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Agricultural college develops new cluster beans variety

A new variety of cluster beans, which is rich in fibre and vegetable protein, has been developed by the Agricultural College and Research Institute (ACRI) here.

The new variety, MDU-1, will be formally released in Coimbatore on January 6 after clearance from the State Variety Release Committee.

V. Swaminathan, Head, Department of Horticulture, said that the new variety was a result of five years of intensive research and field trials.

“Fibre- rich food is recommended for people these days to fight cancer. Our variety takes care of that aspect and, moreover, it has vegetable protein which will not block the coronary blood vessels. Animal protein is risky for blood vessels since the chances of development of blocks are more,” he told *The Hindu* here on Wednesday.

Dr. Swaminathan said that the ACRI had made arrangements with two seed companies to undertake mass production of cluster bean seeds for distribution to farmers.

Locally, the production had already started to popularise MDU-1 among the horticultural community.

“This will be the seventh variety release by our department. Earlier, we had developed new varieties of brinjal, snakegourd, bittergourd and onion,” he added.

The ACRI Dean, C. Chinnusamy, said that a decision had been taken to tap solar energy in a big way to meet the power requirements if the campus.

Turmeric shines in New Year glow



Cultivators in Erode are happy with the procurement price of turmeric. Photo: M. Govarthan

Turmeric cultivators have approached the New Year with happiness and a sense of optimism over the positive signs in the market conditions.

In Erode district where finger and root varieties are traded, the price for a quintal has breached the Rs. 9,000 mark, and cultivators expect the trend to improve further, in view of a combination of factors that includes reduction in production area in the region, and the declined output in other States.

A few months back, the procurement was made at 30 per cent to 40 per cent lesser than the prevailing prices at the four auction centres in the district operated by the Erode Turmeric Merchants Association; Regulated Marketing Committee; and Erode and Gobichettipalayam Cooperative Marketing Societies.

“The price is indeed favourable. But, in the long-term, we would prefer fixation of procurement cost on the basis of Dr. M.S. Swaminathan Committee recommendation: cost of production plus 50 per cent,” said P.K. Deivasigamani, president of Turmeric Farmers' Association of India.

Turmeric cultivators have made their preference known for the integrated complex at Karumandichellipalayam constructed by the Regulated Marketing Committee.

The long-pending demand of the cultivators for auction under a single roof was highlighted at the farmers' grievance meet chaired by the District Collector S. Prabakar last week.

Farmers' associations have moved the High Court for such a facility with a plea that cultivators are facing losses because of turmeric auction at four places in the district.

Private auction centres do not augur well for the welfare of turmeric cultivators, Mr. Deivasigamani said.

The desire of the farmers is that the integrated turmeric complex created by the State Government at Karumandichellipalayam near

Perundurai at an investment of Rs. 19 crore must be given a functional status at the earliest.

The demand for the facility has been pending for the last 15 years.

The proposal made initially for such a market in Perundurai SIPCOT complex in 1999 did not materialise.

The present government pursued the issue in right earnest and expedited clearances for construction of the integrated market complex at Karumandisellipalayam with state-of-art facilities.

“Announce State Advised Price for sugarcane immediately”

Farmers of Tiruchi district have appealed to the State government to announce the State Advised Price (SAP) for sugarcane immediately.

They have also pleaded the government to take steps for paying the Rs. 400-crore arrears owed by sugar mills to the cane growers. Puliur Nagarajan, a farmer, said that though three months had passed since the start of the crushing period, the State government was yet to come out with the advisory price for the year. SAP is normally announced in November or December every year. As SAP has not been announced yet, the State-owned sugar mills were paying the old price of Rs.2,550 per tonne, and private mills Rs.2,300 to Rs.2,400 per tonne, Mr.Nagarajan said. Mahadhanapuram V.Rajaram, working president, Cauvery Delta Farmers Welfare Association, said the government should announce the SAP immediately. Since the sugar mills have approached the court stating that they cannot give the SAP to farmers, the government should

promulgate an ordinance. P.Ayyakannu, State vice-president, Bharathiya Kisan Sangam, said that Sugar commissioner had sent a circular stating that Rs.2,200 per tonne would be the Minimum Support Price of the Central government. This was unfortunate as last year the price was Rs. 2,550 (Rs.2,200 MSP of Central government plus the SAP of Rs.350 per tonne). “We have decided to organise protests against the move of the sugar commissioner,” said Mr.Ayyakannu.

10,600 kg traded at cotton auction

About 10,600 kg of cotton were traded at the weekly cotton auction, which began for the current season, at the Thuraiyur Regulated Market on Wednesday. Farmers had brought in 286 bags of cotton, which fetched a maximum of Rs.40.20 and a minimum of Rs.38 a kg, depending on the quality. Cotton has been raised in about 16,534 hectares of land in the district during the current season, an official release said. The next auction would be held on January 7, the release added.

‘Test poultry feed ingredients’

Poultry farmers have been asked to test mycotoxin occurrence in high moisture feed ingredients such as maize, before using material for feed preparation. A weather advisory bulletin issued by Agromet Field Unit of Veterinary College and Research Institute here and Regional Meteorological Centre, Chennai said that, the sky is expected to be clear in the next four days, with less chance of rainfall. Maximum and minimum temperatures will be around 33 and 21 degrees Celsius respectively. With lower temperature, feed intake in poultry remains slightly elevated. Hence, farmers are requested to test mycotoxin occurrence, before using the feed. Also, farmers were asked to use good quality of drinking water for poultry.

46 Direct Purchase Centres to come up in Cuddalore district

46 DPCS TO COME UP IN CUDDALORE

As the paddy harvest season has begun in Cuddalore district the Tamil Nadu Civil Supplies Corporation has made arrangements for opening 42 Direct Purchase Centres (DPCs) in three blocks.

The DPCs would be located as follows: Kattumannarkoil – 26, Chidambaram and Vriddhachalm – 8 each.

In a statement released here Collector S. Suresh Kumar has stated that for the current samba season paddy has been raised on 94,200 hectares in the district.

The government has fixed a State Advisory Price of Rs 1,470 for a quintal of Grade-I paddy variety and Rs 1,410 for a quintal of common paddy variety. The Collector has called upon the farmers to take their paddy to the nearest DPCs to get the government announced price.

If need arises more number of DPCs would be opened in the district, the Collector added. - Special Correspondent

Centre urged to tackle crisis in tea sector

'Tea adulteration should be dealt with strictly'

With the tea planting community in general and the small tea growers in particular keeping their fingers crossed and hoping that their woes of 2014 will not spill over into 2015, representations seeking the intervention of the Central Government have become the order of the day.

Gudalur MLA M.Thiravidamani, in a letter sent to Prime Minister Narendra Modi on Thursday, pointed out that a huge section of the population of the district was dependent on tea for a livelihood.

Regretting that over the past two years the situation on the tea front had been steadily deteriorating, he said that the price offered for raw tea leaves was very low.

This was despite the market rate for processed tea remaining high.

Underscoring the urgent need for measures to tackle the crisis, he said that steps should be taken to promote domestic consumption of tea. Products of the Tamil Nadu Tea Plantation Corporation (TANTEA) and the Indcoserve should be sold to the defence and other Government sectors.

Tea imports should be checked and exports increased. Syndicates in the tea auction system should be broken and tea adulteration should be dealt with stringently.

Tea should be treated as an agricultural commodity. As an immediate relief, the Central government should give a subsidy of Rs. 5 a kg of raw leaf.

H.N.Sivan of the Nilgiris Nelikolu Micro and Small Tea Growers and Farmers' Development Society (NSTF), who met Union Commerce Minister Nirmala Sitaraman in Coimbatore recently, urged her to ensure that the growers get realistic prices as ordered by the Madras High Court. Members of The Nilgiris district BJP also took up the plight of the tea growers with Ms.Sitaraman.

The CPI (M) has decided to give high priority to the problems of the small tea growers at its district conference scheduled to be held on January 9 and 10 at Erumadu near Gudalur.

The organisers of the third conference of the Malai Mavatta Small Farmers Welfare Forum, scheduled to be held at Kotagiri on January 18, have announced that the meet will be devoted to the tea sector and the challenges confronting it.

KRRS seeks scientific price for crops

Activists of the Karnataka Rajya Raitha Sangha and Hasiru Sene took out a procession and staged a dharna outside the Agricultural Produce Marketing Committee office here on Friday urging the State government to fix scientific price for agriculture produce.

Farmers' leader Mallapur Devaraj alleged that the State and Union governments had failed to fix scientific prices for crops keeping in view the losses incurred by farmers owing to adverse climatic conditions and high input costs. The prices fixed by the government were too low and even less than the input costs.

Elected representatives forget their promises after elections and farmers were forced to commit suicide. Successive governments had failed to solve farmers' problems, Mr. Devaraj said. The government's minimum support price for maize and sugarcane was unscientific and it had failed to issue instructions to sugar factories to clear pending bills, he alleged.

Rabi sowing yet to meet the target in Ballari district

Sowing for the rabi season has been completed only on 70 per cent of the targeted area of 1.65 lakh hectares in Ballari district. Failure of follow-up rain and more area coming under cotton cultivation during the kharif season are said to be the reasons.

Sources in the Agriculture Department told *The Hindu* that in view of good demand for cotton in the previous year, a large number of farmers preferred to

cultivate the crop this year too during kharif. Against the targeted area of 40,000 ha, cotton was grown on 75,000 ha.

