

China plans tunnel from Brahmaputra

Chinese engineers are testing techniques that could be used to build a 1,000-km-long tunnel, the world's longest, to divert water from the Brahmaputra river in Tibet, close to Arunachal Pradesh, to the parched Xinjiang region, a media report said on Monday.

The move, that is expected to "turn Xinjiang into California", has raised concerns among environmentalists about its likely impact on the Himalayan region, Hong Kong-based *South China Morning Post* reported.

Water would be diverted from the Yarlung Tsangpo river in southern Tibet, which turns into the Brahmaputra once it enters India. The proposed tunnel would provide water to China's largest administrative division, comprising vast swathes of deserts and dry grasslands.

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A special feed increases milk yield in cattle

Unlike full time agriculture, dairy farming alone does not prove to be financially rewarding. The main reason is the feed cost which burns a big hole in the pocket. Availability of dry straw and green fodder is a must, all through the year for dairy animals.

Especially during summer or when the monsoon fails, it is common for cattle owners in Kerala to try sourcing paddy straw at a high price from nearby states such as Karnataka or Andhra Pradesh.

Not feasible

And providing commercial feeds all round the year are just not financially feasible for a small farmer. Against this backdrop a new type of cattle feed that can also be used for small ruminants like goats called TMR (Total mixed ration) has been introduced in Aluva, Kerala, on a very small scale.

“TMR feed concept is an old one being practiced in large farms across U.S. and some other foreign countries. I came to know of this feed while I was working in Jaipur, Rajasthan.

“One of the specialists working there had given this idea/formula to a progressive farmer and shared this information with me and I took it further from there,” says Dr. R. Unnikrishnan, Veterinary Surgeon, Animal Husbandry Department, Govt of Kerala.

TMR helps in enhanced milk production, quality, good reproductive health and overall physical condition of an animal. Animals fed with this ration require only small quantities of green fodder or dry straw as supplements.

Right ingredients

Each mouthful of TMR feed that an animal consumes contains the right amount of ingredients for a balanced ration.

For animals fed with this special ration it has been observed that the milk production increases to five per cent more than those fed with commercial or conventional feeds.

Also there is no question of overfeeding. In conventional or commercial feeds, a farmer may not know whether he is overfeeding or underfeeding his animal, according to Dr. Murlidharan Nair, former Assistant Director Govt of Kerala, Thiruvananthapuram. Priced at Rs. 17 a kg, it is a complete feed by itself. There is no need for any extra supplement.

However green grass is a must for the animals along with this feed. An animal weighing 300 kg and yielding 20 litres of milk per day requires 13-14 kg of TMR and five kg of green fodder.

Different scenario

“In Western countries green fodder is mixed well with TMR and used. But here in India the scenario is different. Green fodder is not mixed because it affects the 'keeping quality' of the feed and reduces its shelf life,” says Dr. Unni.

Some of the ingredients that go into making of this feed include ground nuts, sesame, red gram along with molasses, toxin binder, salt and vitamin mineral mixtures. When given as feed the animal cannot consume more or less thus limiting expense for a farmer.

“Given the constraints for land in Kerala, most dairy farmers feed their animals by purchasing commercial feeds at a high price. Even paddy straw is highly priced. Deficiency and underfeeding of green fodder further worsens the situation affecting the economics of dairy farms badly. Added to this is the increasing incidence of diseases often caused from commercial feeds,” explains Dr. Unni.

Farmers recommend

Mr. Jacob, a dairy farmer from Ernakulam with around 20 dairy cows, started using TMR ever since it was introduced in the region. Satisfied with its performance the farmer started recommending this feed to others.

“Not only has the milk production increased but also the fat content and saturated no fat percentage too have shown significant improvements. Today I get Rs.2-3 more per litre from the dairy society as a result of this change,” he says.

Like Mr. Jacob, at present, there are nearly 20 farmers who are feeding their backyard cattle with this feed.

For more information interested farmers can contact Dr. R .Unnikrishnan, Flat no.503,Urjitha Apartments, Anand Bagh, Malkajgiri,Secunderabad-500047, mobiles: 9000262634and 09447150613, email: unnikrishnanrdr@gmail.com, blog : unnikrishnandr@sulekha and Dr. Murlidharan Nair on mobiles: 08547640019 and 08129127050.

It teaches the lesson of cooperation and living within the ecological means of a place By S. Vishwanath

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Why does the Indian State have a stepmotherly attitude towards migrants?

