole grains like oats and brown rice have healthy amounts of B vitamins, good for over-all well-being and they also help alleviate depression. Studies also say that folate can keep sperm healthy, while biotin helps curb hair loss.

Garlic

While garlic is known for the role it plays in protecting the heart, it is said that men who consume garlic regularly have lower cholesterol levels.

Salmon

Not only is salmon a great source of protein, it is also a good source of omega-3 fatty acids, which have been linked to lowered levels of bad cholesterol. They also reduce the risk of heart disease, colorectal cancer, prostate cancer and depression.

Blueberries

Experts say that blueberries have high levels of proanthocyanidins, which are linked to a reduced risk of prostate cancer. Blueberries are also said to be effective in reducing the risk of heart disease, Type 2 Diabetes and age-related memory loss.

Broccoli

Broccoli, as well as cabbage and sprouts, contains a strong cancer-fighting chemical called sulphoraphane, which is said to reduce men's

risk of developing bladder cancer, prostate cancer and colorectal cancer.

Eggs

Suffering from hair loss? Make sure you include eggs in your diet. Eggs have high sources of protein, important for hair growth. The yolk is also a good source of iron.

Pomegranate juice

Pomegranate juice helps lower cholesterol levels and prevent hypertension because it is packed with vitamins, antioxidants and minerals. Some studies have also suggested that having pomegranate juice daily can slow down the progress of prostate cancer.

DECCAN Chronicle

[Andhra Pradesh farmers to get 200 sq. yards more](#)



The offer of 1,000 square yard plot per acre had failed to woo several sections of farmers and the land package needed to be made more attractive by including parcels of commercial plots. (Photo: DC/File)

Hyderabad: Farmers will get 200 square yard of land in the “commercial zone” of the new Andhra Pradesh capital in addition to the 1,000 square yard residential plots they are being offered for every acre they surrender.

Sources said Chief Minister Chandrababu Naidu is under tremendous pressure from party MLAs and ministers to increase the offer from 1,000 square yard to 1,200 square yard per acre, and that the enhanced 200 square yard plot should be given in the “commercial zone” of the city.

The ministers reportedly told Mr Naidu that the offer of 1,000 square yard plot per acre had failed to woo several sections of farmers and the land package needed to be made more attractive by including parcels of commercial plots. Mr Naidu is likely to announce the decision during his interaction with farmers in the capital city region after his return from Singapore.

Sources told this correspondent that though Mr Naidu was given feedback by the MLAs and ministers that a large number of farmers were seeking Rs 2 lakh cash as a one-time settlement of their debts in addition to all the sops announced by the government, no decision has been taken in this regard as the cost would escalate manifold since there are 21,000 farmers or land owners in the 17 villages of the proposed capital city region.

“It will cost over Rs 400 crore if Rs 2 lakh is given to each farmer,” sources said.

Mr Naidu was also advised to impose a ban on meetings in the capital region keeping in view the opposition parties politicising the capital issue and instigating the farmers against the land pooling system. He, however, did not react to it immediately, sources said.

The CM, meanwhile, has asked partymen to explain to farmers regarding the sops being offered by the government like, farmers having lands at different places will have the choice of getting developed plot at one place.

Business Standard

Govt orders Cotton Corp to buy produce, check price fall

As [cotton](#) prices dropped below the minimum support price fixed by the Centre, the government on Wednesday directed the [Cotton Corporation](#) of India to increase its purchase from the major producers, including Gujarat and Maharashtra.

The prices have fallen due to an expected bumper harvest.

The two states — Gujarat and Maharashtra — account for almost 80 per cent of the total cotton produced in the country.