Yield

As five more months are needed to get the yield from cotton cultivation, it has overlapped on to the rabi season. As such the sowing of rabi jowar and sunflower has come down.

Rabi jowar, Bengal gram, maize, sunflower, safflower and cotton are among the major crops cultivated during rabi in the district. The crop wise area under coverage and the target (in brackets) in hectares are, Bengal gram 73,287 (64,603), jowar 17,222 (25,345), maize 4,673 (4,095), wheat 333 (2,050), horse gram 1,525 (3,225), cow pea 1,644 (1,562), groundnut 2,313 (385), sunflower 12,226 (52,280), safflower 68 (1,585), and cotton 265 (6,605).

Sources also said that the standing rabi crops were in good condition at the end of December.

Better prospects in store for farming community in State

Notwithstanding the disappointing kharif and rabi, the government is confident of improving farmers' condition this year

The ongoing 2014-15 crop year has left the farming community highly disappointed with drought conditions prevailing in most parts of Telangana. The State suffered over 30 per cent deficit rainfall in monsoon resulting in reduced crop production.

The Telangana State witnessed an alarming situation ever since it came into being on June 2, 2014 with a large number of farmers committing suicide due to distress caused by crop failure, particularly due to erratic power supply since farmers are predominantly dependent either on rain-fed cultivation or borewell irrigation. Left parties put the number of suicides at about 600 since June, though the government played down the phenomenon. Officials put the number of suicides below 100.

“Not all farmer suicides are related to agriculture as there are different reasons for these deaths. Keeping such argument aside, it’s not fair to blame the present State government alone as the cause for their distress. Power problem has been

inherited from united Andhra Pradesh and efforts are on to improve the supply,” Telangana Agriculture Minister Pocharam Srinivas Reddy said.

The TRS government had provided relief to farmers by implementing crop loan waiver scheme and clearing 25 per cent of their debt out of the total outstanding amount up to Rs. One lakh.

“We have also announced several schemes to improve marketing facilities, micro irrigation and greenhouse cultivation with enhanced subsidy,” the Minister explained.

Keeping aside the disappointing kharif and rabi seasons in the first year, the Telangana government has taken up restoration of minor irrigation tanks and chain-link tanks system as one of its flagship programmes for making agriculture more dependable. The government is planning to restore over 45,300 irrigation tanks in five years by taking up restoration of over 9,000 tanks having an irrigation potential of over one lakh acres.

The government has plans to take up Pranahita-Chevella, Jurala-Pakala and Palamuru lift irrigation projects besides completing the ongoing Kalwakurthy, Koelsagar, Nettempadu and Bima lift irrigation schemes in Mahabubnagar district and Srisailam Left Bank Canal tunnel project for Nalgonda among several other major irrigation projects at the earliest.

New vegetable farming scheme for tribespeople

Organic farming on rented, own land

The Agriculture Department will launch a pilot project to promote organic vegetable farming among the tribal communities in the State.

The project will introduce high-tech farming techniques among tribal communities. The aim is to attain self-sufficiency in vegetable production in the State, Minister for Welfare of Scheduled Tribes P.K. Jayalakshmi said in a press release.

In six panchayats

“Six grama panchayats in Mananthavady taluk have been selected for the project in the initial phase,” Ms. Jayalakshmi. The Agriculture Department had earmarked Rs.7.62 lakh for the project. It would be executed through farming

clusters to be constituted under 'Oorukkootams' of each tribal settlement, Ms. Jayalakshmi said.

Each cluster would be provided Rs.75,000 and 5,000 seed kits, each kit consisting of five varieties of vegetable seeds. Polyhouse farming and group farming would be launched under the project. Farming could be done on rented or own land of tribespeople.

A market networking facility would also be set up on an experimental basis to ensure a sustainable income for tribal farmers and to avoid exploitation by middlemen.

Monitoring committee

A monitoring committee comprising block and grama panchayat presidents, agriculture officers in each grama panchayat, tribal development officer, tribal extension officers, and representatives of tribesmen would also be constituted, the Minister said.

Each cluster will get Rs.75,000 for project

Seed kits with five varieties of seeds will be distributed

Flower auction centre to begin operations in Udupi

It aims to help jasmine growers in the region



The Flower Auction Centre, to be inaugurated in Udupi in three months, cost Rs. 2.29 crore.

Jasmine growers from the three Coastal districts will have a new platform to sell their flowers with the opening of the Flower Auction Centre, to be inaugurated in the next three months.

There are about 7,000 jasmine growers in Udupi, Dakshina Kannada and Uttara Kannada districts. Among the popular varieties are Shankapura mallige, Mangaluru mallige, Bhatkal mallige and Jaji mallige.

The Shankapura Mallige enjoys the Geographical Indication tag and is grown in 295 hectares in the district. Presently, 2,185 tonnes of Shankapura mallige is produced in the district annually. These jasmine flowers, tied together with banana stalk, are much sought-after for auspicious ceremonies. Mangaluru mallige is grown in Dakshina Kannada, while Bhatkal mallige and Jaji mallige are grown in Uttara Kannada district.

“The objective of this Auction Centre is to get all growers to send their jasmine flowers here, where it could be auctioned, and then transport them to other places,” said Anita B.R., Assistant Director of Horticulture.

The Horticulture Department also wants to encourage growers of orchids and anthuriums to sell their flowers here.

The Flower Auction Centre, constructed at a cost of Rs. 2.29 crore, has 16 outlets to sell flowers on the ground floor, two farmers’ rest rooms, office of the Assistant Horticulture Director, a staff office and a mini hall on the first floor. It also houses a guest house.

Roadblock to get sellers

But the proposal to get the Shankapura mallige growers to sell their flowers at the centre has run into trouble. Most of these are small growers and have 10 to 100 jasmine plants. Currently, agents collect flowers from the growers.

Ramakrishna Sharma, president of Shankapura Jasmine Growers Association, said the flowers could be sent directly from Shankapura to Mangaluru, Bengaluru, Mumbai, and other places. “Why will anyone want go to the Flower Centre in Udupi to sell flowers?” he said.

Officials in the department are confident of convincing the flower growers of the benefits of selling their flowers at the centre. Currently there was just need-based export of Shankapura mallige to the Gulf. “Once the flowers are auctioned here, we will even be able to devise a system for their proper export,” Ms. Anita said.

A proposal has also been sent to the government to handover the building of the centre to the Udupi Agricultural Produce Marketing Committee (APMC). In addition to the auction of flowers, the Department wants to convert the centre into a one-stop shop for farmers.

Rain causes some damage to jowar crop

The western parts of Adilabad district received comparatively good rainfall during the intervening night of Thursday and Friday, the cumulative being 5.2 cm.

Bazarhatnoor mandal in the district received the highest rainfall at 7 cm, while Talamadugu mandal received 4.5 cm.

Discolouration of cobs

Standing jowar crop in a small extent in Bazarhatnoor was damaged to the extent of dis-colouration of the cobs, though agriculture officers dismiss the phenomenon.

They maintain that actual damage would be caused only if the rainfall persists for a few more days.

Meanwhile, the cotton farmers who have not uprooted their dried up crop so far are a happy lot as the rainfall is set to bring back the flush on the dried- up plants.

More cotton yield

The yield due to this phenomenon would be one quintal per acre on an average, which will bring some income to the beleaguered cotton farming community.

The eastern part of the district remained cloudy, but rainfall eluded it on the last two days. There was no rainfall from Asifabad to Vemanpally and Chennur to Jannaram.

Procurement centres opened at K.R. Pet

The district administration has opened procurement centres for paddy, millets and maize in K.R. Pet taluk of the district.

While the paddy procurement centre has been opened near the Agriculture Produce Marketing Committee warehouse in K.R. Pet, for millets and maize, procurement centres have been set up at Kasaba and Hosa Holalu in the taluk.

H.L. Shivaram, K.R. Pet tahsildar, inaugurated the centre at K.R. Pet on Thursday.

The MSP for ordinary paddy has been fixed at Rs. 1,360 a quintal and Rs. 1,400 a quintal for grade A paddy, Mr. Shivaram told reporters. He has appealed to the farmers not to sell the agricultural produce through middlemen. Farmers should bring photocopies of RTC, bank passbook and other essential documents, he said.

A voucher would be given to the farmers at the procurement centre as soon as the produce is procured. Payment would be made within 10-15 days. The taluk administration has appointed graders and quality inspectors to ensure the quality of food grains, official sources told *The Hindu*. Farmers can call on 9945809255 or 9480375319 for any clarifications or details.

Soil testing laboratory to come up at UAHS, Shivamogga

Project will be funded by the World Bank

The University of Agriculture and Horticultural Sciences (UAHS), Shivamogga, will work with the Department of Agriculture on the project of testing the soil samples and issuance of soil health cards for farmers in Chikkamagaluru district.

The four-year project is funded by World Bank and implemented through the Department of Agriculture. A sum of Rs. 12 crore will be provided to the university for the purpose. . The State government has decided to implement the project in eight districts in the first phase.

Under the project, a state-of-the-art laboratory to test the soil samples collected from fields would be established at the main campus of UAHS, Shivamogga, at a cost of Rs. 4 crore. A comprehensive investigation of the soil sample would be

done at the laboratory. The information on the level of nutrients would be provided to farmers through soil health cards.

In a similar soil-testing exercise undertaken by the department in other parts of the State, the information on NPK (nitrogen, phosphorous and potash) content in the soil would be provided for farmers.