A report released by the World Economic Forum (WEF) ---- [Migration and Its Impact on Cities](#) ---- has estimated at least 5-6 million migrants are on the move every year in India. Citing a recent study undertaken as part of [Economic Survey 2017](#), the WEF report said, the rate of inter-state migration has doubled between 2001 and 2011. This is not surprising: Despite years of the economic boom, inequities still persist between states, and rural and urban areas. For example, Bihar has a per capita income roughly equivalent to Somalia (approximately \$520) and a birth rate of 3.4 children per woman. On the other hand, Kerala has a per capita income that is four times more (approximately \$2,350) and a birth rate of 1.6 children per woman. This puts the state on a par with Denmark. Economic well-being, however, is not the only reason for mobility. People move to escape caste oppression or civil unrest. Marriage is also another common driver for migration.

Even though migrants add substantially to the economy, they are always not seen favourably by the recipient states/cities. They are considered a burden, often accused of indulging in criminal activities, and exploited for political gains. While such an attitude is wrong and unfair, it [creates roadblocks for](#) the migrants. Among these are lack of formal residency rights, lack of identity proof; lack of political representation, inadequate housing, low-paid, insecure or hazardous work and extreme vulnerability of women and children to trafficking and sex exploitation. Then there is exclusion from State-provided services such as health and education and discrimination based on ethnicity, religion, class or gender.

These problems arise because social and political rights in this country are based on the assumption that people are sedentary. Under the public distribution system, for example, people's ration cards are invalid in their destinations of work. These migrants depend either on their employer or labour contractor for food provisions or purchase food in the open market. The Aadhaar project seeks to remedy this basic problem of establishing identity and ensuring portability of entitlements.

While the socio-economic factors associated with international (cross-border) migration dynamics have been well documented, processes of internal migration, within developing countries in particular, are not as understood enough. In India, internal migration has been accorded very low priority by the government, partly due to a serious knowledge gap on its extent, nature and magnitude. This must change. National and state governments have a clear role and responsibility not only in protecting and promoting migrants' access to social services, but also in enabling migrants to become socially and politically active citizens.

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'Food sector to get more investments'

Already Rs. 65,000 crore private investment has been committed in the food processing sector and more is expected during the mega global food event to begin from November 3, the Union government said on Wednesday.

Of the total, more than 40% of the investment has been committed by domestic players such as ITC.

This would create more than 10 lakh jobs in the country, the government added.

“Huge investment has been committed in the food processing sector because of transformation measures taken in the last three years and improvement in the ease of doing business,” Food Processing Minister Harsimrat Kaur Badal told reporters.

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EESL launches \$454 million 'Creating and Sustaining Markets for Energy Efficiency' project in partnership with the GEF

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EESL's projects, under one of the largest funding by GEF till date, will mitigate 60 million tonnes of CO₂ eq

UN Environment's 'District Energy in Cities' Initiative already identified \$600 million of Energy Efficiency projects across 5 cities in India

Recognizing India's efforts towards a low emission-economy and focusing on energy efficiency programmes, the Global Environment Facility (GEF) has now partnered with Energy Efficiency Services Limited (EESL), under Ministry of Power, for the project 'Creating and Sustaining Markets for Energy Efficiency', here today. The project will receive a composite funding of \$454 million comprised of the GEF grant of \$20 million and co-financing of \$434 million in the form of loans and equity, including a \$200 million loan from the Asian Development Bank (ADB). EESL further proposes **Energy Efficiency Revolving Fund (EERF)** for sustainable funding mechanism of energy efficiency projects in the country.

The EERF mechanism will support the '**proof of concept**' investments for the new technologies of super-efficient ceiling fans, tri-generation technologies & smart grid-applications and ultimately scaling up energy efficiency financing and programme development to help cover initial investment costs of identified energy efficiency programmes like street lighting, domestic lighting, five-star rated ceiling fans and agricultural pumps, in the country. This unique model will help in addressing the upfront risks of new technologies. Further, the accrued savings from these technologies can then be used to finance additional projects, which would allow capital to revolve as a sustainable funding mechanism.

The GEF project further brings together many technical and financing partners including United Nations Environment (UN Environment), Asian Development Bank (ADB) and *Kreditanstalt für Wiederaufbau* (KfW) which aims to mitigate 60 million tons of CO₂ eq (carbon dioxide equivalent), that will enable a total direct energy savings of 38.3 million GJ by 2022 and 137.5 million GJ by 2032. (1 GJ = 277.778 kWh)

Addressing the gathering, Shri Ajay Kumar Bhalla, Secretary, Ministry of Power, said that currently around two-thirds of total power generation capacity in India is based on fossil fuels. By 2030, India is committed to achieve 40% of the installed capacity based on clean energy sources. To achieve this target, it is imperative to create awareness in the citizens, especially among youth, to

encourage energy efficiency measures like use of electric vehicles, energy efficient building codes etc., he added.

