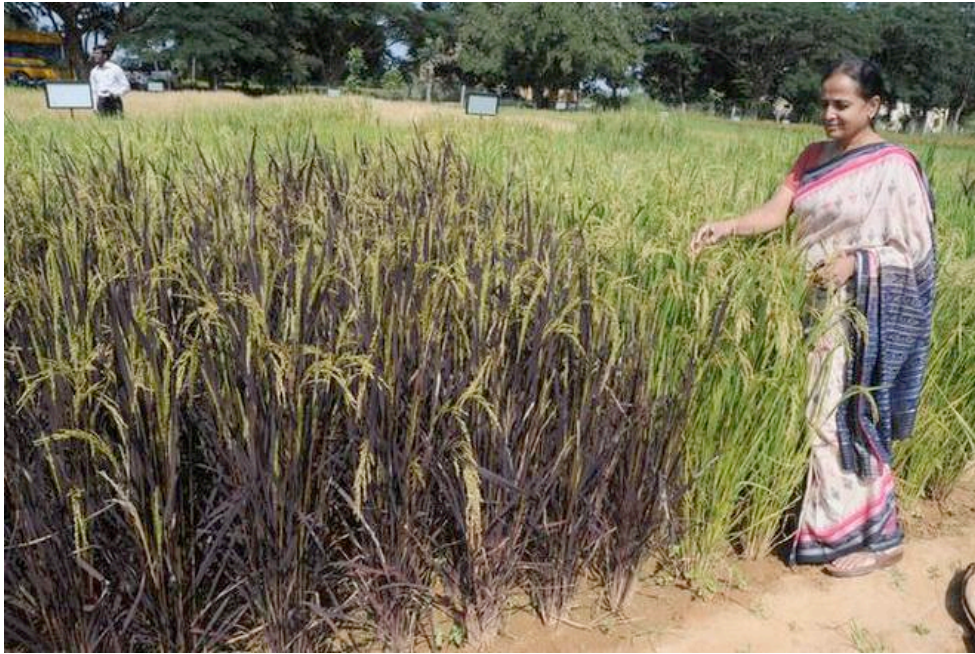


09-12-2016

# THE HINDU

## **A more muscular rice variety takes on wheat**



Dr. Shailaja Hittalmani, who headed the research team that worked on it, told *The Hindu* that the strain has 12 to 13 per cent protein content, which is higher than the 6 to 7.5 per cent in normal rice. Wheat has about 14 per cent of protein.

Using conventional breeding, researchers raised the amount of lysine, an amino acid that helps synthesize proteins, by about 20 per cent, among other benefits. “The higher protein leads to a decrease in starch, benefiting diabetics,” Dr. Hittalmani, who heads the Genetics and Plant Breeding Department of the University, said.

### **Easier to digest**

Moreover, the rice protein is easier to digest compared to what comes from non-vegetarian sources. “It is particularly good for children and the elderly,” she says.

### **No extra cost**

For the farmer, the new entrant is a lucrative option that can be grown like any other cereal, without extra costs. The health benefits of a ‘stronger’ rice, however, are not widely known and there is a need to create awareness.

The same research team has also released high-zinc and high-iron types, which have double the normal level of the two elements.

### **Toor growers in Vijayapura seek procurement centres**



Vijayapura is the second largest producer of toor dal in the State after Kalaburagi. The production was better this year compared with other districts even in the prevailing drought situation.

“The growers don’t want to be exploited by traders who will buy the commodity at cheap rates,” Ningaraj Magimath, a grower from Babalad village, said.

According to sources, while the present market rate of toor dal is Rs. 4,800 to Rs. 5,000 quintal in the open market, the Food Corporation of India is buying it at Rs. 5,050 per quintal.

The farmers said that the State government should start procurement centres by announcing a higher MSP.

He said that this year, a majority of growers had switched over to toor dal hoping to get better prices as it was sold around Rs. 120 per kg last year.