As the soil samples from Chikkamagaluru would be subjected to investigation in the state-of-the-art laboratory of the university, along with NPK, the farmers would get the information on the level of micro-nutrients in the soil, said C. Vasudevappa, Vice-Chancellor of UAHS, Shivamogga.

The UAHS, Shivamogga, would depute its eight scientists for the project. After assessing the soil samples, the scientists would suggest the farmers on remedial measures for improving the soil health and cropping pattern to be practised. The scientists would conduct interactive sessions with farmers in every gram panchayat, he said.

Candidates who had completed the diploma course in agriculture from the university would be hired for the project. They would be deputed for field work, which would include collection of soil samples and interaction with farmers. It had been planned to hire 15 candidates for the project. A sum of Rs. 10,000 would be paid as monthly honorarium for them, he said.

The farmers could submit applications for testing soil samples by furnishing a copy of Records of Rights, Tenancy and Crops (RTC). The work of collecting the soil samples was likely to commence from February, he said.

Farmers will also be provided with soil health cards with information on nutrient-content

Eight scientists will be deputed for the scheme, says Vice-Chancellor

Rare plant species found in Palakkad



Named *Chlorophytum palghatense*, the new species is endemic to the grassland ecosystem of the Dhoni and Muthikulam forests in the Western Ghats.

Scientists at the Centre for Medicinal Plants Research, Arya Vaidya Sala, Kottakkal, have reported the discovery of a rare plant species from the Dhoni hills in Palakkad district.

It was during an expedition to study the floristic diversity of the high mountains in the southern regions of the Western Ghats that the researchers led by scientist K.M. Prabhu Kumar and director Indira Balachandran came across the new species in the grasslands of the Palamala hills in the Dhoni mountain range.

The plant belonging to the genus *Chlorophytum* of the Asparagaceae family was later reported from the Elival hills of Muthikulam in Palakkad by a team comprising scientists from the Kerala Forest Research Institute, Peechi.

Named *Chlorophytum palghatense*, after the place of discovery, the plant is a perennial herb endemic to the grassland ecosystem of the Dhoni and Muthikulam forests at a height above 6,000 feet. It flowers and fruits from September to November. The finding has been published in 'Phytotaxa', an international journal on botanical taxonomy.

Distributed throughout Africa and India, the *Chlorophytum* genus is represented by 17 species in India, of which 15 occur in the Western Ghats.

Detailed taxonomic studies carried out at Shivaji University, Kolhapur, revealed that the new species was distinct from *C.sharmae* endemic to Munnar. Mr. Kumar said *C.Palghatense* was named thus to highlight the rich biodiversity of

Palakkad district, especially as a reservoir of rare plants endemic to the Western Ghats.

A study has been taken up to assess the medicinal properties of the new species, a pressnote quoting Ms. Indira Balachandran said. *C.Palghtense* has been found to be similar to safed musli (*C.borivilianum*), a medicinal herb also widely marketed as an aphrodisiac.

V.S. Hareesh and K.P. Vimal from the Department of Botany, Calicut University, and S.R.Yadav and Avinash Asraji Adsul from Shivaji University were part of the research team that reported the discovery of the new plant.

Organic farming in all Assembly segments

| SAFE TO EAT | |
|--|---|
| Project to convert Kerala into fully organic State by 2016 | <ul style="list-style-type: none"> ● Vegetables to be procured from farmers ● Krishi Bhavans to be involved |
| Kasaragod has already switched over to organic farming | <ul style="list-style-type: none"> ▶ Vending machines for every panchayat ▶ Neera, vegetable seeds, Kerafed products to be available ▶ Marketing through HortiCorp, VFPCK outlets |
| Kerala Agricultural University, Agriculture Department involved in promoting processing of agriculture products under Safe to Eat brand | Self-sufficiency in milk production likely in three years |

To make State fully organic by 2016

The government has initiated efforts to promote organic farming in all Assembly constituencies.

Minister for Agriculture K.P. Mohanan said here on Thursday that the initiative was designed to encourage farmers to switch over to organic methods of cultivation, under a project to convert Kerala into a fully organic State by 2016. Kasaragod district had already switched over to organic farming in the pilot phase of the project.

Addressing a press conference after a meeting to review the performance of public sector undertakings, Mr. Mohanan said the agriculture sector in the State had registered a Gross State Domestic Product growth of 5.26 per cent over the last year. The production of paddy went up to 5.376 lakh tonnes though the acreage of 2.148 hectares showed little increase. The productivity of other crops such as coconut, cassava, mango, pineapple and other fruits and spices, including pepper, ginger, and turmeric, also registered an impressive growth. The domestic vegetable production had gone up to 11.9 metric tonnes.

The Minister said efforts were on to procure vegetables from farmers through Krishi Bhavans and market them through outlets of HortiCorp and Vegetable and Fruit Promotion Council Keralam. Simultaneously, Kerala Agricultural University and the Agriculture Department were involved in a drive to promote processing of agricultural products under the “Safe to Eat” brand.

Vending machines

The government, he said, was planning to install vending machines in every panchayat to dispense neera, vegetable seeds and products manufactured by Kerafed. The project would be implemented by the departments of Agriculture and Panchayats. The daily production of neera was expected to go up to 20,000 litres by February with the commissioning of new plants by the Coconut Development Corporation at Aralam and Elathur and the KAU campuses at Vellanikara and Vellayani.

Mr. Mohanan said Kerala was expected to become self-sufficient in milk production in another three years. “By that time, we will have added 6,00,000 milch cows to the domestic bovine population, raising the milk production potential to 60 lakh litres.”

Officials from 20 public sector units participated in the review.

Let it be the year of water resolutions

Will harvest rainwater, will help rejuvenate a river, will... let the list of positives grow in 2015, says S. Vishwanath



The year 2015 – what will it hold for water and sanitation in our cities and villages? It began unexpectedly and auspiciously enough with rain. The message from nature is clear – look to rain and rainwater harvesting to help you through the good and bad times.

Some simple resolutions for this year will help and these are to be followed and not broken:

Will harvest rain and put rainwater to good use. Will be conservative in the use of water and as efficient in its use as possible.

Will do my utmost to keep India clean. Will not litter. Will clean up and leave every place better than when I visited it. Will segregate garbage. Will compost bio-degradable material and recycle all others.

Will participate in Swacchh Bharat with sincerity and become part of The Ugly Indian (www.theuglyindian.com). Will resort to action more than words.

Will visit and help a government school to improve its existing situation vis-à-vis water and sanitation. Will also help the schoolchildren with improved hand-washing and hygiene facilities.

Will help improve, restore and rejuvenate a lake or a river nearest to my community. Will help mobilise or become part of the community effort to do this.

Will participate in the ‘Hamara Jal-Hamara jeewan’ (our water, our life) campaign from January 13 to 17 being organised by the Government of India to help understand and act on the nearest water sources in my area as well as water planning and conservation.

To achieve the goal of an open defecation-free India by 2019, will help at least one rural family without a toilet access one and make sure that it is in a position to use it.

Will push local government and institutions to pay attention to and improve community and public toilets. We need these facilities for dignity, for convenience and as a right. We will make sure that the horrendous practice of manual scavenging is never resorted to and all workers of sanitation are given the dignity they deserve.

Will visit the source of a river, pay homage and clean the place as a tribute to this life giving force. Will plant local species of trees and make sure that they grow, wherever possible.

2015 is declared as the International Year of Soil and also the International Year of Light. It is the soil-water interface which helps grow crops and provides food. What we do to our waters and to our soil is what we do to ourselves.

Let 2015 be the year of water wisdom and literacy at all levels from the individual to society and to the nation.

As a famous singer sang ‘You may say I’m a dreamer but I am not the only one’.

Tropical forests absorb far more CO₂ than thought: NASA

Tropical forests may be absorbing far more carbon dioxide in response to its rising atmospheric levels than many scientists thought, a new NASA-led study says.

Tropical forests absorb 1.4 billion metric tonnes of carbon dioxide out of a total global absorption of 2.5 billion - more than what is absorbed by forests in Canada, Siberia and other northern regions, called boreal forests.

“This is good news because uptake in boreal forests is already slowing, while tropical forests may continue to take up carbon for many years,” said David Schimel of NASA’s Jet Propulsion Laboratory in Pasadena, California.

Forests and other land vegetation currently remove up to 30 percent of human carbon dioxide emissions from the atmosphere during photosynthesis.

In case the rate of absorption slows down, the rate of global warming would speed up.

The study is the first to devise a way to make comparisons of carbon dioxide estimates from many sources at different scales.

Researchers made use of atmospheric models, satellite images and data from experimental forest plots.

“Until our analysis, no one had successfully completed a global reconciliation of information about carbon dioxide effects from the atmospheric, forestry and modelling communities,” said Joshua Fisher of JPL and co-author.

As human-caused emissions add more carbon dioxide to the atmosphere, forests across the globe are using it to grow faster, reducing the amount that stays airborne.

This effect is called carbon fertilisation.

“All else being equal, the effect is stronger at higher temperatures, meaning it will be higher in the tropics than in the boreal forests,” Schimel pointed out.

The study appeared online in the journal Proceedings of National Academy of Sciences.