Speaking on the occasion, Shri Anil Kumar Jain, Additional Secretary Ministry of Environment, Forests and Climate Change, said that the overall size of energy efficiency market in India is estimated to be \$23 billion. Initiatives like these seek to tap that market by implementing an innovative business model that is scalable, flexible, embraces different and emerging technologies and has incentives for all stakeholders.

Ms Naoko Ishii, Chairperson and CEO, GEF said that with the strong leadership of EESL and the Government of India, the penetration of these clean energy technologies will help India leapfrog to a more sustainable future while helping reduce local and global emissions.

Kenichi Yokoyama, Country Director of India Resident Mission of ADB, said that ADB will partner EESL to implement energy efficiency projects in India to facilitate sustainable growth by addressing climate change issues, boosting the economy and generating greater employment in the country.

Mr. Geordie Codville of the UN Environment said that the project is aimed at scaling up energy efficiency efforts to achieve India's Intended Nationally Determined Contribution (INDC) goals and ultimately the UN Sustainable Development Goals (SDGs).

EESL also has its sights set on district cooling systems which can reduce energy demand for cooling by up to 50 percent. EESL has partnered with **UN Environment's District Energy in Cities Initiative**, which has already identified \$600 million of projects across five cities in India.

GEF is an international partnership of 183 countries, international institutions, civil society organizations and the private sector that addresses global environmental issues. The funding announcement was made at the launch of the **GEF-6 fund** which supports two projects – 'Creating Markets for Energy Efficiency' and 'District Energy in Cities'.

Other dignitaries present on the occasion were Shri Raj Pal, Economic Advisor, Ministry of Power, Shri Saurabh Kumar, MD, EESL and other senior officers of the Ministry and PSUs under it.

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ISA, EBRD ink pact on solar energy

The International Solar Alliance (ISA) and the European Bank for Reconstruction and Development (EBRD) on Thursday signed a Joint Financial Partnership Declaration for the promotion of solar energy.

“India has been in the forefront of the 42-nation International Solar Alliance,” Finance Minister Arun Jaitley said while speaking on the occasion. “Our energy requirements are huge and [we] want to make optimal use of our new and renewable sources of energy.”

Earlier, interim Director General of the ISA Upendra Tripathy said that the collaboration between the ISA and the EBRD would also help funding of solar projects both in African and other countries.

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Blackbuck conservation reserve to come up in U.P.

Blackbucks grazing in agricultural fields in the trans-Yamuna belt near Allahabad. Sanjay Kumarde03 buck

A wildlife conservation reserve dedicated exclusively to the blackbuck is coming up over 126 hectares in the trans-Yamuna region of Allahabad in Uttar Pradesh.

The State cabinet has approved a Blackbuck Conservation Reserve in the Meja forest division that is known for its rocky, undulating and arid terrain.

A herd of around 350 blackbucks is estimated to be inhabiting the region, senior government official Sanjay Kumar told *The Hindu*.

There are a few national parks and sanctuaries inhabited by blackbuck in the country, like the Velavadar Wildlife Sanctuary in Gujarat and the Ranibennur Blackbuck Sanctuary in Karnataka. However, there are not many conservation reserves exclusively dedicated to the antelope.

Mr. Kumar, who as a former District Magistrate of Allahabad, played a vital role in conceptualising the reserve, mobilising local cooperation and getting the project approved, says it is the "first ever conservation reserve" of any kind in U.P.

Blackbucks, known for their majestic spiral horns and coat colour contrasts, are found in grasslands and open forests.

They once ruled the open savannahs of north and central India, but are now restricted to just a few patches and habitats, primarily due to human population growth, ecosystem degradation and hunting.

The U.P. government evoked Section 36 A (1) and (2) of the Wildlife Protection Act, 1972, to declare the conservation reserve.

"The conservation of blackbuck can now be done in an effective way. It will also create awareness about biodiversity conservation and provide opportunities for people's participation. Eco-tourism will be encouraged and locals will get opportunities for employment," a government spokesperson said.

Safe haven

The blackbucks can often be seen grazing in agricultural fields during the dry season in the trans-Yamuna belt in Meja and Bundelkhand. However, according to Mr. Kumar, who is also a wildlife photographer, the island of safe haven for the blackbuck within the designated reserve is a rocky terrain dotted with trees of dhak, mahua, neem and acacia. "The area boasts more than 200 species of birds and herbivores like blackbucks and bluebull [nilgai], and carnivores like jackals and striped hyena," he said.