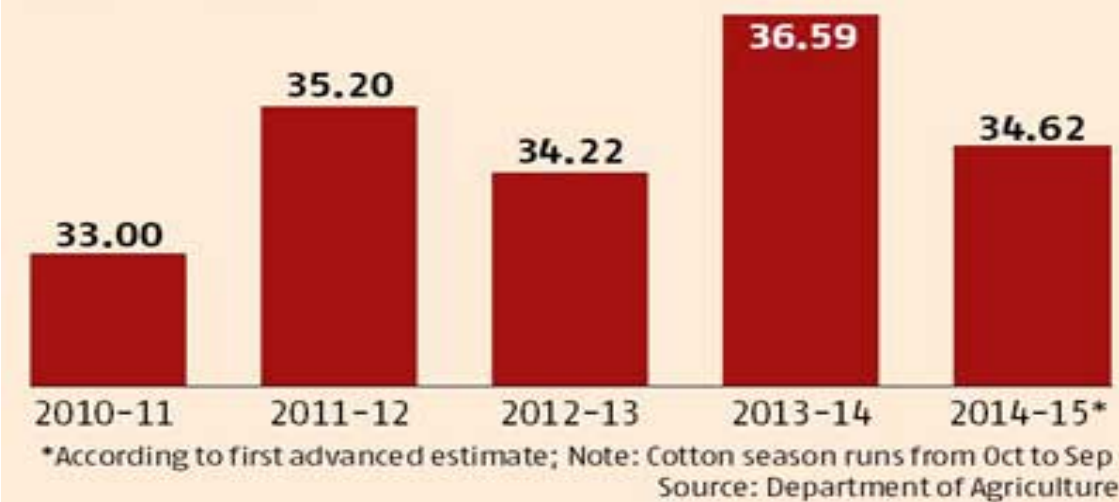
“The CCI has been asked to step up its procurement operation by opening more centres wherever necessary,” Textiles Minister Santosh Gangwar told reporters after a meeting with the [Agriculture](#) Minister Radha Mohan Singh. The cotton season runs from October to September.

Commerce Minister Nirmala Sitharaman, too, participated in the meeting. The CCI has so far purchased around 2,50,000 bales of cotton (1 bale = 170 kg) in the current season, mainly from the southern states.

The central government has fixed a minimum support price (MSP) of Rs 3,750 per quintal for medium staple cotton and Rs 4,050 per quintal for long staple cotton for the 2014-15 season. However, due to expected bumper harvest, prices have dropped below these levels in many places across the country. The CCI’s aggressive intervention will prevent distress sale by farmers.

COTTON PRODUCTION

(in million bales)



“The CCI has been instructed to open more centres and collect cotton from the farmers’ doorsteps,” another official said.

Prices have also slumped below the MSP in many places because of weak global markets, which has stopped exports.

As per government first advanced estimate for 2014-15 season, cotton production in India is expected to be around 34.62 million bales, down from 36.5 million bales last year.

However, the estimates seem to be on the conservative side as late rains pushed up harvest. The estimates were released in September.

According to the CCI, production in India in 2014-15 is expected to be around 40 million bales, while the opening stock for the season is expected to be around 6 million bales making a total supply during the season of around 46 million bales.

However, domestic consumption is estimated at 30 million bales, making a surplus of around 1.7 million bales. A weak export market has made absorption of this surplus difficult.

Planters see lower crop than estimated by Coffee Board for 2014-15

The Coffee Board has projected a record crop at 344,500 tonnes as against the planters' estimate of 300,000 tonnes for 2014-15

Even as [Coffee](#) Board has projected a record bean production of 344,750 tonnes for 2014-15 (post-blossom estimates), a growth of 13 per cent over the previous year, planters from across the country's largest producing state do not agree with the Board. Planters peg the production to remain flat this year at 300,000 tonnes for the year.

Harvesting for the new [Arabica](#) crop has just begun at a few places in Karnataka, which accounts for 70 per cent of national output. The reason for stagnation in bean production is attributed to rampant attack of white stem borer (WSB) pest across Arabica growing regions in Karnataka.

[Coffee Board](#) is yet to announce their post-monsoon estimates for this year.

According to planters, the pest attack is so severe that many estates have resorted to uprooting of Arabica trees to avoid further spread of the borer.

“There has been a severe incidence of WSB pest in Arabica Plantations in Chikkamagalur, Hassan and Kodagu districts,” Karnataka Planters’ Association (KPA) Chairman D Govindappa Jayaram said.