[DATA](#)

‘Nutritional intake grows in India’



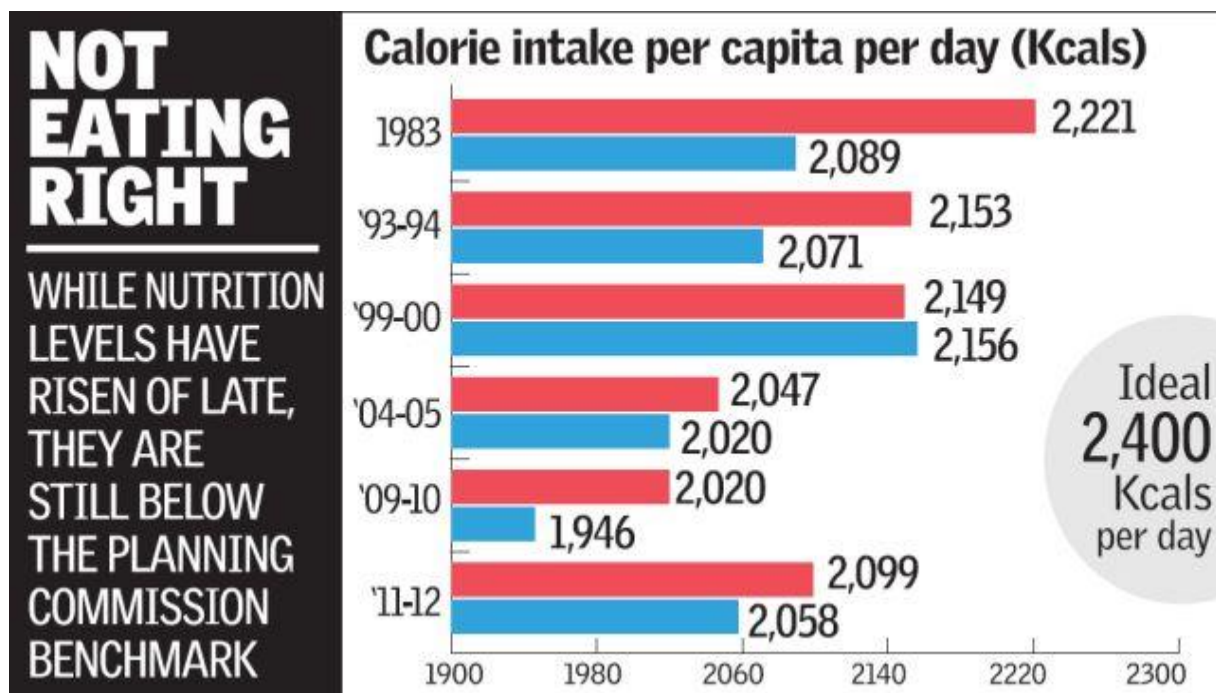
Per capita calorie consumption rose to 2099 kilocalories per day in rural areas and 2058 kilocalories per day in urban areas.

However, the data says the implications are unclear

Per capita calorie intake in India grew marginally for the first time in 30 years, new official data shows, and protein intake grew for the first time in over a decade.

The National Sample Survey Office's (NSSO) 2011-12 data on Nutritional Intake was released earlier this week. The data shows that per capita calorie consumption rose to 2099 kilocalories per day in rural areas and 2058 kilocalories per day in urban areas. Both numbers are still below a Planning Commission benchmark of 2,400 kilocalories per day.

But the proportion of acutely under-nourished people seems to be declining; the proportion of Indians who get less than 80 per cent of the recommended nutritional intake has declined to under one in five in rural areas.



The implications of this change are, however, unclear. For one, India's most developed states have the lowest average calorie consumption, pointing to the fact that higher calorie intake may not be a direct predictor of well-being. While Kerala, Tamil Nadu and Maharashtra saw slight increases in their per capita calorie consumption between 2009-10 and 2011-12, the number fell in rural Gujarat.

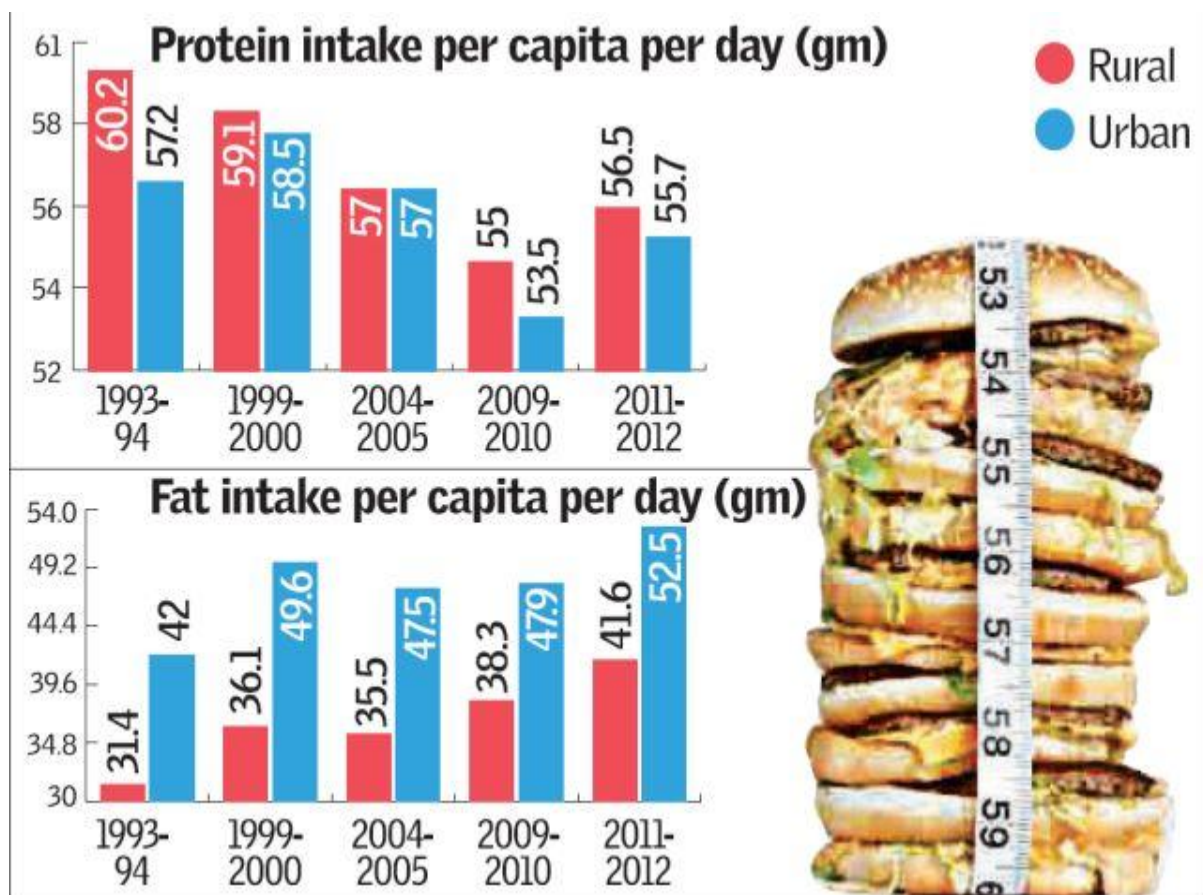
Karnataka's per capita income is nearly twice that of Jharkhand, but both have nearly the same average calorie consumption in rural areas. Calorie

consumption does rise steadily with family incomes, however, in both rural and urban India. The top five per cent of rural Indians consume double the calories as the bottom five per cent.

Several experts *The Hindu* spoke to were unwilling to comment on the new data, because the implications of calorie consumption has been fiercely disputed by economists over the last few years.

Economists Angus Deaton and Jean Dreze noted in a 2009 *Economic and Political Weekly* article that calorie intake had declined in a period of rising incomes, and a possible explanation could be lower levels of physical activity.

These possible explanations apart, the Indian population undoubtedly suffered from severe nutritional deficits, they said, of this “puzzle”.



The share of cereals in total calorie intake has steadily declined, the data shows, and is down to just over 60 per cent in rural Indian and 50 per cent in rural India. The share of meats and dairy has grown only slightly, while the share of oils and fats has grown sharply.

While protein intake has grown on average, there are mixed trends among States. Protein intake fell in Bihar, Gujarat, Haryana and Rajasthan, but rose in Kerala, Andhra Pradesh and Tamil Nadu.



Diet Diary: Wake up to the benefits of drinking coffee



Coffee beans are cured either by air-drying or fermentation.

If you thought your favourite cup of coffee was unhealthy, think again!!

Coffee's origin can be traced back to the 12th century in Ethiopia, where it is believed to have been first harvested. "Traders brought coffee to the Middle East, from where it began to spread outward in the 15th century, penetrating every corner of Europe over the next two hundred years". Brazil is one of the largest coffee producing countries in the world.

The last few years, urban India has acquired a new coffee culture. International chains are opening coffee shops and doing brisk business, even in smaller towns. While, South Indian filtered coffee has been a tradition, India in general is waking up to coffee.

Coffee beans are cured either by air-drying or fermentation. The dried hulled beans are then roasted and ground. The green coffee beans have little flavor and aroma, until they are roasted. Beans expand to one-and-a-half times of their

original size and become porous and are classified according to the colour of roasting into light, medium, dark, Italian or French, which are very-dark.

Most coffee beans are harvested directly from coffee trees, while, a special variety called Kopi Luwaka also known as civet coffee beans are passed through the digestive tract of a cat-like animal called civet. The enzymes in the civet's digestive system break-down some proteins that give the beans bitterness and its unique mellowness. Interestingly, this is the world's most expensive coffee, which typically sells for \$200- \$600/lb.

These treasured coffee beans come from Indonesia and other southeast Asian countries, and their supply is limited.