This year, the growers have cultivated toor dal on nearly 4 lakh hectares. Already around 85,000 quintals of the crop has arrived in APMCs. Meanwhile, M.D. Chabanur, Assistant Director of the APMC in Vijayapura, has said that the district administration had submitted a proposal to the government seeking opening of procurement centres.

## **Tuber crops have a saviour in Wayanad district**

### ***Genome saviour award for farmer for protecting genetic diversity of tuber crops***

N.M. Shaji, 38, a progressive farmer at Illathuvayal, near Mananthavadi, has bagged the National Plant Genome Saviour Award instituted by the Protection of Plant Varieties and Farmers Right Authority, India, for lifetime engagement in protecting genetic diversity of tuber crops.

As many as 102 varieties of edible tubers, including medicinal and aromatic varieties, different species of trees, herbs, medicinal plants, and fish find a place on his 1.5-acre plot.

Being a member of settler farmer family, agriculture is part of his culture.

A few decades back, tubers including cassava, sweet potato, greater yam, taro, and elephant foot yam filled the food basket of settler farmers and the tribespeople in Wayanad and they used to cultivate tuber varieties.

However, tuber cultivation has drastically declined owing to various reasons. While the new generation of the farm community is abandoning cultivation of traditional tuber crops, Mr. Shaji and his family have been conserving tuber seeds for the next generation.

He has also established a network of farmers through an informal seed distribution mechanism by which a farmer transfers seeds to anybody on condition that the same amount is returned next year.

“When I started to collect seeds of tuber crops nearly 20 years ago many of my friends made fun of me. Now, they propagate the seeds seeing its importance,” Mr. Shaji says.

He welcomes visitors, including students, farmers, and researchers, from various parts of the country to learn about his germ plasm collection, which has been christened Kedaram. Mr. Shaji has visited different parts of the country to collect new varieties of tuber seeds.

Union Agriculture Minister Radha Mohan Singh will present the award at a function in New Delhi on December 21.

## **Aquatic weed control programme launched**

### ***Grass carps to used to conserve fresh water resources***

KOCHI: The ICAR (Indian Council of Agricultural Research) Krishi Vigyan Kendra, Ernakulam, has launched a programme to control aquatic weed using grass carps as part of efforts to conserve local fresh water resources.

A statement issued by KVK said a large number of fresh water sources remained unusable owing to excess weed growth. There are around 140 species of aquatic weeds in water bodies and among them, salvinia, hydrill, and pistia are the most destructive. However, the use of weedicides kills fish, besides polluting water sources.

The use of grass carps to control weed growth was launched at the Perunninakkulam Shiva Temple pond near Thripunithura. The pond is spread over 1.2 acres. Grass carp fish fingerlings were released at a function held on Tuesday. The programme was inaugurated by A. Gopalakrishnan, Director, ICAR-Central Marine Fisheries Research Institute. KVK head Shinoj Subramannian and senior scientist Vikas P.A. were present.

## **Bid to conserve biodiversity: Saseendran**



“Though the State is also known as God’s Own Country, the purity of the divine presence has disappeared with the destruction of its biodiversity,” Mr. Saseendran said adding that

the destruction and over-exploitation of nature was the major reason for the increasing number of hospitals and patients in the State.

“The past glory of the State can be restored only by conserving biodiversity, protecting water sources, executing proper waste disposal mechanism, and reviving agriculture, for which the government has launched the comprehensive project with public participation,” Mr. Saseendran said.

As many as 23,000 projects for the conservation of water sources, waste disposal, and agriculture would be launched in the State. Of these 512 projects would be launched in the district, he added.

The Minister also directed the District Collector to ensure the active participation of the youth and NGOs for the smooth and successful implementation of the project and complete it in a time-bound manner.

# DECCAN Chronicle

## Mission for greener Kerala begins



Actor Manju Warrier, singer K.J. Yesudas and Chief Minister Pinarayi Vijayan hand over paddy seedlings to farmers marking the state-level inauguration of 'Haritha Keralam' project at Kollayil in Thiruvananthapuram on Thursday.