The severe attack is due to continuous dry weather from October 2013 to April 2014 and high temperature touching as high as 38 degrees Celsius during April-May has spoiled Arabica prospects, he said.

Blossom rains were also delayed until the first week of April, which helped the pest to get active and spread across plantations.

“The KPA more or less agrees with Coffee Board as far as Robusta production, estimated at 239,000 tonnes. But, we do not agree with the Board over Arabica output, which is pegged by them at 105,500 tonnes. I think, it will hardly reach 60,000 tonnes for the year,” Jayaram told Business Standard.

He said another reason for low production is due to lower productivity in the country. India's combined productivity (Arabica and Robusta) is 809 kg per hectare during 2013-14 with 580 kg a hectare of Arabica and 1,011 kg of Robusta. Whereas, Vietnam and Brazil are way ahead of India with Robusta productivity of 2,188 kg per hectare and Arabica productivity of 1,257 kg per hectare, respectively.

“We have to seriously increase our productivity for coffee plantations to be sustainable and remain viable,” he added.

While higher crop in India will not have any bearing on the global coffee prices, the domestic prices are currently ruling in the higher range. This is mainly due to lower crop in Brazil, the world's largest producer. Brazil's Arabica output is forecast to drop a second consecutive year to 33.1 million bags (each bag is 60 kgs), breaking the biennial cycle for the first time in over two decades with a harvest 21% lower than the last "On-year".

The farm gate prices of Arabica parchment are currently ruling at 11,000 per bag (each bag is 50 kgs), about 37% higher than last year.

Price fall fear prompts oilmeal forward sales

Anticipating a further fall in oilmeal prices, crushing units have started selling to foreign buyers via forward contracts, for delivery after December. By then, they believe, there would be a sharp jump in seed availability following the kharif crop harvest.

Data compiled by the apex trade body, The Solvent Extractors' Association (SEA) of India, showed the average price of [soybean](#) meal was down 20 per cent to \$569 a tonne in September from \$710 a tonne in May. The average price of rapeseed fell nine per cent to \$237 a tonne in September from \$261 a tonne in May.

This is a positive indication for oilmeal exporters, as they have been booking at today's prices for delivery of meal in future. Through this, crushing units would be able to compensate part of their loss from edible oil sales. Iran, the Gulf countries, East Asia and European countries are the major buyers of Indian oilmeal, for use as bird feed and animal feed.

"Oilmeal exporters have intensified selling in forward contracts for delivery after December, as they feel prices would decline further due to bumper soybean crops in the United States and other major producing regions," said Anil Agrawal, Director, Sanwaria Agro Oils.

Oilmeal export fell 43 per cent to 0.95 million tonnes (mt) in April-September, compared to 1.66 mt in the corresponding period last year. The prime reason was a plunge in export of soybean meal, by 87 per cent to 111,027 tonnes as against 873,481 tonnes in the same period last year. Rapeseed meal export had jumped to 572,000 tonnes from 418,000 tonnes. B V Mehta, executive director of SEA, said the soybean crop was less than expected and this resulted in its high cost in local markets. "This led to total disparity for soybean meal in the international markets."

The [Food and Agricultural Organization](#) of the United Nations has forecast a bumper oilseed harvest globally, on favourable climatic conditions. The past two seasons' also had record harvests and global production is tentatively forecast to expand by another five per cent in 2014-15, possibly topping 535 million tonnes.

The increase would be almost entirely on account of soybean. With a current forecast of 311 mt, global production would outstrip the previous season's result by 10 per cent.

"Preliminary forecasts for 2014-15 suggest a further improvement in the global supply and demand balance. For meals-cakes, a sizable surplus in supplies could push global inventories to historical highs. This, along with likely improvements in stock-to-use ratios, suggests considerable scope for international meal prices to soften further. In addition, further downward pressure could arise from abundant global supplies of feedgrain," FAO said in its latest report.