While there are several coffees, most of the world's coffee comes from two species – *coffea Arabica* and *coffea Robusta*. Both these kinds of coffee bushes bear the fruit called cherry. Most cherries have two coffee beans in them, but a small percentage of cherries of the Arabica have only one coffee bean and this is the rare pea-berry bean. This pea-berry has much more flavor than its sister bean on the same Arabica plant, which is called the plantation bean. Arabica provides more taste and flavor, while Robusta more body and caffeine.

Other forms of coffee include – decaffeinated, instant, iced and flavoured coffee. Many health-conscious people have turned to de-caffeinated coffee, but there have been questions regarding safety of the decaffeinating process itself. Several de-caffeination processes are available including water, steam, carbon-dioxide, ethyl-acetate, methyl-chloride or coffee oils. However, now most decaffeinated coffee is made from methods which use water and steam with no chemical solvents and are therefore safe. Instant coffee powders contain dry, powdered water-soluble solids produced by drying very strong brewed coffee. The flavor of instant coffee is similar to that of freshly brewed coffee but the aroma is somewhat lacking in comparison with the freshly brewed beverage. These coffees should be kept packed in air-tight containers because they tend to absorb moisture. \Coffee contains more than 400 chemicals including trace amounts of vitamins, minerals and anti-oxidants. Caffeine is the main stimulant. A regular cup of coffee contains approximately 100 mg of caffeine. The caffeine content varies enormously depending on how strong the coffee is made. Caffeine increases epinephrine (adrenaline) release, which stimulates the central nervous system, increases states of alertness and increases heart-beat. Despite its growing popularity, most people believe coffee to be somewhat toxic

addiction taken only as an indulgence or to overcome sleep and boost alertness. Several, health concerns have been attributed to coffee drinking including its addictive nature, ill-effects on digestion, bone health, cardio-vascular health, disturbed sleep, high blood pressure, infertility and increased incidence in pancreatic or bladder cancer.

Four new missions to boost response to climate change



New plans to include endeavour to improve the country's wind energy.

Seeking to broaden India's response to climate change, the government will soon add at least four new 'missions' to the National Action Plan on Climate Change (NAPCC), including one to promote wind energy, and another to build preparedness to deal with impacts on human health.

A programme for more effective management of India's coastal resources and another to harness energy from waste is also slated to be launched.

Currently, eight 'missions' are operational, each of which is a sectoral response to the impacts of climate change. Three of them — on solar energy, afforestation and energy efficiency — seek to slow down the growth of India's emissions. Another three — on agriculture, water and Himalayan eco-systems — are about initiating measures to adapt to the effects of climate change. The remaining two — on sustainable habitat and strategic knowledge — are service missions and seek to create more knowledge on useful climate responses.

The Wind Mission is modelled on the National Solar Mission which seeks to increase the share of renewable energy in India's energy mix. The Solar Mission has been one of the most important components of the NAPCC as it has

the maximum impact on slowing down the growth of India's greenhouse gas emissions. The government recently enhanced the target of electricity production under the Solar Mission from the original 20,000 MW by 2022 to 100,000 MW.

The Wind Mission is likely to be given an initial target of producing about 50,000-60,000 MW of power by the year 2022, the year when the 13th five year plan will come to an end. Already, there is about 22,000 MW of installed capacity of wind energy in the country. Like the Solar Mission, the Wind Mission will be serviced by the Ministry of New and Renewable Energy.

The Health Ministry, meanwhile, has been working on finalising a 'mission' on dealing with climate impacts on human health — an area that got overlooked when the original eight missions were being finalised. The 'mission' is likely to carry out a comprehensive assessment of the kind of effects climate change is likely to have on human health in different regions of the country and build up capacities to respond to these and also to health emergencies arising out of natural disasters.

The 'mission' on India's coastal areas will prepare an integrated coastal resource management plan and map vulnerabilities along the entire nearly 7000-km long shoreline. The Environment Ministry, which already regulates activities along India's coasts through the Coastal Regulation Zone (CRZ) rules, is supposed to house and service this mission.

The waste-to-energy mission will incentivise efforts towards harnessing energy from all kinds of waste and is again aimed at lowering India's dependence on coal, oil and gas, for power production.

The four 'missions' have to be put before the Prime Minister's Council on Climate Change for the final approval before they can be launched.

The PM Council, which gives direction to climate policy, was reconstituted by the new government in the first week of November but is yet to meet. The previous council, during UPA government's time, had not met for more than three years. Sources said a meeting of the PM council is likely to take place before the visit of US President Barack Obama who is coming to attend the Republic Day function.

Apart from launching the new 'missions', the PM Council is also due to review the performance of the existing eight 'missions', many of which have remained

mostly ineffective. These ‘missions’ are likely to be strengthened and given a new direction by the Council with higher performance targets, just like it was done for the Solar Mission some time ago.

THE MISSIONS POSSIBLE:

Wind energy

- Modelled on National Solar Mission
- To be serviced by Ministry of New and Renewable Energy
- To produce 50,000-60,000 MW of power by 2022

Human health

- Assess impact of climate change on human health
- Build up capacities to respond to these
- Being looked after by Health Ministry

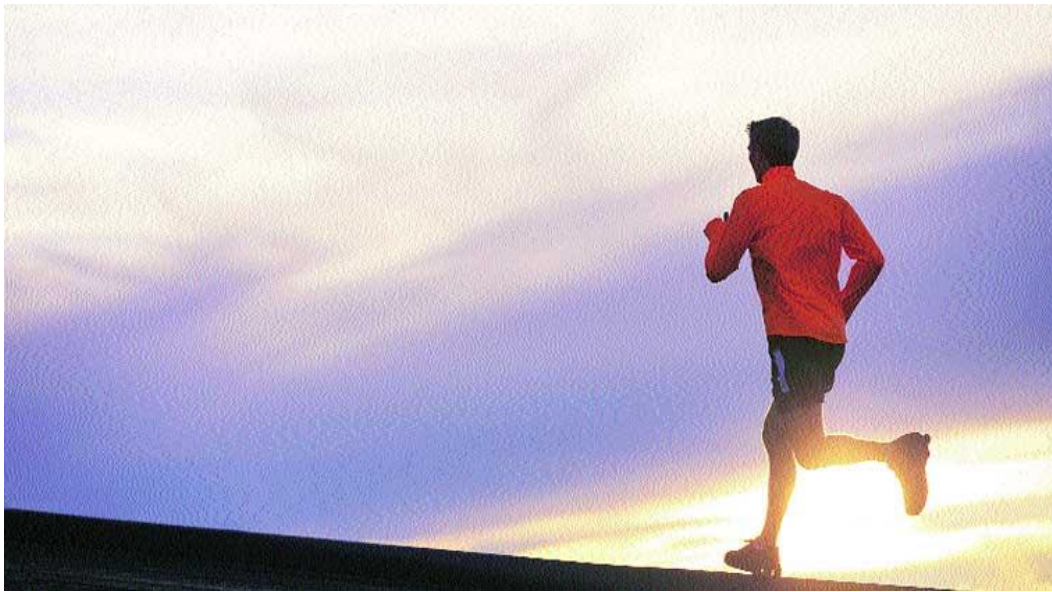
Coastal resources

- Prepare integrated coastal resource management plan
- Map vulnerabilities along the entire shoreline
- Environment Ministry to look after the mission

Waste-to-energy

- Incentivise efforts towards harnessing energy from waste
- Lower dependence on coal, oil, gas
- Make power production a more earth-friendly process

Exercise may change our DNA



Enter epigenetics, a process by which the operation of genes is changed, but not the DNA itself.

We all know that exercise can make us fitter and reduce our risk for illnesses such as diabetes and heart disease. But just how, from start to finish, a run or a bike ride might translate into a healthier life has remained baffling.

Now new research reports that the answer may lie, in part, in our DNA. Exercise, a new study finds, changes the shape and functioning of our genes, an important stop on the way to improved health and fitness.

The human genome is astonishingly complex and dynamic, with genes constantly turning on or off, depending on what biochemical signals they receive from the body. When genes are turned on, they express proteins that prompt physiological responses elsewhere in the body. Scientists know that certain genes become active or quieter as a result of exercise. But they hadn't understood how those genes know how to respond to exercise.

Enter epigenetics, a process by which the operation of genes is changed, but not the DNA itself. Epigenetic changes occur on the outside of the gene, mainly through a process called methylation. In methylation, clusters of atoms, called methyl groups, attach to the outside of a gene like microscopic mollusks and make the gene more or less able to receive and respond to biochemical signals from the body.

Scientists know that methylation patterns change in response to lifestyle. Eating certain diets or being exposed to pollutants, for instance, can change methylation patterns on some of the genes in our DNA and affect what proteins those genes express. Depending on which genes are involved, it may also affect our health and risk for disease.

Far less has been known about exercise and methylation. A few small studies have found that a single bout of exercise leads to immediate changes in the methylation patterns of certain genes in muscle cells. But whether longer-term, regular physical training affects methylation, or how it does, has been unclear.

So for a study published this month in *Epigenetics*, scientists at the Karolinska Institute in Stockholm recruited 23 young and healthy men and women, brought them to the lab for a series of physical performance and medical tests, including a muscle biopsy, and then asked them to exercise half of their lower bodies for three months.

One of the obstacles in the past to precisely studying epigenetic changes has been that so many aspects of our lives affect our methylation patterns, making it difficult to isolate the effects of exercise from those of diet or other behaviors.