**Thiruvananthapuram:** Chief Minister Pinarayi Vijayan launched the ambitious Haritha Keralam Mission aimed at protecting land and water besides tackling burning issues like garbage and toxic vegetables. The state-level function marked sowing of seedlings at Kalathariakkal paddy fields in Kollayil panchayat in Parassala. Various programmes were launched by local bodies across the state on Thursday as part of Mission. Farming activities, cleanliness drive and cleaning up of water sources were taken up at 11,000 wards simultaneously.

At the inaugural function, owners pledged to cooperate with the farming activities under the Mission and gave consent for using their land totalling 23 acres. “We should be able to able to reclaim the lost Agricultural Kerala. The mission will play an important role in addressing two major issues waste management and agriculture development,” he said. The launch was held in the presence of singer Yesudas who is also brand ambassador of

Haritha Kerala Mission, actor Manju Warriar, Cardinal Cleemis Mar Baselios and Mission vice-chairman T. N. Seema.

The chief minister said a comprehensive plan has been devised to involve school children in a big way to promote farming activities. Farming will be taken up in barren land across the state with the objective of increasing the area of farming particularly paddy and vegetable cultivation. The chief minister said the government had already devised a mechanism to ensure that scientific and technical expertise of agriculture university reaches straight to the farm.

As part of the Mission, the local bodies are free to take up a particular project as part of their annual plan or even programmes outside the plan. The Mission has planned to involve schools and government offices in programmes to be implemented over the next four and a half years. The Mission has roped in top actors of Malayalam film industry for the mega project. Mammotty and Sreenivasan inaugurated waste management and farming activities as part of Mission in Kochi.

### **Processed Kesari Dal safe, finds Vizag nutritionist**



Kesari Dal processed by soaking and by boiling as well as in its raw form was tested on rats at the Andhra University's labs. (Representational Image)

**Visakhapatnam:** While a debate on consumption of Kesari Dal, also called grass pea, is on, a five-year long study by a city-based nutritionist revealed that processed kesari dal is safe for consumption. Soaking the dal overnight makes it safe for consumption, it said.

The consumption, cultivation, and sale of Kesari Dal was banned in 1961 across the country on fears that it contains beta-N-oxalyl-amino alanine (ODAP). A neuro-toxic, amino acid, in the legume causes neurolathyrism or a paralysis of the lower limbs, it was believed.

Its sale for human consumption is allowed only in Chhattisgarh, Maharashtra and West Bengal. While a research panel headed by the Indian Council of Medical Research (ICMR) has cleared consumption of Kesari Dal. Food Safety and Standards Authority of India (FSSAI) is yet to take a decision on it. The Indian Institute of Toxicological Research had called for more scientific efforts to make it safe.

Kesari Dal processed by soaking and by boiling as well as in its raw form was tested on rats at the Andhra University's labs.

As part of the study neuro-toxicological evaluation of muscle coordination activity in Albino Wistar rats was done by employing the models of Rota-rod Apparatus Model and Inclined Screen Test Model.

“The muscle coordination among rats fed with processed Kesari Dal samples was better compared to rats fed with raw seeds. This might have been due to decreased ODAP content. The soaked and boiled samples showed much better muscle coordination. Samples collected from AP were found to have better muscle coordination activity compared to samples collected from other states. This indicates that the processing of *Lathyrus sativus* (Scientific name of Kesari Dal) seeds helps to offset the effect of  $\beta$ -ODAP which might be responsible for its good muscle coordination activity. The Dal needs to be soaked for at least six hours or overnight before being cooked and consumed,” said Sujatha Yerra, of Andhra University's college of science and technology who studied the nutritional, anti-nutritional factors and neuro-toxicological evaluation of grass pea.

Grass pea is the staple food in many states due to the abundant presence of proteins and other vital nutrients. It is a cheap source of a poor man's protein rich food, she added.

