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THE HINDU

Nature's sweetening agent

Satisfy your sweet tooth with sugarcane



When we think sugarcane, we invariably think sugar and when we think sugar we think, “Oh! So unhealthy!” Yet, this is not the whole story of sugarcane, a plant that belongs to the grass family and is native to South and South-East Asia. Did you know that the process of making sugar from sugarcane was invented in India in 800 BC? Let us now see the various ways in which sugarcane was or is used here and what are its benefits. Sugarcane juice seems to have been part of our food culture for several centuries, and rightfully so, packed as it is with the goodness of calcium, chromium, cobalt, copper, magnesium, manganese, phosphorus, potassium and zinc as well as several vitamins, iron and folates. It is also a good source of the skin-friendly alpha hydroxy and glycolic acids. Its cooling property, combined

with its high mineral content, makes it an ideal drink for the scorching summer months, especially as *juicewallahs* add salt, ginger and lemon to it, upping both its nutrition and taste quotients. It is a very effective home remedy for jaundice. Diluted with coconut water, it is known to relieve pain caused by urinary tract infection. Its highly alkaline nature helps combat acidity while also being beneficial to cancer patients. What is surprisingly amazing is its low glycemic index despite its high sugar content.

It is the juice that is boiled and processed in *kohlus* to be made into *gur*, a highly valuable product of sugarcane. *Gur*, known as jaggery in English, is brown in colour since it internalises all the beneficial elements of the sugarcane; therefore its dark colour is a sign of its goodness. Just consider that 1 teaspoon of *gur* contains 4 to 5 mg calcium, 48 mg potassium, 8 mg magnesium, 2-3 mg phosphorus, 0.5 mg iron and traces of copper, zinc as well as B vitamins and niacin.

Gur is recommended to those who suffer from asthma, joint pain or acidity. As a home remedy, often people have a piece of *gur* after meals to counter acidity and help digestion. Given its iron content, *gur* is also indicated in cases of anaemia. To purify blood and inhibit acne and pimples, do bite into a piece of jaggery. These apart, those suffering from menstrual pain can also find relief by consuming *gur*. Given that its carbohydrate content is highly complex, it releases energy very gradually into the body and since it does not alter the blood sugar level, it is considered diabetic friendly.

From sugarcane we obtain several other products through artisanal processing; these include *boora* or molasses, which is the syrup obtained after the sugar has been extracted from the juice and sugarcane vinegar. It is quite evident, if we look at traditional knowledge systems, that artisanal sugarcane products are not culprits. We should avoid industrially processed white sugar and adopt the artisanal sugars, such as *gur*, which have great culinary uses in Indian cuisine.

A delicious *gur ki roti* can be made by dissolving jaggery in milk over low heat and kneading the *atta* with the mixture; for added health benefits, add a few fennel seeds to the dough and cook the *rotis* in pure ghee or virgin

coconut oil. When making *halvas* , substitute the sugar with *gur* for an extra caramelised taste. *You can also make gur ki chawal; use it in your tea or coffee to savour its complex sweetness . And don't forget the nightcap of milk, turmeric, cardamom and gur.*

As we end this sugarcane journey, let us turn our minds to the UP sugarcane farmers, some of whom have committed suicide under the stress of not being paid their dues for the sugarcane sold in 2013-14. We can bring back sweetness to their lives by ensuring their livelihood through our choices. Say no to industrial white sugar and yes to the healthier artisanal sugars.

UNEP report points to huge gaps in funding and technology

The first Adaptation Gap Report by the United Nations Environment Programme (UNEP) released on Friday morning here, says that even with emissions cuts, climate change adaptation costs are likely to hit two to three times the current estimates of \$70-100 Billion per year by 2050.

The report says that failure to cut emissions will dramatically increase costs and new finance is required to avoid a significant funding shortfall after 2020. Anne Olhoff, lead author of the report said that 29 experts from 19 leading institutions reviewed data for the report and it primarily looks at gaps associated with long term global goals of adaptation. The Green Climate Fund could play a central role in bridging the future adaptation funding gap, she said. The technology gap spans across all sectors but are large in water and agriculture.

Dr Saleemul Huq, member of the steering committee, said the easier part in the adaptation goal was the money part. The more difficult part is empowering the most vulnerable communities and make positive contributions. Adaptation funding needs are increasing rapidly and the issue of knowledge and adaptive capacity building is not just about money. Vulnerable communities are doing things on their own, he said.

The adaptation funding gap can be defined and measured as the difference between the costs of meeting a given adaptation target and the amount of finance available to do so. The report comes at a time when countries in Lima are demanding an increasing focus on adaptation and funding and calling for an adaptation goal globally.

The report finds that, despite adaptation funding by public sources reaching \$23-26 billion in 2012-2013, there will be a significant funding gap after 2020 unless new and additional finance for adaptation becomes available. Without further action on cutting greenhouse gas emissions, the cost of adaptation will increase even further as wider and more expensive action is needed to protect communities from the intensifying impacts of climate change such as drought, floods and rising sea levels.

The fifth assessment Report of the Intergovernmental Panel On Climate Change (IPCC) says that existing global estimates of the costs of adaptation in developing countries range between \$ 70 billion and \$ 100 billion a year globally by 2050. The report focuses on developing countries where adaptation needs are expected to be the highest and adaptive capacity is often the lowest. On the positive side the report notes that the amount of public finance committed to activities with explicit adaptation objectives ranged between USD 23 to USD 26 billion in 2012-13 of which 90 per cent was invested in developed countries.

The report points to a number of areas for action and future analysis.

‘Edible’ terraces

In pursuit of organic food, city residents are growing vegetables on open terraces. By M.A. Siraj

People looking for their own green spaces in our concrete jungles are opting for terrace gardening in a big way. And this is not confined merely to ornamental plants for visual pleasure and aesthetic appeal. Good many people are eyeing them for fresh, home-grown vegetables and additives such

as cilantro, mint leaves, fenugreek leaves (methi) et al. Some people even find the gardening on terrace, balcony or the front yard an avenue to de-stress themselves. Some get initiated into home gardening merely for a pastime, but discover the joy of plucking self-grown vegetables irresistible very soon. Besides, they find in it a good learning experience for the tiny-tots at home who have little exposure to village life and farming and who remain unaware of the care and toil it involves.