The Karolinska scientists overturned that obstacle by the simple expedient of having their volunteers bicycle using only one leg, leaving the other unexercised. In effect, each person became his or her own control group. Both legs would undergo methylation patterns influenced by his or

Good morning! Bake this Banana Bread for breakfast



Banana Bread recipe

Last night I saw that the last of the three bananas in my fruit basket are not really up for eating and with the weekend coming up, I thought what a perfect reason to make some banana bread. There is something exotic and delicious about waking up to the aroma of banana in the oven. And I felt like treating my family to this beautiful aroma this morning. What a way to say Good Morning 2015.

This bread is different from my usual banana bread. My husband loves coconut so this time I added some coconut and pecans to the mix. Instead of pecans you can also use walnuts. The coconut is not so much to overpower the flavour of bananas but just sufficient to give a hint of it. As a new year gift, I also wanted to gift a small loaf to my neighbour, so the quantities here are for one big (10X4 inch loaf tin) and one small (6X3 inch loaf tin) loaf.

Ingredients

315 gms all-purpose flour (maida)
1 tsp baking soda
1 tsp baking powder
1/2 tsp salt
40 gms desiccated coconut
100 gms brown sugar
210 gms white castor sugar
3 eggs
1 tsp vanilla extract
125 ml sunflower oil
3 very ripe bananas
50 gms chopped pecan nuts

Method

- * Preheat oven to 180°C
- * Grease and line the loaf tins
- * Peel and mash the bananas very well
- * In a large bowl, sift together flour, baking soda, baking powder and salt.
- * Stir in the coconut and keep aside.
- * In another bowl, using an electric whisk, mix together brown and white sugar, eggs and vanilla extract, for about 3-4 mins.

* Whisk in the oil until just combined, then add the mashed bananas. Stir well to combine.

* Add the dry ingredients to the batter gradually, mixing lightly.

* Add in the pecans.

* Divide the batter between the prepared loaf tins.

* Bake until well risen and golden brown on top and a tester comes out clean (40-50 mins)

* Leave to cool in the pans for about 10 mins. Remove and enjoy!



weather

Chennai

Today's Weather



Partly Cloudy

Saturday, Jan 3

Max Min

28° | 23°

Rain: 0

Sunrise: 06:31

Humidity: 94

Sunset: 05:54

Wind: normal

Barometer: 1015

Tomorrow's Forecast



Partly Cloudy

Sunday, Jan 4

Max Min

29° | 22°

Extended Forecast for a week

Monday
Jan 5



29° | 23°

Partly Cloudy

Tuesday
Jan 6



27° | 23°

Sunny

Wednesday
Jan 7



27° | 24°

Sunny

Thursday
Jan 8



27° | 23°

Partly Cloudy

Friday
Jan 9



25° | 22°

Partly Cloudy

THE TIMES OF INDIA

Recipe: Homemade mixed fruit jam



Recipe: Homemade mixed fruit jam

I can still recall the fragrance of jams being prepared by my mother when I was young. She believed homemade jams are the best.

From raspberries, marmalade, strawberries and mixed fruit jams, she could make them all! I can recall the mixed fruit jam in some easy steps. So enjoy cooking and savouring this delicious jam.

Ingredients:

- 2 ripe apples (peeled and chopped)
- 2 ripe bananas (peeled, cored and chopped)
- 2 oranges (peeled, cored and chopped)
- 6 plums (peeled, cored and chopped)
- 4 cups of seedless black grapes
- 6-8 strawberries (chopped)
- 1 full pineapple (peeled, cored and chopped)
- 1 1/2 cups of sugar or more if required
- 1/2 tbsp lemon juice

Method:

1. In a blender or mixer add all the fruits and blend until smooth to form a

puree.

2. In a pan, add the puree along with sugar and cook on medium flame stirring continuously till it comes to a boil.
3. Slow flame and let it simmer until the puree thickens. Stirring on regular intervals.
4. Once the puree starts to thicken it will become like semi-solid jam. Then add the lemon juice and mix well.
5. Cook until jam becomes thick. Keep stirring on intervals. It will takes about one and half hour on low heat.
6. You can stop cooking once the desire consistency reached.

Tips:

1. Make sure to cook in slow flame only and stir regularly.
2. If you want to check whether or not your jam is ready, pour jam the jam lifting it on your spatula, it should flow together and not in drops.
3. Pour a few drops of jam on a plate, if its spreads then it's not ready, if it stays firm without moving then your jam is ready.
4. Once ready remove from heat, allow to cool slightly and then store in sterilize jar.

Recipe: Aloo Gosht



Recipe: Aloo Gosht

Preparation time: 15 mins

Cooking time: 1 hour

Serves:4

Ingredients

1 cup clarified butter
1 Kg Mutton
1 Cup Curd
1 tablespoon Black Pepper
1 tablespoon Cumin seeds powder
1 tablespoon Red Chillies Powder
2 tablespoon Coriander Powder
8 small Cardamom
Half a tablespoon of Turmeric
1 tablespoon Onion-Garlic Paste
10 pieces of Cloves
Salt to taste
1 tablespoon of finely cut ginger
4 tablespoon of fried onions
½ tablespoon cardamom pieces
2 cups of cut potatoes
½ tablespoon Karim's garam masala

Method:

-Heat ghee in a pan and add the mutton, curd, black pepper, cumin seeds, red chilli powder, small pieces of cardamom, cloves, coriander powder, turmeric, onion-garlic paste, ginger and salt to taste.

-Cover the pan with a lid and cook it for 5 minutes.

-Add fried onions, cardamom, cut potatoes and add Karim's garam masala. Let it cook for another 45 minutes with the lid put on.

-Garnish with coriander leaves and serve hot.

Recipe: Gosht Dum Biryani



Recipe: Gosht Dum Biryani

Dinkar Sardesai, executive chef of Rama International, Aurangabad shares the authentic recipe of Gosht Dum Biryani.

Ingredients

1 kg Lamb meat
600 gm Basmati rice
100 gm Ghee
5 gm Clove
2 gm Cardomom seeds
3 gm Cinnamon
75gm Ginger garlic paste
4 nos Green chillies
1 tsp Kewra water
1 gm Saffron
Salt to taste
100 gm Onion sliced
2 pc Bay leaves
250 gm Curd
10 gm Red chilli powder
5gm Fresh mint leaves
5 gms Coriandaer leaves
2 gm Cardomom powder
2 gm Mace powder
20 ml Milk

Method

1. Clean the mutton.
2. Soak the saffron in a little warm milk.
3. Wash basmati rice and soak in water for at least 1 hour.
4. Boil the basmati until three fourth done.
5. Cut ginger, green chilli and mint leaves into fine julienne.
6. In a pan, heat the ghee, stir fry the onion, cloves, bay leaves and cardamom, to a golden brown colour, add the mutton cubes, ginger-garlic paste, season to taste and cook on high heat for 10 minutes.
7. Add yogurt to the mutton as well as red chilli powder and slowly cook until the meat is almost done.
8. Remove the meat from the pot and strain the gravy (jhol).
9. Take another pot, add kewra water, cardamom and mace powder and milk dissolved saffron and cook for few minutes more.
10. Add the cooked mutton to the flavoured and seasoned jhol and the $\frac{3}{4}$ done rice to this.
11. Cover this pot with dough of bread, brush it with saffron and milk mixture and bake for 20 minutes.
12. Serve hot with salan and garlic flavoured raita.

Why you should drink orange juice

Drinking a glass of orange juice a day can keep your skin glowing and keep cold away. Orange juice is known to contain a high percentage of Vitamin C, which is helpful in boosting the immune system.

So, you will be less likely to catch various illnesses, such as cold or flu. Also, medical studies show that orange juice may help lower both cholesterol and blood pressure levels.

What's your squeeze?

Don't mix sugar with orange juice. Always remember that you do not need to drink a whole lot of orange juice in order to get these healthy benefits. In fact, since orange juice is fairly high in calories, avoid drinking too much of the stuff. If you are drinking canned orange juice, then be sure to check the sugar content on the label when choosing orange juice if you really want to get the highest amount of health benefits from your orange juice and, ultimately, prevent weight gain (since high sugar levels can cause it).

Pulp fiction

It is often said that orange juice containing pulp tends to be healthier for the body, but it is an issue that is often debated. If you have a stomach condition, remember that orange juice is very acidic and for that reason, it may cause a stomach upset. Due to its acidity, orange juice can also cause tooth damage , if left uncared for.

How often should you eat?

Three meals a day or eight? TOI speaks to experts who seem to have contrary opinions.

In our race to be the biggest loser, most of us go after different diets. The trusted and age-old three-meals-a-day concept works for some, while others swear by the new-age eight-meals-a-day. Most of us have been brought up on the notion that having untimely in-between meal snacks, is one of the major causes of weight gain. Of late, however, a number of trainers, nutritionists and dieticians have come up with the 'six-to-eight-meals-a-day' plan. And many Bollywood actors and actresses claim that following such diets have made them the biggest losers.

They believe that in-between snacks help them stay slim and this regular intake also boosts metabolism. However, there are health gurus and trainers who believe that eating too many meals may just work against you and increase your weight. Read on to find out what the experts have to say...

Eat six to eight meals a day

Eat to burn! This can be one of the easiest and most reliable ways to ensure fat loss. Digestion itself is a calorie-burning activity. For every calorie you ingest, your body uses some to burn what you are eating. The question is, how do you make this wonderful feature of your body work for you? This is the essential principle behind the practice of frequent eating where eating at shorter intervals (six to eight meals a day or more!) enables your body to use more calories to aid digestion. When you constantly provide fuel to your body, it means you are also tickling your body to work. Keep working, keep burning. This is called the thermogenic effect of food and it is not only an incredibly smart way of losing weight, it also helps you increase your BMR (Basal Metabolic Rate).