The grass pea crop is generally of a high grain yield nature. It is a promising vital economic crop as it is endowed with varied attractive qualities of tolerance to droughts, floods, moderate salinity and extreme climatic environmental conditions.



## Tamil Nadu, Punjab ahead of other states in eliminating malaria

The World Health Organisation (WHO) has been pushing for the elimination of malaria by the year 2030.



Tamil Nadu and Punjab have proved to be much ahead of other states in their ambition towards eliminating malaria.

**Chennai:** Tamil Nadu and Punjab have proved to be much ahead of other states in their ambition towards eliminating malaria, said Richard Feachem, Director of the Global Health Group at UCSF Global Health Sciences. The World Health Organisation (WHO) has been pushing for the elimination of malaria by the year 2030 and India has promised to adhere to the same.

Tamil Nadu may succeed in eliminating the disease by 2020-22, Feachem said on the sidelines of a conference held by the University of California, San Francisco Global Health group here in Chennai to discuss strategies to shrink the global malaria map and take stock of India's efforts to eliminate the disease. He referred to Tamil Nadu as a model state.

The central government had launched the National Framework for Malaria Elimination in February. Under this program, India is committed to eliminate malaria completely by 2030. "The good news is that malaria cases in India have halved since the year 2000, which is a significant progress," he said adding that states such as Tamil Nadu and Punjab are moving fast and aggressively.

However, there are other states like Madhya Pradesh and Orissa that have a higher burden of malaria. Also, the problem of being unable to state for sure the exact numbers remains, he said. The elimination programme is in good shape in the state, Feachem said adding that concrete targets are being achieved. "We have got a positive impression and we are certain that Tamil Nadu will be able to complete its elimination programme in the next few years and this has come as a relief to Sri Lanka as today, Tamil Nadu is the

main problem for Sri Lanka in terms of importation of malaria. The good progress was reassuring for our colleagues who were here from Sri Lanka," he said.

With India having increased its coverage of good diagnosis and treatment, continued with its use of sprays of insecticides and also ensured proper larval control, the country was able to see a great progress in bringing down the burden. However, to eliminate the disease completely more effort is needed, he said. "There needs to be significant re-engineering of the programmes, new interventions, and new techniques. There also needs to be a higher level of commitment state by state. We need more political commitment state by state, need more finance, expenditure to finish the task," he added.

### **Researchers explain how soil fertility changes as per climate**

In dry climates, soil is alkaline; in wet climates, it's acidic. But what has remained unknown is just how soil pH changes between wet and dry climates. Examining data from around the world, researchers have created a global map of soil fertility and explained how it changes between wet and dry climates.

The study has been published in the journal Nature.

For some time now, scientists have known that climate influences soil chemistry and in particular, soil pH, a measure of acidity or alkalinity.

In dry climates, soil is alkaline; in wet climates, it's acidic. But what has remained unknown is just how soil pH changes between wet and dry climates.

The new research sheds light on that mystery, revealing that the shift occurs abruptly, right at the boundary between wet and dry conditions.

"We found that if you go to wet climates — places where you might expect to find a forest, whether in the high latitudes or in the Amazon — the pH is acidic," said lead author Eric Slessarev.

Adding, "If you go to dry climates, the pH is alkaline. This is what we expected. But our analysis was able to confirm that the transition between those two zones is very abrupt. It only takes a small change in climate to achieve the switch from that acid zone to the alkaline zone and there are fewer soils with an intermediate pH,"

Slessarev said, "Those soils are in places like Iowa or the Ukraine, which — not coincidentally — are places intensively farmed because those neutral range soils are the most fertile. Extreme pH tends to be bad for crops for a variety of reasons."

Soil pH levels range from 0 to 14, with 7 being neutral.

Levels below 7 are acidic and those above are alkaline. Neutral soils are less common than either extreme and tend to cluster at the transition between wet climates and dry climates.