The urban farming is inspired by the maxim “Eat what you grow, and grow what you eat.” People who are increasingly getting conscious of fertilizer and pesticidal residues in food grown in farms are taking up home farming. Conscious of the fact that while staples such as rice, wheat and pulses cannot be grown in-house, they are keen to see that at least their daily vegetables remain uncontaminated by chemically extracted fertilizers. It has thus spawned a movement for organic farming under the careful gaze of householders.

Order a terrace garden

With home gardening gaining momentum, a host of solution providers have sprung up in the field helping the urban farmers with a variety of tools and clues. Since gardening on terrace or in balconies is not what it is in open farms, wheelbarrows, pickaxes or sprinkling system are certainly not the choice among tools. Even mud pots that are heavy and breakable, though environment-friendly, are out. Plastic ‘growbags’ have replaced them. Made of thick plastic sheets, they are cheaper, can withstand sunlight, will last for four years and are said to be easily recyclable.

Jagdish Sen, of ‘My Dream Garden’, who has so far created over 100 terrace gardens in Bengaluru covering an area of nearly 20,000 sq. ft., says: “My clients are able to grow tomato, brinjal, pumpkin, palak, cucumber, chillies, lettuce, cauliflower and all other seasonal vegetables. The growbags filled with soil can stand erect and are easy to shift and retain moisture for long.” My Dream Garden has conducted nearly 150 workshops in various localities and schools to train housewives and children in vegetable growing.

Enthused by the farming activity in urban areas, Multiplex Group, an

agricultural company which has been promoting several products to help farmers since 1972, floated a new wing called Multiplex Urban Green India 18 months ago. Urban Green has packaged its products under 'Krushi kit' which carries seeds for 10 different varieties of vegetables, soil sterilizer, root growth promoter, bio-organic manure, spray bottle, bio-pest controller etc. According to Ashwini Bhat, Assistant Manager for Projects, the company has 500 customers in Bengaluru and provides consultancy. The kit carries implements for terrace gardening such as dropper, gloves, and spray guns.

Hanging Garden Orchids

While homes have been opting for vegetable gardens, companies in the Garden City have been going for flowers for their terraces.

Hanging Garden Orchids, which specialises in orchid gardens alone, has installed vertical gardens in the headquarters of several companies in Bengaluru. M. Vinay, Partner of the company, says it has so far installed over 1,000 vertical gardens in Bengaluru, Hyderabad and Mumbai. The largest project so far handled measured 30 ft. in width and 14 ft. in height. The standing gardens come with a fogging irrigation system which operates in sync with a timer. He says Bengaluru has the most suitable climate for such gardens as the sun is never harsh and the atmosphere has high moisture.

Vedic organics

Oncrop Agro Sciences is yet another company into urban farming which carries certification for vedic organics from the Agricultural and Processed Food Export Development Authority (APEDA) under the Ministry of Agriculture.

According to Ganesan, Managing Director, Oncrop has developed eco-friendly pots made out of cocopeat which help in transplanting the saplings and themselves gradually degrading in the soil. Cocopeat is said to be an excellent soil conditioner and it can carry eight times more moisture than its volume and is a highly eco-friendly medium for plants to grow. Oncrop has laid out vegetable and flower gardens in at least 250 homes in the City.

The trend towards terrace garden is undoubtedly propelled by eco-consciousness and the desire for non-toxic food. No wonder that high-heeled women flock to the Krishi Melas and through the stalls offering products and services to impart a greener look to their terraces and balconies.

Curiously, several terrace garden enthusiasts have banded together in several forums in the City.

Last year, they even organised a ‘Oota from Thota’ (Food from Garden) festival in a park in Sadashivnagar.

Let’s be water sensitive

For too long have we ignored water bodies in a city’s life. Their role is utilitarian as well as aesthetic. By S. Vishwanath



Winter fast approaches the country but in the city built-up spaces make sure its impact is felt less. The early sunset however cannot be stalled by either global warming or the urban heat island effect.

Pollution, especially of the vehicular kind, seems to have one positive effect at least, it causes the sunsets to be spectacular. So it was at the lake one was

doing one's march and paying obeisance to good health. Suddenly the sun decided to bathe the waters in a golden glow as though setting fire to it. Then the colours changed to a beautiful shade of pink, the waters reflecting the colours with an added touch of their own.

The birds in the water were going about their territorial disputes oblivious to the great drama in the sky. Some of course were returning to the roost for the night stay.

The restoration of the tank, as the lake is called in this part of the country, has brought many benefits. The morning and evening walkers have found a place with fresh air for their lungs and a count for the steps they need to put in to keep diabetes at bay.

Serenity

The birds and myriad insects have found a wetland to call home. Islands provide a nest and breeding space and the waters provide food. Away from the noisy, busy city an island of peace and serenity has been created where young and old, rich and poor come to take a break from the monotony that is called urban life.

For too long have we ignored water and water bodies in a city's life. Yes the tanks had a role in the past to collect water and silt for agriculture. Now their role is redefined. One of them is to help citizens de-stress and allow them some moments of alignment with nature.

In another part of the city the tank was full of water. As citizens gathered to clean the surroundings from garbage, a weekly Sunday ritual, one saw more than a hundred pelicans swimming about the waters and dining on their favourite variety of fish. Painted storks, the little cormorant and the big one, the purple moor hen, the pond heron, the grebe, the duck et al were milling about the wetland portion of the tank, converting it to a veritable aviary.

An awe inducing sight in a city which has almost the same number of motor vehicles as persons.

Water in a city is much more than what flows in pipes. It is also about the entire cultural, social, ecological and recreational experience it can give. A water sensitive city will make sure that its water bodies are preserved and protected. The benefits flow functionally too and not merely aesthetically.

A school was busy digging an open well close to the tank so that it could get water to make its toilets clean.

Instead of only looking outwards a city should look inwards and protect the water resources it has and which is replenished annually by the rains. For this, harnessing the powers of citizens, communities, institutions and elected representatives is crucial. A water dialogue should begin in each community, only then will we become water sufficient and water wise.

Low-cost method to raise paddy on alkaline soil



The alkaline nature of the soil in Kumalur region poses considerable challenge to farmers in raising crops, particularly paddy.

To tide over the problem, the Agricultural Engineering College and Research Institute at Kumulur has developed a new technique for removing the excess salt from the soil, to facilitate the growth of paddy.