I like to call this the Internal Workout — because by continually making it work for digestion, you're giving your body a workout. And while you may not be able to see the furious digestive activity going on in your body at any point in time, trust me, your body is working way harder than if you eat at longer intervals (three-to-four meals a day).

- says Pooja Makhija, Consulting Nutritionist and Clinical Dietitian

More meals means less stored fat

Eating six to eight meals a day rather than three, is better because it boosts metabolism, controls blood sugar levels and helps in weight management.

Consuming three meals increases the likelihood that one will start an exercise regime with a low blood sugar level. For instance, if we eat lunch around noon, generally our second meal of the day, we would not have much energy for an optimal, calorie-burning workout in the evening.

On the other hand, if we follow a six-meal-a-day plan and have a small meal around noon and another meal around 3 pm, our blood sugar level would be more stable, providing us with more energy for our workout. Cortisol, a hormone, breaks down body fat. However, if we eat a large, high-calorie meal, cortisol is produced in large quantities, but transports the fat from under the skin to deep within the abdominal cavity. This increases the risk of chronic diseases including abdominal obesity, heart disease and diabetes. Incorporating a six-meal-a-day plan into one's routine decreases the magnitude of cortisol production.

Eating within 30 minutes of every exercise session enables our muscles to maximally replenish the glucose we used during the workout. Consuming another meal two hours after the post-workout meal further enhances post-exercise recovery and replenishment.

Eating every three-to-four hours can ward off hunger and prevent binges that lead to weight gain. It also maintains metabolism and can help regulate proper digestion to prevent gastrointestinal discomfort.

When people consume the same number of calories in one single daily meal rather than three, they show significant increase in blood pressure, total cholesterol levels and levels of 'bad' LDL cholesterol.

Eight meals increase our energy levels, accelerate muscle growth, and speed up our metabolism without storing fat. In fact, frequent eating will actually allow us to eat up to 50 per cent more calories without storing an ounce of it as fat.

- says Dr Shikha Sharma, MBBS Doctor and Wellness Expert

Follow your hunger, don't eat mechanically

It is very important to understand the circadian rhythm of the body. As per our ancient science, Ayurveda, it is all about appropriate time for appropriate food in appropriate quantity.

It is also important to understand that the body needs time to utilise the fuels released from our food. Our body has its own natural rhythm which is as follows:

- 12 pm to 8 pm is the ideal period for human digestive capability. So, most nutrients must be consumed at this time.
- 8 pm to 4 am is assimilation time, where the body begins to slow down.
- 4 am to 12 pm is elimination time/detox time, if you are following a proper and disciplined lifestyle.

The body's digestive process slows down after sunset as the energy on that side of the earth is ebbing. So, all the food eaten post sunset becomes difficult to digest. The later you eat, you must make sure to choose your food sensibly.

The thumb rule of eating small meals six to seven times a day, which occidental science suggests is rooted only in the shallow system of addressing the BMR / calorie counting.

Even the book Fit For Life by Harvey and Marilyn Diamond suggests the vedic principles of food discipline.

Always remember, to never eat by the rule of the thumb. Go by the bio-feedback and follow your hunger needs. Hunger is the need of the body, and appetite for more meals, is the greed of the body. Eating mechanically should never be the case. Eat with awareness as you are not only consuming cosmic energy but cosmic intelligence too.

- says Mickey Mehta, Holistic Health Guru

Our body was always accustomed to being fed at regular intervals

There is this common perception that I have come up with this radical idea of multiple meals a day. But most of us, apart from the three main meals, have always eaten in between, just that we never thought of those as "meals", a terminology of the new age nutrition. By default, the body was and is accustomed to being fed at regular intervals as evident in newborn babies who need to be fed constantly. At the basic physiological level, this ensures a steady level of blood sugar in our body and sends a signal that 'all is well' and it can continue with its regular processes. On the other hand, not eating for long hours sends the body into a state of panic and it reacts by converting food into fat for any eventuality (read — scarcity of food).

The act of eating often during the day can only happen when communication is established with the stomach, the biggest diet guru on earth. This process is facilitated by the four principles of eating right.

Eating as soon as we are awake kickstarts our metabolic rate and signals our bodies that our nightly fast is broken. Tea, coffee, or any other stimulant, does the exact opposite by suppressing the signals of hunger.

Eating at regular intervals post this reassures our bodies that nourishment is readily available and that it no longer has to convert every meal into future fuel i.e. fat.

Eating more when we are more active and less when less active will happen naturally once we are in tune with our appetite. Everybody is unique so we can't standardise the number of meals a day. For most of us there is the call of hunger every two-three hours. It is up to us whether we want to listen to it or ignore it.

Of course, as all good things come to an end, eating the last meal of the day a few hours prior to bedtime allows our body to digest and assimilate all the nutrients it needs before focusing on its essential function of recovery during our sleep. If the last meal is too heavy or eaten too close to bedtime, the body will be unable to carry out its recovery and thus will leave us feeling uncomfortable the next day.

- says Rujuta Diwekar Celebrity nutritionist and author

'Breakfast kickstarts your metabolism' is utter nonsense

London-based personal trainer Venice A Fulton negates the notion of six-to-eight meals a day and says that one should only eat three good meals a day and no in-between snacks. In his book *Six weeks to OMG: Get Skinnier Than All Your Friends*. Venice (real name Paul Khanna), claims he can help you lose upto around 10 kgs in six weeks. Venice states that the belief — "each time we eat we boost our metabolism and our chances of losing weight" — is wrong and just wishful thinking". He adds that our snacks have become meals and we eat more than we realise during the in-between-meal times. There is no point in eating six or more times a day because just sticking to three meals also controls our appetite as it releases leptin (a chemical that tells our brain we are full). Venice says in an interview on a video-sharing website, "The belief 'breakfast kickstarts you metabolism' is utter nonsense", and goes on to state that metabolism begins the moment you wake up. A cold bath or shower in the morning helps burn calories too.

- says Venice A Fulton, Personal Trainer and author

Why no more than three meals

- You will end up in the toilet more often.

- You will be fatter because your in-between snacks may be much bigger.

- All that food will make you visit your dentist more often!

THE HINDU BusinessLine

TNAU to host Farmers' Day

Coimbatore, January 2:

The Farmers' Day event, an annual feat organised by the Farm Varsity here just ahead of Pongal festival, is scheduled between January 6 and 9.

Tamil Nadu Agricultural University is hosting this event — Southern Regional Agricultural Fair and State Level Farmers' Day — in association with the Ministry of Agriculture, and the Tamil Nadu Government.

The event is considered to be of significance to farmers as the university uses this platform to release new crop varieties and farm implements. The release this year will comprise seven crop varieties including three rice varieties, one each of sorghum, cluster bean, coconut hybrid and wheat and two farm implements.

Seminars on various critical field issues and crucial topics in agriculture have been planned for the benefit of farmers. There is also going to be an expo of farm implements, newly evolved crops in agriculture and horticulture, products developed by SHGs and agripreneurs among others, said Vice-Chancellor of TNAU K Ramasamy

And to motivate farmers, a cash prize of Rs. 10000 along with a memento and certificate is being proposed.

Like bees to flowers, Bharatpur takes to apiculture



Sweet buzz Beekeeping gives farmers an extra income and increases crop yields significantly Kamal Narang

Landless and marginal farmers turn beekeepers in this leading centre for honey production

Go closer to the lush golden fields that extend as far as the eye can see and you realise what makes Rajasthan's Bharatpur district buzz. The fields in this leading mustard-producing district are flooded with the iconic yellow flower, with hundreds of bees hovering over the petals. Yes, this region is the second-largest producer of honey in the country, generating 1,200 tonnes annually from 3,200 beekeepers, most of them young with none or marginal land holdings.

While beekeeping as an agri-based livelihood requires low inputs and yields high profits, it requires training and the willingness to migrate to cooler climes in search of other crops and plantations in the summer months.

For the farmer, the expansion of apiculture (honeybees carrying out cross-pollination of yellow mustard flowers) has more than one advantage — it helps in increasing the crop yield by as much as 20 to 25 per cent and the entire family can get into the beekeeping business. However, this was not what farmers believed in the late 1990s when beekeeping was introduced in the region. It was the brainchild of Lupin Human Welfare & Research Foundation when it went in search of non-farm occupations for rural India.

“We chose Bharatpur district for development as it was equidistant from Delhi as well as the State capital Jaipur,” says Sita Ram Gupta, the Executive Director who joined the project way back in 1989. An initiative of pharmaceutical major Lupin's Chairman Dr Desh Bandhu Gupta to give back to society, the Foundation, he recalls, negotiated social and political hiccups in the various livelihood programmes it started, seeing success in many and failure in some.

Beekeeping has grown to be the flagship project of the organisation. A model unit of apiculture generally comprises 50 bee-boxes and certain accessories. These are placed in agricultural fields near crops that are flowering. Each honeybee covers a distance of 2-3 km to collect nectar from the flowers. When the beehives inside the bee-boxes become full with honey, they are processed by a simple machine that helps collect both honey and wax. “At first, farmers were wary, believing that it will harm the crop. Decades later they have realised that not only has it given them better yields from their mustard crop, but also

jobs for the youth and an extra income,” explains Bhim Singh, additional chief project co-ordinator.