The research team conducted a meta-analysis using soil databases and the International Soil Research Information Center in Wageningen, Netherlands.

The team evaluated approximately 60,000 data points to build a global soil pH map.

"One thing that we can draw from our analysis is that the parts of the world that humans depend upon the most for agriculture sit on an edge between wet and dry climates and between acid soils and alkaline soils," Slessarev said.

Adding, "What's more, our work demonstrates that soil pH — and therefore soil fertility — is tightly linked to climate. In fact, it's linked in a way that looks like a staircase, where a step exists between one space and another. For the parts of the world on the edge of that step, this means a very small change in climate could make a big difference in how the system functions."

## **Kerala's green mission to be launched today**

### **Haritha Kerala Mission Logo**

**Thiruvananthapuram:** The launch of Haritha Kerala Mission on Thursday will mark the beginning of a major campaign to address the grave issues confronting the state like garbage, threat to water sources, environment and ecology besides dwindling food production. This is the first of the four mega missions planned by the LDF government.

The health, housing and education missions will be launched subsequently. To ensure an effective apparatus for implementing the mega programme, the governing body of Haritha Keralam headed by Chief Minister Pinarayi Vijayan as chairman has been packed with...ministers, chief secretary, principal secretaries and a vice-chairman. Similar committees have been formed at the district-level with MPs, MLAs on board, panels headed by elected representatives at corporations, municipalities, block and grama panchayats.

On the eve of the launch, Mr Vijayan outlined the problems being faced by the state and the need for long-term solutions. According to census figures, the urban areas constitute only 16 per cent of the total area of the state. However, 50 per cent of the population reside in urban areas, he said.

Being industrial and commercial centres, there is huge generation of plastic, e-waste and construction sector waste. But there are not enough garbage treatment plants resulting in waste dumps all over urban areas. This problem can be tackled only if the state devised environment-friendly scientific methods for treating, managing and disposing of toxic and all other forms of waste. Many experiments are being carried out in waste treatment at the level of local bodies which need to be coordinated.

Similarly, the increasing pollution of water sources, reclamation of ponds and lakes, dwindling rainfall because of climatic changes, entire rain water flowing straight into the sea and sand mining in rivers have created a grave situation in the state.

By 2030, the state would require 64 per cent more water than the current level of consumption and in three decades the demand for drinking water would go up by 29 per cent and the requirement of water for irrigation by 81 per cent.

So the big question is how will the state face this challenge? Urgent steps are required for conservation of water sources, prevention of wastage of water, rain water harvesting schemes and conservation and protection of lakes, ponds, rivers and streams. Under the mission, efforts will be made to conserve and protect 44 rivers, 50,000 ponds and 60,000 wells, lakes and streams.

The agriculture sector is also facing big challenges. Once known for abundant production of paddy, tapioca and vegetables, the state now depends on others. Agriculture and allied sectors contribute one fourth to state's GDP while two-thirds of the state's population still depend on agriculture for their livelihood.

## **Oil extends gains on hopes of non-OPEC output cuts**



Oil prices extended gains for a second session running on Friday on optimism that non-OPEC producers would agree to cut output following a cartel agreement to limit production.

The Organization of the Petroleum Exporting Countries (OPEC) will meet non-OPEC nations in Vienna on Saturday seeking their help in curbing a global glut. Azerbaijan has said it will come to the Austrian capital armed with proposals for its own reduction.

Brent crude for February delivery was up 12 cents at \$54.01 a barrel by 0752 GMT, after rising 1.7 per cent on Thursday. The contract hit its highest since July 2015 at \$55.33 on Monday.

US crude for January delivery was up 32 cents at \$51.16 a barrel. Both contracts have lost nearly 1 per cent so far this week.

Russia has said it would cut 300,000 barrels per day, meaning other non-OPEC producers combined would need to pledge the same amount to lower output by the 600,000 bpd OPEC wants - half the reduction OPEC is making.