“The institute has evolved a low-cost method through pre and post-planting strategy,” said K.Ramaswamy, dean of the institute, who has raised ADT-39 variety of paddy on one acre of sodic soil.

“This is the first time that paddy is being cultivated on sodic soil in the region, and we hope to get an yield of six tonnes an acre,” he said. In the pre-planting period, *dhaincha* , a leguminous shrub, is spread over the field before ploughing.

Perforated PVC pipes are buried in the field to a depth of 75 cm and water is pumped through these pipes.

Through this method, the salt in the soil gets dissolved in the water and the excess water draining from the field is then channelized to an open well located near the field. The institute had incurred an expenditure of Rs.25, 000 for building these facilities and they could be used for the next 25 years, the dean said.

The pipelines buried in the field also facilitate aeration of plant roots . Further, since the water is continuously drained, the moisture content of the soil is always kept at a minimum. “During harvest, a mechanised harvester could be pressed into service as the field is nearly dry,” he said explaining the difficulty farmers face in harvesting paddy in wet field.

The institute has taken up a comparative study on two other fields, applying gypsum on one field and press-mud on the other. “The comparison would help farmers understand the advantage of using perforated pipes,” he said.

Workshop on millets from Dec. 13

Reviving cost-effective and hassle free millet cultivation across Eastern Ghats and help identify, conserve and develop the coastal region as one of the rich biodiversity corridors, a two-day workshop on millets will be held in Visakhapatnam on December 13 and 14.

Millet Network of India (MINI), Hyderabad is organising it for the first time in the city partnering with Andhra University, Sarada Valley Development Samithi and Sabala, a civil society organisation.

The regional-level conference aims at bringing about change in farming culture apart from advocating the ancient art of millet-based culinary skills. “The objective is to promote millet food tradition across all levels. But the task before us is to figure out ways to make this education as absorbing as possible and help people drive home the message of long term benefits of including power-packed millets in the diet,” says Spurgeon Raj, coordinator of MINI.

Professionals from different walks of life such as farmers, journalists, anganwadi workers, nutritionists and experts from various departments would participate in the conference. Paper presentation, case studies, PowerPoint presentation and an organic food exhibition will form a part of the programme.

“There is a need for a paradigm shift in agriculture and food consumption to arrest malnutrition. Millets like finger millet (ragi), foxtail millet (korra) and little millet (saama) are rich in minerals, proteins, fibre and vitamins play a role in boosting our immune system and can replace rice and wheat in our diet,” says K. Saraswathi, executive secretary of Sabala.

NGO representatives and farmers from Visakhapatnam, Vizianagaram and Srikakulam districts are expected to take part in the two-day workshop at AU Economics Department from 10:30 a.m. to 6 p.m.

National agriculture festival begins on December 19

Chief Minister to open seven-day fete



: The National Agrifest-2014, a seven-day agriculture festival organised by the State Agriculture Department in association with various government departments, will be held at the Valliyurkavu Temple grounds at Mananthavady from December 19 to 26.

Chief Minister Oommen Chandy will formally open the festival at 5 p.m. on December 20. 'Go back to nature through organic cultivation' is the message of the programme.

The seven-day programme is being organised as part of a campaign to make the State completely organic by the end of 2016, the organisers said. It is also envisaged to sensitise the farming community to the significance of organic cultivation and attract more youth to the farming sector, they added.

A State-level film fest based on agriculture and allied sector, scheduled to be held from December 22 to 26, will be a major attraction of the programme. Various programmes, including tourism festival, tribal fete, food festival, mega medical camp, anti-alcoholic campaign, tech festival of the Vikram Sarabhai Space Centre, pet show, and dairy fest, will be held as part of the programme.

Apart from this, cultural programmes, seminars and classes for the farming community as well as competitions for school students will be held, the organisers said

Varsity introduces new micro irrigation model

A demonstration of the micro irrigation model introduced by the Kerala Agricultural University.

A micro irrigation model for ensuring uninterrupted irrigation for plants grown on road dividers has been introduced by the Department of Agricultural Engineering at College of Horticulture, Kerala Agricultural University.

“This model of micro irrigation was developed and installed for the vegetable crops planted on the road dividers of the campus as part of vocational training to the students of VHSE Nadavaramba, Thrissur, led by P. K. Sureshkumar.

K.I. Koshy, Associate Dean, College of Horticulture, inaugurated the system in the presence of T.E. George, Director (academic) and V.R. Ramachandran, Director of Physical Plant.

Mr. Koshy said the system would help ensure efficient water usage as well as judicious use of manpower.

“This system can be adopted for irrigating the plants grown on all the road dividers of Kerala by replacing the present inefficient and tedious hose irrigation procedure,” he said.

Deforestation in focus as Brazil reels in drought

Vera Lucia de Oliveira looks to the sky, hoping for any sign of rain.

For weeks, the taps in her home have run dry as Sao Paulo has suffered its worst drought in eight decades, with rainfall at one—third the normal level. Without heavy and prolonged rain, the megacity of 23 million could soon run out of water, experts warn.

“We are always thinking- The rain is coming, the rain is coming,” said Oliveira.

But it doesn't, and a growing consensus of scientists believes the answer to what is happening to Oliveira and her neighbors lies not in the sky above their heads but in decades of deforestation of Amazon rainforest hundreds of miles away.

The cutting of trees, scientists say, is hindering the immense jungle's ability to absorb carbon from the air and to pull enough water through tree roots to supply gigantic “sky rivers” that move more moisture than the Amazon river itself.

More than two-thirds of the rain in southeastern Brazil, home to 40 percent of its population, comes from these sky rivers, studies estimate. When they dry up, drought follows, scientists believe.

It's not just Brazil but South America as a whole for which these rivers in the sky play a pivotal meteorological role, according to a recent study by a top Brazilian climate scientist, Antonio Nobre of the government's Center for Earth System Science.

The study draws together data from multiple researchers to show that the Amazon may be closer to a tipping point than the government has acknowledged and that the changes could be a threat to climates around the globe.

Destruction of the Amazon went unchecked until 2008, when the government put teeth in its environmental laws and sent armed agents into the jungle to slow the pace of deforestation by ranchers, soy farmers and timber speculators.

The impact was quick- destruction in 2012 was one—sixth of what was recorded eight years earlier, though it has ticked up in the last two years.

But Nobre and other scientists warn it's not enough just to slow the pace of destruction it must be halted.