THE HINDU BusinessLine

Bay 'low' fails to gather strength



Thiruvananthapuram, November 12:

A persisting low-pressure area over the central Bay of Bengal has failed to rustle up strength and moved in to the southwest Bay closer to the Sri Lanka-Tamil Nadu coast.

A 'chilled-out' sea surface after a predecessor rained it out during an extended stay over the central and southwest Bay last weekend had put paid to any hopes of the incumbent gaining much strength.

The core of the system is approaching south Tamil Nadu and Sri Lanka and could generate rain over the coast and progressively into adjoining interior peninsula over the next couple of days.

In this manner, rains will grow into south coastal Andhra Pradesh and Kerala apart from coastal, north and south interior Karnataka, an India Met Department update said.

Meanwhile, international weather models agree a rain-maker Madden-Julian Oscillation (MJO) wave may strengthen over Africa and move slowly eastwards over the Indian Ocean in the next two weeks.

The MJO wave travels periodically from west to east from the western hemisphere into Africa before entering the Indian Ocean and progressively into the Pacific.

Fresh MJO wave

The wave travels high in the atmosphere but exerts major influence over cloud formation at the ground level as it traverses over the region.

It sets up low-pressure areas, depressions and even cyclones and has also been associated with the onset of the monsoons. It has a dry phase with exactly the opposite effect at the ground level.

According to the Australian Bureau of Meteorology, there is some variation in how fast the MJO is likely to move across the Indian Ocean.

Some models say it would enter the Maritime Continent (the Indonesian archipelago et al) by the end of the fortnight.

Outlook for Bay

Not surprisingly, the US National Centres for Environmental Prediction sees possibility of some action being triggered in the Bay of Bengal between November 20 and 28. This would be of crucial interest for Tamil Nadu, parts of which are still suffering from a rain deficit during the North-East monsoon till date.

Heavy arrivals grind turmeric

Erode, November 12: Spot turmeric prices in Erode markets decreased due to higher arrivals on Wednesday.

“Local traders received some upcountry demand and were ready to buy quality produce. On Wednesday, only medium variety turmeric arrived.

Further, arrival increased to 5,400 bags. So traders quoted lower price.

Even the hybrid finger turmeric was down by Rs. 500 a quintal, while the hybrid root variety was up Rs. 200,” said RKV Ravishankar, President, Erode Turmeric Merchants Association.

He said the current year season is nearing completion and so the farmers wanted to reduce their stock, brought huge stock.

The price of the turmeric in other stations is slightly higher than Erode price, so all the traders are buying the turmeric here.

Because of this 60 per cent bags were sold.

At the Erode Turmeric Merchants Association sales yard, the finger turmeric was sold at Rs. 3,202-6,594 a quintal; the root variety Rs. 3,199-6,019. Salem Hybrid: The finger variety was sold at Rs. 5,694-7,300 and the root variety Rs. 5,471-6,319.

Of the 1,402 bags that arrived, 297 were sold.

At the Regulated Market Committee, the finger turmeric went for Rs. 5,604-6,909; the root variety Rs. 5,477-6,269 a quintal.

Of the arrival of 935 bags on offer, 687 were traded.

At the Erode Cooperative Marketing Society, the finger turmeric ruled at Rs. 5,519-6,899; the root variety Rs. 5,396-6,239 a quintal. Of the 867 bags put up for sale, 822 found takers.

Volume rises at Coonoor tea sale

Coonoor, November 12: A volume of 18.33 lakh kg is being offered for Sale No: 46 at Coonoor Tea Trade Association auction to be held on Thursday and Friday. This is nearly 96,000 kg more than last week's offer.

Of this, a volume of 12.34 lakh kg belongs to the leaf grades and 5.99 lakh kg to the dust grades. As much as 17.15 lakh kg belongs to CTC variety and only 1.18 lakh kg orthodox variety.

With substantial volumes remaining unsold in previous auctions, as much as 3.83 lakh kg of such teas are being re-offered this week.