Kazakhstan may offer to freeze its oil output at last month's level at the talks between OPEC and non-OPEC producers in Vienna, Kazakh Energy Minister Kanat Bozumbayev said on Friday.

“There are hopes for deeper cuts as non-OPEC nations are set to cooperate in curbing production,” said Tomomichi Akuta, senior economist at Mitsubishi UFJ Research and Consulting.

“But it is still uncertain whether their cuts would reach 600,000 bpd, which is providing limited support to oil gains.”

OPEC had last week agreed to slash production by 1.2 million bpd in the first half of 2017, that bolstered crude futures despite doubts over whether the amount was enough.

Saudi Arabia and Iraq will supply full contracted volumes of crude to Asia in January, despite OPEC's commitments to cut output as they look to defend market share in the fastest growing region for oil demand, refinery sources said.

Venezuelan President Nicolas Maduro said on Thursday he had agreed with Iran to call for a summit of heads of state from OPEC and non-OPEC countries in the first quarter of next year to decide on strategy for the oil market.

Global spending on oil and gas exploration in 2017 could fall below this year's \$40 billion, consultancy Wood Mackenzie said.

The market is waiting on weekly data on US oil rig counts issued by oil services firm Baker Hughes later on Friday.

### **Crude oil futures jump to Rs. 3,451 per barrel**



Crude oil rose 0.7 per cent to Rs. 3,451 per barrel at the futures market today as speculators created fresh bets, taking positive cues from Asian markets.

At the Multi Commodity Exchange, crude oil for delivery this month rose Rs. 24 or 0.7 per cent to Rs. 3,451 per barrel in a business turnover of 2,795 lots.

Likewise, the oil for delivery in far-month January traded higher by Rs. 12 or 0.34 per cent to Rs. 3,519 per barrel in 149 lots.

Analysts said speculators built fresh positions after oil prices rose for for a second day in Asia before a meeting between OPEC and other major producers tomorrow on output cuts. This mainly led to rise in crude oil prices at the futures trade.

Meanwhile, West Texas Intermediate crude gained 0.43 per cent to \$51.06, while Brent crude rose 0.17 per cent to \$53.98 per barrel.



# THE TIMES OF INDIA

## **Developing agro-hubs**

*Govt must do a lot of spade work to make this idea work*

The Union government's plan to set up agri-production hubs near metros is not a wholly novel idea, though its underlying objective to meet the cities' daily requirement of essential food items at reasonable prices is well intended. A similar, albeit smaller version of this proposal was mooted in the 2011-12 Budget, which talked about establishing vegetable production clusters in and around cities to augment the supply of vegetables and boost farmers' incomes. However, it did not make much headway despite a budgetary allocation of Rs 300 crore.

## **Demonetisation puts brakes on agri-commodity exports**

*Exports of cotton, groundnut, soya meal affected; exporters fail to meet commitments due to lower arrivals*



[Demonetisation](#) has not only impacted the arrival of agricultural-commodities in the market, but the export orders in commodities such as cotton, [groundnut](#) and [soyameal](#) have also taken a toll. With exporters facing difficulties to source products from the markets, non-fulfilment of orders in November has led to order book cancellations and fall in forward contracts.

[Groundnut](#) and [cotton](#) exporters have stopped forward contracts for January as they are averse to taking risk under the current circumstances.

During October-November, around 700,000 bales of [cotton](#) have been exported against an order book of two million bales for the said period. [Groundnut](#) exporters, too, say they have prior commitments for November and December for 135,000 tonnes but are not in a position to fulfil the same due to lower arrivals. [Cotton](#) exporters have booked orders of about two million bales (one bale is 170 kg) for November, December and January.



According to exporters, in this condition, exporters might fulfil only one million bales order by end-December; the remaining orders might be delayed or cancelled.

According to industry sources, if the cash problem persists, exports of rice and maize might also get affected in the coming days.