“With each tree that falls you lose a little bit more of that water that’s being transported to Sao Paulo and the rest of Brazil,” said Philip Fearnside, a professor at the Brazilian government’s National Institute for Research in the Amazon who was not part of Nobre’s study.

“If you just let that continue, you’re going to have a major impact on the big population centers in Brazil that are feeling the pinch now.”

U.S. scientists praise the study, with U.S. Geological Survey drought expert James Verdin calling it “compelling and credible.”AFP

Sao Paulo is suffering its worst drought in eight decades

Rainfall is at one-third the normal level

Mega drip irrigation scheme by March next year: Minister

M.B. Patil, Water Resources Minister, said that a mega drip irrigation scheme will be launched by March-end next year and the scheme is expected to save up to 186 tmcft water, besides saving power up to Rs. 450 crore annually. He said that the government has decided to make it mandatory for sugarcane farmers across the State.

Addressing a press conference here today, Mr. Patil said that as per the estimates prepared by the Irrigation Department, sugarcane growers have to spend an amount of Rs. 40,000 per acre for drip irrigation.

He noted that the government had decided to provide Rs. 10,000 as subsidy to sugarcane growers for installing drip irrigation. The government had discussions with sugar factories recently and had convinced them to give Rs. 5,000 as subsidy to cane growers for installing drip irrigation. Sugar factories have also agreed to stand guarantee for loans taken by farmers for installing drip irrigation, he said.

Farmers could also save money by using minimum fertiliser under drip irrigation method, he said, adding that farmers the system required minimal labour.

Cane growers would gain additional income owing to the increase in sugar yield to the tune of Rs. 7,200 crore per annum under drip irrigation, he proposed. Awareness among sugar cane growers would be created about this form of irrigation, he said. The Irrigation Department is yet to draft a plan to extend drip irrigation to paddy. Rice mill owners are reluctant to extend financial help to farmers in this regard, he said.

Referring to the Mokedatu drinking water project, he said that the government had initially proposed to construct a reservoir with a capacity of 50 tmcft, but it had decided to go slow on the project as there were apprehensions over the submergence of forest land.

The scheme is expected to save up to 186 tmcft of water, and up to Rs. 450 crore in power bills

Government will provide Rs. 10,000 as subsidy to sugarcane growers for installing drip irrigation

Dindigul to have first Farmer Producers' Organisation

It will give farmers strong bargaining power, boost income



A STEP FORWARD:S Selvaraj, Deputy Director of Agriculture Marketing, addressing a workshop on 'Farmer Producers' Organisation' in Dindigul on Friday.— PHOTO: G. KARTHIKEYAN

Dindigul district will have a Farmer Producers' Organisation (FPO), the first of its kind in Madurai, Theni and Dindigul districts, as the State government has given approval for establishing one for guava growers in Ayakudi.

The FPO will help farmers increase income, scale down production costs and eliminate middle men, besides empowering them with bargaining power. These points were highlighted at a workshop on promotion of the FPOs organised by NABARD here on Friday.

In his address, Deputy Director of Agriculture Marketing S. Selvaraj said 102 guava growers in Ayakudi had invested Rs.5.05 lakh as share to establish a small guava producers' input sales centre. With application of advanced technologies and support from Horticultural College Research Station Dean Balamurugan, they started producing high quality fruits, each weighing 300 grams, and made guava trees yield even during off season. Now, they were exporting 4.5 tonnes of guava. This centre would become one of the nine FPOs planned in the State, he said.

The other centres would come up in Tiruchi (banana), Coimbatore (vegetables), Krishnagiri (mango), Dharmapuri (minor millets), Virudhunagar (millets), Ramanathapuram (chillies), Cuddalore (maize) and Tiruvannamalai (samai).

Explaining the functioning of the FPO, he said only landholders or family members were eligible to become a shareholder and shares could not be sold to anyone else. "They will be transferred to the legal heirs automatically. If not, they can surrender them to the FPO. Private companies or outsiders cannot buy them and only the shareholders can dissolve an FPO," he added.

NABARD District Development Manager L. Sanjivi said the bank had established a fund with a corpus of Rs.200 crore to promote 2,000 FPOs in the country in three years. In Tamil Nadu, 50 to 60 FPOs would be developed during the period.

Theni Deputy Director of Agriculture A. Muthaiah said a coconut producers' federation, comprising 1,000 farmers, would start functioning at Kadamalaigundu from January. Farmers growing tapioca in 2,000 acres in

Thevaram too wished to form a cluster.

Deputy Director of Agriculture Marketing (Madurai) Murthy said technology penetration, infrastructure facility, improvement in productivity, access to inputs and other technical services would be more in an FPO. Tamil Nadu Small Farmers Agri-business Consortium would link small farmers to technologies and markets.

Week ends on optimism in Lima



AP

In this December 4, 2014 image, children gather to form an image of a tree around a sign that reads in Spanish "The world we want" on a beach during the Climate Change Conference in Lima, Peru.

The high-level segment begins next week.

As the first week of the UN climate talks draws to a close, the initial despair has turned to optimism but there is still a long way to go in terms of finalising key elements for contributions from countries or a draft agreement for Lima.

Saleemul Huq, the director of the International Centre for Climate Change &

Development (ICCCAD), told *The Hindu* on Friday that the first week of the climate talks have a typical pattern - nothing gets done and the easiest thing for negotiators is to pass it on to the ministers. The high-level segment begins next week.

Even on simple issues, for instance on the composition of the Warsaw Mechanism on loss and damage, there is a difference of opinion on how the committee should be constituted and typically everything is kept in abeyance till the high level segment as the horse trading for the final agreement can only be done by politicians, he said.

However, he felt there was a positive momentum to the talks and there is an interest in an agreement. The Intended Nationally Determined Contributions (INDC) allow countries to present their targets but the key word between Lima and Paris next year to judge the success of how this works is 'adequacy', he pointed out.

The questions to ask are the targets of each country adequate and are there enough funds. "Everybody needs to do more," he said, and more than agreements on specific texts, "we need more positive momentum on action." Countries can do a lot more and the question of whether adaptation should be part of the INDCs is not mandatory, though the mitigation aspect is mandatory, he added.

Everything has to be looked through the lens of adequacy, he said and there are many things happening outside the United Nations Framework Convention on Climate Change (UNFCCC). The UN catalyses the process and the big difference between Copenhagen in 2009 and Lima countries are doing a lot more for climate change. "Countries are also learning by doing and generating a virtuous cycle of change, for instance in Bangladesh three million households are powered with solar energy, it's a good thing to do," he explained.