Some have taken to beekeeping like bees to flowers. Says Hardiyal Singh, from Nagla Kalyan village, one of those who started with eight boxes of bees and today has 1,800 boxes, two vehicles for travelling around the country and a formidable reputation. “I was a para teacher who did not enjoy what I was doing. Beekeeping came as a great opportunity. I roped in my brothers as well and now all three of us do nothing else. We are selling honey at Rs. 125 a kg today and supply to a successful local exporter, who was once a beekeeper too.”

While Hardiyal and his brothers own vehicles, another 30 to 40 smaller beekeepers in the village, like Dalchand, use public transport but earn as much as Rs. 6 lakh annually. “I have just 250 boxes and payments are seasonal, but it gets me enough to feed my family and send my three daughters to school. I also have a small land holding that my wife Saraswati looks after in my absence,” he says. While mustard yields honey for Dalchand from October to November, he moves to Kota district in March, April to allow his bees to hover around the dhanian plant, followed by eucalyptus in Budaun, Uttar Pradesh during August and September, and back home to mustard for the rest of the year.

“In Bharatpur district, 23 per cent belong to Scheduled Castes and 12 per cent to the Meo community. Many of them are totally marginalised, so non-farm incomes are important in this region,” says Sita Ram. The Lupin foundation identifies need-based programmes and through its village representatives ensures that the village community and the State administration add to the funding allocated by Lupin. Its livelihood projects include gem cutting and polishing, stone handicrafts, *mudda* making, bangle kilns among others. Its location-specific occupations include fisheries, *chauraha* development, backyard poultry, dairy development, floriculture, vegetable farming and of course beekeeping, which has seen immense success.

Today the region is an export hub for honey, thanks to farsighted beekeeper-turned-top exporter Vinit Singh, who runs the Brij honey processing plant here. It also has companies such as Zandu, Dabur and Khadi and Village Industries flocking to it for raw material. This sure is a sweet sign for the district, with the potential to get sweeter in the future.

The writer visited the district at the invitation of Lupin Foundation

43 million kg tobacco sold on Karnataka auction floors

Guntur, January 2:

The virginia tobacco auctions in Karnataka have gathered momentum and so far 43 million kg of the crop have been sold on the 12 floors in the State at an average price of Rs. 114.20 a kg, according to officials in the Tobacco Board.

The authorised crop in that State is 104 mkg and no surplus is expected. Planting in Andhra Pradesh has been completed in most of the areas in the northern light soils, southern lights soils, southern black soils and northern black soils.

The authorised crop for the State during the crop year (2014-15) is 172 mkg.

During the last season (2013-14), against the authorised crop size of 172 mkg there was a surplus of 41.93 mkg in Andhra Pradesh.

On the floors of the State, 213.93 mkg of tobacco was sold at an average price of Rs. 116.06 a kg, which was Rs. 2.26 more than the previous year.

Surplus crop

“The farmers in the State should understand that despite the surplus they could get a good price last season on the floors. But every time they may not be so lucky. The surplus crop depresses the price on the floors. They should, therefore, regulate the crop size and co-operate with the Board,” said K Gopal, Chairman, Tobacco Board.

He said there were no illegal off-the-floor sales in AP last year in spite of the surplus.

The electronic auction system had also brought in transparency, he said.

Pesticide residues had also been brought down.

The farmers in West Godavari district (northern light soils) have been restive that per-barn quota fixed by the board is not realistic and therefore they have no choice but to grow surplus to make cultivation sustainable.

Chana leads the drop in rabi plantings

Potato output to drop 5% on adverse weather, sliding acreage



New Delhi, January 2:

The area under various rabi crops continues to trail with coverage as on January 2 being 552.82 lakh hectares (lh). This is against 579.63 lh during the corresponding period a year ago, according to data released by the Agriculture Ministry on Friday.

The major fall is in the acreage of chana or gram, which has dropped by over 15 per cent. According to the data, chana has been sown on 79.65 lh so far compared with 95.03 lh a year ago.

In turn, this has dragged the total area under pulses to 129.99 lh against 144.79 lh.

Among other crops, wheat, the most important foodgrain of the rabi season, has been sown on 293.16 lh compared with 294.30 lh with the area in States such as Madhya Pradesh dropping.

The total area under coarse cereals is also lower at 51.17 lh against 56.18 lh.

Oilseeds' coverage has dropped to 75.43 lh from 80.93 lh.

The drop in acreage, owing to poor soil moisture on account of a 12 per cent deficit in South-West monsoon and over 30 per cent deficit in the current north-east monsoon, could affect rabi production.

Earlier this week, Agriculture Minister Radha Mohan Singh said production is likely to be marginally lower this season to June due to lower acreage. Kharif

production, too, has been estimated some 10 million tonnes (mt) lower with foodgrain production projected at 120 mt.

Congencis adds : The country's potato output is estimated lower at 41.97 mt this season, down 5.3 per cent from the 44.31 mt a year ago as adverse weather in key growing areas impacted its yield, National Horticulture Research and Development Foundation Director RP Gupta has said.

“This is the first advanced estimate for potato output...it is too early to decide whether the estimate will be higher or lower on year...Output may or may not increase,” Gupta said.

Erratic monsoon last year had severely affected sowing of most crops, including potato. Acreage of potato is also seen slightly lower at 19.8 lh, from 20.2 lh a year ago, Gupta said.

Tea Board rolls out plant protection code

Chennai, January 2:

The Tea Board has begun implementing the plant protection code from January 1 to bring down usage of harmful pesticides and insecticides in plants. But small tea growers are worried a lot as they are of the view that the rules are confusing.

In a circular on Thursday, the Tea Board said all small tea growers will have to give a signed declaration to bought tea leaf factories that they have not used any pesticide or chemical banned by the Centre on their estates.

Welcoming the enforcement of the code, the Confederation of Small Tea Growers Association, however, said growers are yet to get a list of banned chemicals and pesticides till now. Pointing out to a September circular from the board that listed out 37 plant protection formulations, association president Bijoy Gopal Chakraborty said currently, only 33 such formulations have been listed.

Looper caterpillar, helpeltis are the major pests in tea plantations, especially in Assam and North Bengal. Limited formulations are insufficient to control these pests, which could rest in huge losses to small growers, Chakraborty said, stressing the need to expand the list.

The technical committee for implementing the plant protection code should be expanded and small growers should get representation to address their problems, he said.

Hatcheries seek shrimp seed multiplication centres



Kakinada, January 2:

The All-India Shrimp Hatcheries' Association has urged the Centre to set up multiplication centres to meet the excess demand for brood stock for shrimps and provide quality seed.

Steps should also be taken to regularise and regulate the unauthorised shrimp hatcheries, according to L Satyanarain (alias Tikku), President of All-India Shrimp Hatcheries' Association .

“Otherwise, the whole industry will be affected and every one will suffer,” he said. Quality seed holds the key for sustainable shrimp culture.

Therefore, proliferation of hatcheries and production of seed without the requisite safeguards does not augur well for the industry, said Satyanarain.

Regulation needed

In an interview here, he said the proliferation of shrimp hatcheries on the East Godavari coast in recent times in Thondangi and Uppada mandals was not a healthy trend as “the number of hatcheries has doubled from 60 to more than 120.”

However, the Coastal Aquaculture Authority of India (Chennai) is bringing them into the regulatory orbit and trying to bring the situation under control, he said.

Satyanarain said that the brood stock for the shrimp seed production was being imported from Florida and Hawaii through Chennai and supplied to the hatcheries. “The quarantine facilities in Chennai at present are sufficient to handle 2.5 lakh animals per annum only. With the mushrooming of hatcheries, more than 3 lakh seedlings would be required. It has led to a huge demand-supply gap,” he said.

To bridge the deficit, he said, some of the farmers as well as hatcheries were resorting to localised breeding and the quality of the seed was suffering as a result.

“Inbreeding leads to viral outbreak and even in Vannamei shrimp ponds there is a viral outbreak now. But it has not yet reached serious proportions, but it would, if no steps are taken now,” he said.

Farmers urged to move towards non-pesticide management

Hyderabad, January 2:

With reports on presence of pesticide residues in ‘organic’ food hitting the headlines, pro-organic groups have asked the farmers to move towards Non-Pesticide Management (NPM) and organic farming in the real sense.

They have asked genuine growers of organic food to turn whistle blowers against the unscrupulous players, while maintaining transparency.

They also wanted consumers to know more about their food (both conventional and organic), including the source, and how the food is grown.

As the findings that emanated from Crop Care Federation of India (CCFI) showed a third of organic food sold in the national capital contained pesticide residues, the pro-organic groups termed the report a “frivolous diversionary ploy” to keep people’s attention away from real food safety concerns of citizens.

Organic Farming Association of India and Alliance for Sustainable and Holistic Agriculture have said that agri-chemicals such as fertilisers and pesticides were unsustainable inputs in agriculture.

“It is ironical and unreasonable that conventional foods produced using hazardous substances like synthetic pesticides totally escape the onus of

disclosure, while significantly safer organic produce is being portrayed as being more unsafe,” they said in the joint statement.

There is an urgent need to ensure proper systems, checks and measures are in place to protect organic consumers from malpractices in the market that unethically cash in on their concern for safe food.

The groups wanted the government to provide easy and affordable access to labs for testing toxic chemical residues.

“Currently, accessing labs for such testing of marketed foods is both costly and cumbersome for consumers or organic farmers. This will have a positive effect on transparency relating to both, allowing greater informed choice to consumers,” the statement said.

The groups asked the government to procure organic food for public distribution system and other schemes.