“The October-December period is crucial for [groundnut](#) exports because during these months, we have maximum orders. It’s harvesting time and prices in domestic market remain lower as the supplies are steady. That way, we can offer competitive prices to the buyers. But, now because of demonetisation, arrival at the mandis in groundnut-producing states have declined. Thus, we’re unable to fulfil our commitments,” said Sanjay Shah, vice-chairman of Indian Oilseeds and Produce Export Promotion Council. Currently, against an estimated daily arrival of about 350,000 bags (of 55 kg each), the actual daily arrival is 170,000-185,000 bags. According to [groundnut](#) exporters, November-December is an advantageous time for Indian exporters as competition is limited. January onwards, Argentina and Africa will enter in the market, which increases competition. Shah said: “Going by the current situation, exporters are not getting into forward contracts for January as they don’t want to take risk. Several deals have already been delayed and some may cancel if the situation will not revive shortly.”

Agriculture experts also believe that delay or cancellation might hurt the image of the country and demand might shift to competition. “Supply is important to fulfil the export commitments. In present condition, farmers are not selling as they want cash and buyers have no cash on hand. As on date, cotton, [groundnut](#) and [soya](#) meal exports have been affected but if the situation will not change soon, then basmati rice, maize and pulses exporters might also face trouble,” said G Chandrashekhar, economic advisor of Indian Merchant Chamber.

Chirag Pan, CEO of Jaydeep [Cotton](#) Fibres, said: “The [cotton](#) sector always deals in cash with farmers. Currently, arrival should be 200,000 bales a day. Against it, daily arrival is only 100,000 bales at the peak time. Export is uncertain now so we are not taking new orders as we are not sure to complete committed orders.”

Adding to it, Pan said India exports 70 per cent of [cotton](#) during October and March every year. The industry expects six million bales of [cotton](#) exports in the current [cotton](#) year (October-September), but in this scenario, exports might not be over 4.5 million bales.

## Liquidity crunch

- With exporters facing difficulties to source products from the markets, non-fulfilment of orders in November has led to fall in forward contracts
- [Cotton](#) exporters have booked orders of 2 bn bales but only 50% shipment is possible
- If the cash problem persists, exports of rice and maize might also get affected in the coming days

## Higher oil prices a risk to India's growth trajectory: Dharmendra Pradhan



With [oil](#) cartel [OPEC](#) cutting production for the first time since 2008 leading to a surge in [oil](#) prices, India today said higher rates will risk the country's growth trajectory and pitched for striking a balance between interests of producers and consumers.

Benchmark Brent [oil](#) has rallied to USD 54.56 a barrel, the biggest weekly gain since 2009, after [OPEC](#) approved its first supply cut in eight years.

"Last week the [OPEC](#) countries pledged to reduce their production by 1.2 million barrels a day. Non-[OPEC](#) countries also agreed to a production cut to the tune of 0.6 million barrel per day. The proposed cut caused a surge in [oil](#) prices to above USD 50 a barrel and speculation is rife that it might go up even further," [Oil Minister Dharmendra Pradhan](#) said at the Petrotech 2016 conference here.

India has used the slump in [oil](#) prices since 2014-15 to not just cut petrol and diesel rates to cool inflation but also as an opportunity to shore up revenues by raising duties.

The country's basket of crude [oil](#) imports had averaged USD 105.52 per barrel in 2013-14 which dipped to USD 84.16 in the following year, and to USD 46.17 a barrel in 2015-16. This fiscal, it has averaged USD 44.81 per barrel so far.

"I want to submit before this august gathering that for the sustainability of the [oil](#) markets, we must strike a balance of interest between producers and consumers," he said.

Recalling his statement before the [OPEC](#) forum in June last year, he said consumption of petroleum products is price sensitive as there is a genuine issue of affordability for a sizable population in India and other developing countries. "Hence, while deciding the pricing aspect of crude oil, it should be factored in that the security of supply must, in turn, be matched by security of demand."

In today's world, disruption has become a part of life, he said.