The Indian government too expressed satisfaction with the progress in talks so far. Its a work in progress, said Susheel Kumar, interim head of the Indian

delegation. " We are quite hopeful that Lima will be more non partisan and keeping in mind the global divide, it is time such a non partisan view emerges. If this view doesn't get formed in Lima we don't have much time. Hereafter we just need to polish the text.. The skeleton has to be finalised and fleshed out over next year."

The European Union too felt there was note of determined optimism to the talks and key parties were keen to advance the negotiations.

Elena Bardram of the EU said it hasn't been all smooth sailing and real life negotiations seldom are but there is a lot of progress in the working method and it has provided assurance to parties.



Express recipe: How to make Dahi Arbi



Dahi Arbi (Source: Ashima Goyal Siraj)

It's no surprise that so many of our memories are attached to food. Some dishes simply act as a time travel capsule for me, transporting me back into my mother's kitchen many many years ago. And so was the case with today's Dahi Ki Arbi (If I can warrant a translation – colocasia or taro root in yoghurt gravy). This simple yet so beautifully tasty dish that it reminds me of the warmth of my mother's cooking and also a little bit of her cheating. I was never into trying something new as a kid and I loved potato so I pretty much stayed with it. So the first time my mom tried arbi, she told me it was potato!

And the gullible me, believed it and what can I say: lucky me, loved it!

Dahi Ki Arbi Preparation Time: 5 mins| Cooking Time: 15 mins| Serves 2

Ingredients 250 gms arbi ½ tbsp ghee (clarified butter) 1 tsp ajwain (carom seeds) ½ tsp fenugreek seeds ¼ tsp turmeric powder ¼ tsp red chilly powder ½ inch ginger, chopped 1 green chilli chopped 5-6 curry leaves 2 cups yoghurt 3 cups water Salt to taste

Method

- * Pressure cook arbi with 2 cups water for 3-4 whistles.
- * Remove from heat and keep the cooker closed till the entire steam escapes.
- * Once the steam escapes, remove the arbi from the pressure cooker. Peel and cut into slices. Keep aside.
- * In a deep pan, heat ghee.
- * Add ajwain and fenugreek seeds to the pan. When the seeds start to sputter, add the chopped chillies, ginger and curry leaves.
- * In a mixing bowl, blend the yoghurt, 3 cups of water, turmeric and red chilli powder to a smooth blend.
- * Remove the pan from heat and slowly add the yoghurt mixture to the ghee.
- * Return the pan to heat and bring the mixture to a boil, while stirring constantly.
- * Once the mixture boils, reduce the flame and let it simmer till the gravy thickens a little. (around 5-6 minutes)
- * Add the boiled arbi to the yoghurt gravy and cook for another couple of minutes.
- * Serve hot with chappatis.

Prescription to shed weight: Shift from pills to vegetables



Doctors provide families in the FVRx programme with a “prescription” to eat fruits and vegetables.

Alaijah Borden was 10 years old and significantly overweight when Dr Sundari Periasamy, a paediatrician at Harlem Hospital Center in New York, enrolled the middle-schooler in an innovative programme to increase her consumption of fruits and vegetables — and, hopefully, to reduce her weight. After two years in the programme, Alaijah is an unqualified success story: She lost five pounds the first year by snacking on fruits and vegetables, then eight pounds more the second year, when she cut down on greasy foods.

Her mother, Sheryl Brown, 33, said Alaijah used to sabotage home-cooked family dinners by buying junk food — cookies, cakes and other snacks — on her way to and from school. Now Alaijah carries fruit or cut-up vegetables to school. She likes raw carrots, celery and broccoli. “It’s really an awesome programme that’s made it more affordable for me to get fruits and vegetables,” Ms Brown said. “I told my daughter it’s better to be told you’re overweight and here’s the solution than to just be told you’re overweight and sent home.”

Mom, too, has benefited. Though not overweight, Sheryl loves to snack and had developed high blood pressure. She brought it under control without medication when, like her daughter, she switched her snacks to fruits and vegetables.

The Browns are among 50 low-income families with overweight or obese children enrolled in the Fruit and Vegetable Prescription Programme, or FVRx, at Harlem Hospital Center. Three other hospitals in New York also have been testing the programme.

The programme was created by Wholesome Wave, a nonprofit organisation that advocates for access to better food in low-income neighborhoods, in partnership with the Laurie M Tisch Illumination Fund and the city's Health and Hospital Corporation. It is a startlingly simple idea to deal with a complex problem.

Instead of drugs or admonishments to lose weight, which typically fall on deaf ears, doctors provide families in the FVRx programme with a "prescription" to eat fruits and vegetables. The families also are given nutritional education, recipes and, most important of all, so-called Health Bucks that are redeemable for produce at a local farmers' market — at twice the amount that the families could purchase with food stamps alone. (Sheryl receives \$325 in food stamps each month to feed her family of five.)

New York's FVRx programme operates in poor areas known as "food deserts," where eating at places like McDonald's is both cheaper and easier than purchasing fresh foods and preparing them at home.

"For people today with income shortages, getting like high-quality fruits and vegetables is a big problem," said Michel Nischan, founder of Wholesome Wave, which supports the programs at community health centers.

It is a win-win endeavour. Participants who qualify get tokens — or, in New York and Boston, Health Bucks — to spend on fruits and vegetables at local farmers' markets. The farmers are reimbursed for the full value of their goods with dollars from community-based nonprofits and grants. Participating farmers also benefit: They sell more produce, increasing their income on average nearly 37 percent. And they are able to hire more people, put more land in production, diversify crop plantings, and invest more in farm operations.

Independent or interdependent?



A community of rice farmers needs to work together in tightly integrated ways. Not wheat farmers. Historically, Europeans have been wheat farmers and Asians have grown rice.

AMERICANS and Europeans stand out from the rest of the world for our sense of ourselves as individuals. We like to think of ourselves as unique, autonomous, self-motivated, self-made. People in the rest of the world are more likely to understand themselves as interwoven with other people — as interdependent, not independent. In such social worlds, your goal is to fit in and adjust yourself to others, not to stand out. People imagine themselves as part of a larger whole — threads in a web, not lone horsemen on the frontier. In America, we say that the squeaky wheel gets the grease. In Japan, people say that the nail that stands up gets hammered down.