In the Leaf auction last week, Hindustan Unilever Ltd bought good medium varieties. Duncans Tea Ltd showed some interest on good medium bolder Broken. Godfrey Philips India was selective on medium Broken and Fannings. In the Dust auction, HUL was selective on good medium smaller grades. Indcoserve was selective on good medium and medium smaller grades.

Karnataka planters peg coffee output flat at 3 lakh tonnes

Low Arabica output to cap limit the crop at last year's levels



Bangalore November 12:

Coffee production for the current season that began in October is likely to remain at last year's level of around three lakh tonnes, on lower production of Arabicas, a growers' body said.

"The Robusta crop is slightly bigger than last year, but a lower Arabica crop would keep the total size at last year's levels," said D Govindappa Jayaram, Chairman of the Karnataka Planters Association, ahead of the annual meet of the growers body.

"We expect the Arabica crop size to shrink to between 60,000 and 70,000 tonnes, while Robusta would be largely in line with the Coffee Board's post-blossom estimate of 2.39 lakh tonnes," he said. Jayaram attributed the decline in Arabicas to high incidence of white stem borer and berry droppings caused by excess rainfall, mainly in

key growing areas of Kodagu, Hassan and Chikmagalur. The 2014-15 is an off-year of the biennial production cycle for Arabicas, wherein output drops every alternate year.

Further, the output of this mild and premium variety is also expected to suffer on account of diseases such as leaf rot and stalk rot that were caused by excess continuous precipitation, Jayaram said. In its post-blossom estimates, the State-run Coffee Board had pegged the 2014-15 crop higher at 3.44 lakh tonnes comprising 1.05 lakh tonnes of Arabicas and 2.39 lakh tonnes of Robustas. The Board is yet to come out with its post-monsoon forecast for the 2014-15 season.

According to the Board's final estimates for 2013-14, coffee output was 3.045 lakh tonnes, comprising 1.02 lakh tonnes of Arabicas and 2.023 lakh tonnes of Robustas. Karnataka accounts for about two-thirds of the coffee produced in the country and the KPA is the apex growers' body in the State.

The fly-picking or the plucking of early ripened berries of the arabica variety has already commenced in parts of Kodagu and the full scale harvest is set to commence early December. Further, Govindappa said the domestic coffee plantations have to increase productivity to be sustainable and remain viable as other large producers such as Brazil and Vietnam were way ahead of India on this count.

The KPA chief opined that a subsidy for creation of estate brands will increase the visibility of Indian coffee.

Vietnam pepper enters India through Nepal, says Upasi

Bangalore, November 12: After Guatemalan cardamom, it now seems to be the turn of black pepper from Vietnam and Indonesia to find its way into the Indian market through the Nepal route.

According to the United Planters Association of Southern India (Upasi), clandestine imports of pepper through the Nepal route is hurting domestic growers.

“Pepper meant for Nepal from Vietnam and Indonesia, is finding its way into the Indian market in transit,” alleged Vijayan Rajes, Chairman, Upasi.

The land-locked Nepal imports pepper through the nearest port of Kolkata. The imported pepper, in transit, from Kolkata to Nepal by road find its way into the Indian market, Rajes told reporters ahead of the annual Upasi-Karnataka Planters Association coffee conference.

While such clandestine imports have been happening over the past two years, there’s hardly any estimate of the sale of such pepper in the domestic market, Rajes said. The Ministry of Commerce has recently asked the Directorate General of Foreign Trade to look into the issue, he added. Pepper imported into India from the South-East Asian countries attracts a duty of 60 per cent duty. From Sri Lanka, the import of 2,500 tonnes annually does not attract any duty. Subsequent imports from Sri Lanka attract a duty of around 8 per cent.

The domestic pepper output has declined by about 20 per cent in the past two years. From around 55,000 tonnes in 2012-13, pepper output has declined to 45,000 tonnes in 2013-14, Rajes said. The average price of pepper, which ruled at Rs. 448.29/kg in 2013-14 is ruling at Rs. 707.28 in the current financial year. The Spices Board has pegged the 2014-15 output at around 70,000 tonnes.