India, he said, is already the third largest energy consumer in the world behind the US and China. "At 4.3 million barrels per day, although we have less than 5 per cent share in the world consumption, our annual consumption growth is far more significant. At 300,000 barrels per day growth, our contribution was about 30 per cent of global growth in demand last year."

He added: "We understand that energy is the most important catalyst for achieving sustained growth. In the modern world, access to energy should be a fundamental right of each human being. This is particularly true for India with a rapidly growing economy and huge aspirational population."

The Modi government is committed to provide reliable and affordable energy, in a time bound manner, to a large proportion of India's population which still does not have access to energy, Pradhan said.

"I have no hesitation to confess that the fall in [oil](#) prices in last two years came as a timely relief for Indian economy and consumers. This has helped us to increase penetration of cleaner fuel replacing polluting biomass among the poorer segments of society," he said.

### **Livestock, forestry and fisheries save the day for agri sector**

Good production in the livestock, [forestry](#) and [fisheries sector](#) seems to have saved the day for the entire agriculture sector, which recorded a marginal increase in the growth rate at 2.2 per cent for the second quarter of 2015-16, compared to the same period last year.

The agriculture and allied sector grew at 2.1 per cent in the July-September quarter of 2014-15 and it was expected to perform poorly this year mainly due to droughts in several parts of the country.

On a quarter-on-quarter basis, too, agriculture and allied sector surprisingly grew from 1.9 per cent in the April-June quarter to 2.2 per cent in the July-September quarter.

The statement furnished by the [Central Statistical Office](#) showed 51 of the gross value-added (GVA) in agriculture and allied sector comes from the livestock, [forestry](#) and fisheries sector, which grew six per cent during the quarter, much better than the overall growth.

The core crop sector performed poorly due to a drop in production of many kharif crops on account of poor southwest monsoon in 2015-16.

The statement said the production of cereals, oilseeds and pulses registered growth rates of (-)1.8 per cent, 8.5 per cent and (-)1.1 per cent during the July-September quarter.



According to the first advanced estimate of foodgrains production furnished by the department of agriculture, foodgrains production in the 2015-16 kharif season is expected to be 124.05 million tonnes, around four million tonnes more than the first advanced estimate of 2014-15. This is, however, less than the final production of the corresponding year.

"Surprising on the upside, agriculture GVA growth was the highest since September 2014 at 2.2 per cent... the downside in agriculture appears to have been cushioned by the 'allied-agri' sector," Shubhada Rao, chief economist, YES Bank said in note.

Rao said although the allied sector in agriculture might continue to remain supportive, rabi sowing needs to be watched carefully as sowing has started on a slow note owing to a delayed harvest as well as an unusually dry winter in northern India. Data showed that till November 27, rabi crops together have been sown in 31.79 million hectares of land, which is 5.46 million hectares less than the same period last year. "The jump in agriculture and allied sector growth during the second quarter of 2015-16 was mainly due to increase in production of dairy, meat, fish as crop sector continues to be bad," said P K Joshi, south Asia director of International Food Policy Research Institute. India's southwest monsoon in 2015 was 14 per cent less than normal, registering its worst performance since 2009. Monsoon this year was the first back-to-back drought for India in three decades, and only the fourth in about a century. Almost 40 per cent of the country received less than normal rains in 2015, forcing seven states to declare drought.

## REAPING BENEFITS

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- On a quarter-on-quarter basis, too, agriculture and allied sector surprisingly grew from 1.9 per cent in the April-June quarter to 2.2 per cent in the July-September quarter
- 51 of the gross value-added in agriculture and allied sector comes from the livestock, [forestry](#) and fisheries sector, which grew six per cent during the quarter, says CSO

- According to an advanced estimate, foodgrains production in the 2015-16 kharif season is expected to be 124.05 million tonnes, around four million tonnes more than the first advanced estimate of 2014-15
- India's south-west monsoon in 2015 was 14 per cent less than normal, registering its worst performance since 2009