These are broad brush strokes, but the research demonstrating the differences is remarkably robust and it shows that they have far-reaching consequences. The social psychologist Richard E. Nisbett and his colleagues found that these different orientations towards independence and interdependence affected cognitive processing. For example, Americans are more likely to ignore the context, and Asians to attend to it.

Another social psychologist, Hazel Rose Markus, asked people arriving at San Francisco International Airport to fill out a survey and offered them a handful of pens to use, for example four orange and one green; those of

European descent more often chose the one pen that stood out, while the Asians chose the one more like the others. Markus and her colleagues found that these differences could affect health. Negative affect — feeling bad about yourself — has big, persistent consequences for your body if you are a Westerner. Those effects are less powerful if you are Japanese, possibly because the Japanese are more likely to attribute the feelings to their larger situation and not to blame themselves. There's some truth to the modernisation hypothesis — that as social worlds become wealthier, they also become more individualistic — but it does not explain the persistent interdependent style of Japan, South Korea and Hong Kong.

In May, the journal *Science* published a study, led by a young University of Virginia psychologist, Thomas Talhelm, that ascribed these different orientations to the social worlds created by wheat farming and rice farming. Rice is a finicky crop. Because rice paddies need standing water, they require complex irrigation systems that have to be built and drained each year. One farmer's water use affects his neighbour's yield. A community of rice farmers needs to work together in tightly integrated ways. Not wheat farmers. Wheat needs only rainfall, not irrigation. To plant and harvest it takes half as much work as rice does, and substantially less coordination and cooperation.

And historically, Europeans have been wheat farmers and Asians have grown rice. The authors of the study in *Science* argue that over thousands of years, rice- and wheat-growing societies developed distinctive cultures: “You do not need to farm rice yourself to inherit rice culture.” Their test case was China, where the Yangtze river divides northern wheat growers from southern rice growers. The researchers gave Han Chinese from these different regions a series of tasks.

They asked, for example, which two of these three belonged together: a bus, a train and train tracks? More analytical, context-insensitive thinkers (the wheat growers) paired the bus and train, because they belong to the same abstract category. More holistic, context-sensitive thinkers (the rice growers) paired the train and train tracks, because they work together. Asked to draw their social networks, wheat-region subjects drew themselves larger than they drew their friends; subjects from rice-growing regions drew their friends larger than themselves.

Those in the wheat provinces held more patents; those in the rice provinces had a lower rate of divorce. I write this from Silicon Valley, where there is little rice. The local wisdom is that all you need is a garage, a good idea and energy, and you can found a company that will change the world. Wheat doesn't grow everywhere. As we enter a season in which the values of do-it-yourself individualism are likely to dominate our Congress, it is worth remembering that this way of thinking might just be the product of the way our forefathers grew their food and not a fundamental truth about the way that all humans flourish.

THE TIMES OF INDIA

[An orange a day for good health](#)



Sweet and juicy to taste, oranges have great health benefits

Sweet and juicy to taste, oranges are easily available. Oranges have lots of health benefits. You can have them like that or you can have orange juice too. But the best way is to have the whole fruit as it is rich in fibre too. And oranges are used for making desserts. It's difficult to resist a chocolate orange cake.

Boosts your immunity

Oranges are great source to meet your daily requirement of Vitamin C. This

vital nutrient helps improve your immunity, keeping you free from diseases and infections.

Good for your skin

As we grow older, our skin goes for a rapid change. Oranges are packed with antioxidants and Vitamin C which slows down the process and makes you look younger than your age! So, what are you waiting for? Just grab that orange and enjoy the happiness of having glowing skin.

Great for your eyes

Oranges are rich in nutrients like Vitamin A, Vitamin C and potassium which are great for your eyes. So, if you want your vision to be fine, eat an orange every day!

Keeps you free from stomach ulcers

Oranges are a good source of fibre which helps keep your stomach healthy. A diet rich in fibre will ensure that you are not affected with ailments like stomach ulcers and constipation. So, oranges should figure in your diet.

Dragon fruit, a remedy for dengue?

Mumbai has been one of the worst affected cities in the state owing to dengue, this year with the viral disease taking its toll to 12.

While several outdoor parties, shaadis and other functions were cancelled or shifted to an indoor venue due to it, what is also adding to the fear and panic is that there is no medical solution to the fever. But word has been going around the city about how natural cures in the way of dragon fruit and the extract of papaya leaves are effectively able to boost a person's haemoglobin (which falls due to dengue) within a night. Most fruit vendors at Crawford Market, Colaba and Bandra are advocating eating the exotic dragon fruit. Here's more on the two 'remedies' and other diet boosters....

It boosts haemoglobin: What a lot people ignore or don't realise, is that answer to getting back on their feet lies in what they eat, says nutritionist Dr NupurKrishnan, adding, "Apart from a green leafy diet, people have been eating dragon fruit. This fruit has a host of benefits. Firstly, the Vitamin C present in this fruit can aid in improving cellular immunity and preventing [dengue](#) hemorrhagic fever. It is also healthy for the bones and boosting haemoglobin (helps prevent the dangers of free radicals) owing to its high antioxidant properties. It also makes for light consumption, so it's apt for someone suffering from fever. In addition, dragon fruit offers powerful antioxidants, phytonutrients, lycopene, high fiber, phosphorus and iron content, so it definitely makes sense to have it," she says.

Did you know? There is 1 gm of fiber per 100 g of fresh dragon fruits.

POST-RECOVERY Important: High protein diet

Even after recovery, patients should eat a high protein diet to restore all the resources of vitamins, minerals, proteins and fats in the body, feels city-based dietician SheelaTanna. Eating fish, eggs and other low fat dairy products helps patients fight the virus fast. She shares two ways on how to get protein into the daily meal

Try these...

1. Moong dal khichdi: Soak equal quantity of moongdal in water for an hour. Pressure cook with cumin seeds, turmeric and a pinch of salt. You can have this easily digested, high protein khichdi with curd.

2. Power-up buttermilk: Mix two parts curd and three parts water. Churn it with cumin powder and have this isotonic buttermilk to replenish lost minerals. Mix all the vegetables of your choice as well as moongdal. Pressure cook and strain. Add nutmeg, pepper and salt. This protein packed soup can be had as a meal in itself.

RISING TREND: exotic juice to recovery drink!