GK Nair adds from Kochi: Pepper prices ruled steady on Wednesday on matching demand and supply. Re-processors were buying at Rs. 712-715 a kg. Original Rajkumari pepper was being offered at Rs.727 a kg while other High Range pepper material was being traded at Rs. 725-723, they said.

Spot prices remained unchanged at Rs. 70,300 (ungarbled) and Rs. 73,300 (garbled) a quintal. Export prices were at \$12,500 a tonne c&f for Europe and \$12,750 for the US.

The Statesman

USA and china clinch climate change deal

Beijing, 12 November: The world's top carbon emitters, the USA and China, today reached a groundbreaking deal on climate change calling for an ambitious action to limit greenhouse gases, in a move that could lead to India de-linking itself from China at future global climate negotiations.

In a major breakthrough, Chinese President Xi Jinping and his US counterpart Barack Obama, announced respective post-2020 goals of coping with climate change after a comprehensive round of talks here.

Under the agreement, the USA intends to achieve an economy-wide target of reducing its emissions by 26 - 28 per cent below its 2005 level in 2025 and to make best efforts to reduce its emissions by 28 per cent. China intends to achieve the peaking of CO2 emissions around 2030.

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Under the agreement, the USA intends to achieve an economy-wide target of reducing its emissions by 26-28 per cent below its 2005 level in 2025 and to make best efforts to reduce its emissions by 28 per cent, a joint statement issued at the end of the talks here said.

For its part, China intends to achieve the peaking of CO2 emissions around 2030 and to make best efforts to peak early and intends to increase the share of non-fossil fuels in primary energy consumption to around 20 per cent by 2030, it said.

This is the first time China has agreed to peak its CO2 emissions, US officials said.

The surprise agreement between the top two biggest emitters of greenhouse gases came amid a debate in Indian official circles about the need for India to de-hyphenate itself from its long association with China on climate issues.

According to a 2012 survey, the biggest contributors to fossil fuel emissions included China 27 per cent, US 14 per cent, the European Union 10 per cent, and India 6 per cent.

New Railway Minister and India's "sherpa" for the G20 summit, Suresh Prabhu has called for India and China to go their own ways on climate issues as India's near-complete alignment with China at global climate talks has been hurting New Delhi's interests.

In a recent media interaction, Prabhu had argued that while India and China may have some similarities in terms of social indicators China is way ahead of India.

Also India's greenhouse emissions are far lower than that of China, he said.

ndia at present is part of the BASIC group in the climate change negotiations. Its other members included China, South Africa and Brazil. Commenting on Prabhu's comments, Environment Minister Prakash Javadekar said his ministry will articulate a stand and this matter would be discussed in the next two weeks before the climate talks to be held in Lima in December.

Electronic 'e-tongue' to check quality of food

Washington, 13 November: Scientists have developed a new inexpensive and highly sensitive electronic 'tongue' that could sample food and drinks as a quality check before they hit the stores.

The electronic 'tongue' could also monitor water for pollutants or test blood for signs of disease, researchers said.

Researcher S V Litvinenko and colleagues explain in the American Chemical Society's journal Applied Materials and Interfaces that an electronic tongue is an analytical instrument that mimics how people and other mammals distinguish tastes.

Tiny sensors detect substances in a sample and send signals to a computer for processing just as taste buds sense and transmit flavour messages to the brain.

The food and beverage industry and others have started deploying electronic tongues for a range of purposes from authenticating Thai food to measuring beer quality.

But existing devices are limited in how they can be used.

Litvinenko's team decided to make an improved instrument that could have applications in medical diagnostics, pharmaceutical testing and environmental monitoring, as well as food testing.

The researchers developed a low-cost and environmentally friendly "e-tongue" with a silicon base that could be easily incorporated into existing electronic systems of the same material.

When they tested it with Armagnac, cognac, whiskey and water, they were able to establish precise signatures for each.

They conclude that their work serves as a first step towards a novel tasting instrument with potentially diverse applications.