Earlier, the bright pink dragon fruit was just enjoyed in an expensive, exotic smoothie or juice sold at upmarket malls and eateries. It's still a costly fruit to buy (Rs 110 a piece!) but with the spread of dengue and more people talking of how they benefited from the fruit, it seems to have found flavour and favour with middle income group too. Fruit sellers in most corners of the city will immediately point you towards it if you say, 'dengue'. Question is, will its popularity remain once dengue abates?

Rise in cases: As per reports, there has been a 22% rise in the number of dengue cases recorded in Maharashtra between January and October in 2014 as compared to 2013.

Have more fluids: People who have dengue fever should drink plenty of fluids throughout the day. Apart from drinking plenty of water, take fruit juices, lime juice, coconut water. This will help wash the toxins away from the body in the form of urine, adds Tanna. "Fresh orange juice, which is filled with vitamins and energy, will help in digestion as well as promote antibodies for a speedy recovery," she adds.

Eat Green vegetables: In order to fight the virus that affects the body, it is important that the patient eats a healthy diet with lots of fresh green leafy vegetables.

How the extract of Papaya leaf can help

The juice prepared from crushed papaya and its leaves is considered as one of the best home remedies for dengue fever treatment, states Tanna. "Most people have this with a little water as it can be bitter in taste," she adds.

Dr Krishnan elaborates, "Papaya leaves are known to be packed with enzymes like chymopapain and papain that normalise the platelet count,

improve the clotting factor, improve one's liver function and repair the damage to the liver done by dengue, therefore helping an ailing person recover from the disease.

The young leaves from a fruit-bearing papaya plant should be used. Overall, leaves of all beneficial plants are healthy as they have phytonutrients properties, which act as powerful antioxidants. Cattle eat most of leafy part of the plant and tree and we can see how strong their immune system is. If the person eats raw papaya, it will give the same nutrients and enzymes as leaves have. In addition, raw papaya is said to be more nutritious than ripe papaya."

Recipe: Caramel custard



Recipe: Caramel custard

Caramel custard is one of my favorite. The texture of this dish is so magnificent and mouthwatering. Not a very sweet dish but enough for a sweet craving. It's easy to make and accompanied along with strawberry jelly or chocolate tasted mind blowing.

Ingredients: - 2 ½ cups milk - 1 tsp vanilla essence - 4 eggs - ¾ cup sugar

Method: Take quarter cup of sugar in a thick-bottomed pan. Add a few

drops of water and heat till the sugar caramelizes. Then pour the caramel into a deep bowl or mould and let it settle by cooling.

Heat milk while in another bowl add four cups of water and heat Break eggs into a bowl. Add half cup of sugar, vanilla essence and whisk gently till frothy. Add warm milk over this mixture and mix. Strain the mixture and pour the egg-milk mixture into the mould with the caramel.

Cover with aluminum foil and place it in the cooker. Cover with lid and steam for twenty-five to thirty minutes. Do not use the whistle. Remove when done.

Serve, turned out with caramel side up, either hot or cold.

Recipe: Vanilla muffins



Vanilla flavoured muffins

Preparation Time: 15 minutes

Cooking Time: 20 minutes

Makes: 8

Recipe Ingredients:

80g Flour

60g Powdered Sugar

½ tbsp. Baking powder

¼tsp Salt

30ml Milk

1tsp Pure vanilla extract

2 large Eggs

60g Margarine

Recipe Method:

Preheat oven to 200° C.

Combine the flour, baking powder and salt.

Slowly heat margarine in the microwave, in a microwave-safe bowl, for about a minute, until it's thoroughly melted. Set it aside at room temperature to cool, but don't let it solidify again.

Beat the eggs in a separate bowl and then add the sugar, milk and vanilla to the eggs. Slowly fold in flour & melted margarine till all ingredients are consumed.

Grease and flour a muffin pan (or use paper muffin liners).

Recipe: Walnut basil chicken

Steamed chicken balls stuffed with spinach and walnuts served with a tomato basil sauce.

Ingredients: For the chicken balls

Chicken mince 500g

Walnuts 1 cup

Blanched spinach 1 cup

Egg 1

Chilli flakes 1tsp

Salt 1tsp

For the sauce

Tomatoes (large) 5

Onion(medium) 1

Oil 1 tbsp

Basil 8-10 leaves

Black pepper powder 1tsp

Chilli flakes 1tsp

Garlic 8

Crushed black pepper ½ tsp

Salt to taste

Method: Finely chop the walnuts. Squeeze out the water from the blanched spinach and chop fine. Mix together the chicken mince, egg, salt and chili flakes. Divide both the mixes into 10 parts. Flatten out 1 part of the chicken mix on a greased hand. Put one part of the walnut and spinach mix in the centre and roll into a ball. Repeat to make 10 balls. (If you find this a little difficult to do, just mix all the ingredients together and make 10 balls). Arrange the balls in a greased steamer and steam till done (approximately 12-15 minutes).

Peel the tomatoes and chop them fine(to peel the tomatoes, just blanch them in boiling water for 15 seconds and refresh in cold water. The skin will peel off easily). Chop the onions finely. Heat the oil in a pan and add the onions. When the onions turn a light pink, add the crushed garlic and saute for another minute. Do not brown the onions. Add the tomatoes, sugar, torn basil leaves, salt and the chilli flakes and cover and cook on slow flame for 4-5 minutes till the tomatoes are tender. Finish with the crushed pepper and add the chicken balls. Toss for a minute or two. Garnish with more basil leaves and serve hot

Pour in $\frac{3}{4}$ in each liner.

Bake at 190° C for 18 - 20 minutes. Check for doneness.

Remove; let the pan cool for 10 mins. & then cool on wire racks.

Recipe: Tandoori broccoli & gobhi



Grilled cauliflower and broccoli florets marinated in yoghurt and spices.

Preparation time: 20 minutes+ marinating time

Cooking time: 10 minutes

Serves: 4

Ingredients

1 cup parboiled gobhi florets
1 cup parboiled brbroccoli florets
The marinade:
1/2 cup hung curd
1tsp besan
1 tsp chili powder
1 tsp roasted jeera powder
2tsp ginger garlic paste
1/2 tsp kasoori methi
2 tsp chat masala
2 tsp chopped coriander
1tbsp refined oil
salt to taste

For serving:

Onion rings
Mint leaves

Method:

-Marinate the cauliflower and broccoli florets in the prepared marinade for about 1 hour.
-Thread them on to skewers. Grill the marinated cauliflower and broccoli florets over a charcoal or electric barbeque or grill in a preheated oven at 250 degree Celsius till the cauliflower is tender.
-Serve hot on a bed of onion rings and mint leaves.

Recipe: Kesar Milk Badam

In its hot and cold avatar, Milk Badam can leave you rejuvenated in any season. And a dash of kesar (saffron) will add to your craving. Here's how you can make it all by yourself.

Ingredients:

100 grams of almond

50 grams of pista

1 litre milk

Sugar (as per taste)

Powdered cardamom

Pinch of saffron (kesar)

5 rose petals

1 table spoon of cream

How to prepare it:

- First boil the milk for sometime and let it get thick.

- Along with it, grind the almonds and pistas. When it's powdered, add cream to it to prepare a paste. Remember soaking almonds for sometime as it's important that they get soft.

- Now add sugar, powdered cardamom and rose petals. The paste has to be blended well.

- Now, take the heated milk and mix the stuff in it. Churn it for some time.

- Those looking to down it hot can simply go ahead, whereas those preferring cold can refrigerate it for some time.
 - Sprinkle saffron over it.

Recipe: Strawberry-Banana Mountain Shake

An easy fun and delicious drink. It's sure to make you want another glass.

This yummy smoothie is easy to make and it's definitely a win-win drink when you want to impress someone.

Ingredients:

2 large bananas
2 cup fresh strawberries
1 brick of vanilla ice cream
1 cup Yogurt
1 cup milk
4 tsp honey
½ tsp cinnamon power
1 cup ice, crushed

Method:

- Blend all the ingredients together until smooth, except the vanilla ice cream and cinnamon.
- Serve topped with a scoop of vanilla ice cream and a pinch of cinnamon powder.

THE HINDU BusinessLine

Tea prices edge up at Kochi sale

Kochi, December 5:

There was a slight improvement in prices for some varieties at the Kochi tea auction with good liquoring and popular marks in the CTC dust category ruling firm to dearer.

In sale no 49, the quantity on offer was 10,91,000 kg, low compared with last week. However, the demand was good with 87 per cent on offer being sold. The market for medium and plainer teas was dearer by Rs. 2-3 a kg and sometimes more especially the Grainier varieties.

Better export enquiry noticed on medium and plainer varieties, the auctioneers Forbes, Ewart & Figgis said.

Despite good arrivals compared to last week at 19,000 kg, the orthodox sale

witnessed a less demand. In Cochin CTC dust quotation, good varieties quoted Rs. 93-158, medium fetched Rs. 66-116 and plain grades stood at Rs. 56-67.

In CTC leaf, the quantity on offer was 59,500 kg.

Fannings was firm to dearer and absorbed by exporters and upcountry buyers.

Lower rabi sowing hints trouble on farm front

Slipping rabi acreage*		
(In lakh hectares)		
Crop	This year	Last year
Wheat	208.64	213.69
Coarse cereals	43.12	46.07
Chana	69.43	83.89
Pulses	107.85	121.95
Oilseeds	67.95	75.09

Source: Ministry of Agriculture *As on December 5

Dropping reservoir levels, deficient North-East monsoon could also pose problems

New Delhi/Chennai, December 5:

All is not well on the farm front. While kharif or summer crop production has been estimated seven per cent lower this season ending June, sowing in rabi or winter crops has been slack so far.

A 34 per cent deficient North-East Monsoon, that begins from October 1 and is the lifeline for States on the East Coast, and storage level in the 85 major reservoirs dropping below the 10-year average also portend ill for the economy.

According to the Ministry of Agriculture, the total area covered under rabi crops so far is 428.50 lakh hectares (lh) against 458.80 lh in the corresponding period a year ago. Rabi sowing starts around November after kharif crops are harvested during September-October.

Area under most crops is down as on December 5 with coverage of wheat trailing at 208.64 lh (213.69 lh).

Delay in harvesting sugarcane in Uttar Pradesh, where sugar mills began crushing late demanding that the State Government cane price be linked to sugar rates as suggested by the C Rangarajan Committee, has affected wheat sowing in the northern State.

Coverage of cereals is lower at 43.12 lh, down some three lh from last year.

A 12 per cent deficiency in the South-West Monsoon, which drenches major crop-growing areas in North, West and central parts of the country during June-September besides poor soil moisture is attributed to the lower area in cereals. In particular, rainfall deficiency in northern and western parts was 21 per cent. Punjab, Haryana and Rajasthan, the other major cereal growing States, have thus been affected.

If the trend continues, it could result in poor cereal production this year. Foodgrain production in the kharif season has been estimated nearly 10 million tonnes (mt) lower at 120.27 mt. While rice output has been projected three mt lower at 88.02 mt that of maize has been pegged at 16.03 mt (17.68 mt).

Lower foodgrain production can result in inflation surging since agricultural produce prices could rise. This could further result in the RBI delaying the much-awaited interest rates cut, expected early next year. Wholesale Price Index inflation dropped to a five-year low of 1.77 per cent in October.

The pulses crop also seems to be in trouble with sowing down by over 14 lh at 107.85 lh. Lower area under the main pulses rabi crop, gram or chana, is the main problem for the decline. For the kharif season, pulses production has been estimated at 5.20 mt against 6.02 mt a year ago.

The Government's plans to contain fiscal deficit and inflation could face more hurdles in the form of lower storage in reservoirs and deficient North-East monsoon.

Storage levels dip

Storage in the 85 major reservoirs, at 100.994 billion cubic metres (BCM) or 65 per cent of the capacity, is lower than the 10-year average of 102.524 BCM. Last year, the level at this point of time was 118.82 BCM of 77 per cent of capacity.

According to the India Meteorological Department, rainfall during the North-East monsoon is lower at 74.5 mm against the normal 121.1 mm. Barring southern States, all other states have received deficient rainfall since October to compound the shortfall during the South-West Monsoon.

Damage to cotton crop

Meanwhile, 18,000 hectares in Amalner, Parola and Chopra tehsils of Maharashtra's Jalgaon district have been affected by cotton wilt, according to information provided by the Commissionerate of Agriculture, Pune. The wilt is caused by a fungus, Minister of State for Agriculture Sanjeev Kumar Balyan said in the Rajya Sabha on Friday.