On the intervention of Mr. Kumar, while he was DM of Allahabad till recently, NTPC authorities at the Meja power plant sanctioned an amount of Rs. 1.20 crore to the forest department under their corporate social responsibility to support the work of the blackbuck habitat through construction of approach roads, waterholes and erection of retro-board signages. Mr. Kumar himself sanctioned funds for setting up solar pumps and establishing an interpretation centre for visiting tourists.

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Various schemes and programs initiated by the Government to achieve the target of Doubling of Farmers' Income: Shri Radha Mohan Singh

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Prime Minister has set a target before us to double the farmers' income by 2022: Union Agriculture & Farmers Welfare Minister

Shri Radha Mohan Singh chairs the Inter-Session meeting of the Consultative Committee meeting of the Ministry of Agriculture & Farmers Welfare

Union Agriculture Minister, Shri Radha Mohan Singh today said that the Prime Minister has set a target before us to double the farmers' income by 2022. The Ministry is working towards achieving the goal. And to achieve this target, the Prime Minister has advocated a seven-point strategy:

- i. Special focus on irrigation with sufficient budget, with the aim of "Per Drop More Crop".
- ii. Provision of quality seeds and nutrients based on soil health of each field.
- iii. Large investments in Warehousing and Cold Chains to prevent post-harvest crop losses.
- iv. Promotion of value addition through food processing.
- v. Creation of a National Farm Market, removing distortions and e-platform across 585 Stations.
- vi. Introduction of a New Crop Insurance Scheme to mitigate risks at an affordable cost.
- vii. Promotion of ancillary activities like poultry, beekeeping, and fisheries.

Shri Radha Mohan Singh stated above mentioned seven-point strategy while chairing the Inter-Session meeting of the Consultative Committee meeting of the Ministry of Agriculture & Farmers Welfare said that the Government has launched a number of schemes and programs to Double Farmers' Income. Pradhan Mantri Krishi Sinchai Yojana, Pradhan Mantri Fasal Bima Yojana, Paramparagat Krishi Vikas Yojana, Soil Health Card, Neem-Coated Urea and e-NAM Schemes are few of our flagship programs that aim to improve the productivity and earnings of our farmers.

Shri Singh said that the Department of Agriculture, Cooperation, and Farmers Welfare has also constituted a Committee under the Chairmanship of CEO, NRAA with members from all related departments and NITI Aayog to examine issues relating to doubling of farmers' income by the year 2022. As of now, six meetings of the Committee have been held.

Agriculture Minister said that RKVY guidelines are being changed to include entrepreneur development. DAC&FW has prepared a roadmap for production of pulses to the tune of 24 million tonnes by 2017-18. A dedicated micro-irrigation fund with an initial corpus of Rs.5000 crore has been set up by NABARD to achieve "Per Dop More Crop".

The Members of Parliament, Shri Chintaman Navsha Wanaga(Lok Sabha), Shri Rodmal Nagar (Lok Sabha), Shri Manshankar Ninama (Lok Sabha), Shri M.B. Rajesh (Lok Sabha), Shri Sanjay Shamrao Dhotre (Lok Sabha), Shri Sanjay Haribhau Jadhav(Lok Sabha), Shri Kunwar Pushpendra Singh Chandel (Lok Sabha) and Shri K. R. Arjunan (Rajya Sabha) & Shri Kiranmay Nanda (Rajya Sabha) were present in the meeting.

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FM: India has pledged unequivocal commitment for furthering the cause of New and Renewable Energy;

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International Solar Alliance (ISA) and the European Bank for Reconstruction and Development (EBRD) sign Joint Financial Partnership Declaration to deepen the cooperation in support of Renewable Energy.**

The International Solar Alliance (ISA) and the European Bank for Reconstruction and Development (EBRD) signed here today the Joint Financial Partnership Declaration in the august presence of the Union Minister of Finance and Corporate Affairs, Shri Arun Jaitley with an objective to deepen the cooperation in support of Renewable Energy.

ISA and EBRD have joined hands for promotion of Solar Energy. From ISA's side, Shri Upendra Tripathy, the Interim Director General ISA and on behalf of EBRD Ms. Nandita Parshad, Managing Director EBRD for Energy and Natural Resources signed the declaration. During the signing ceremony Shri Anand Kumar Secretary, Ministry of New & Renewable Energy, Government of India, H.E. Mr Alexandre Ziegler, Ambassador of France to India and Sir Suma Chakrabarti, EBRD President were also present.

Speaking on the occasion, the Union Finance Minister, Shri Arun Jaitley said that India has been in the forefront of the 42 nation International Solar Alliance. He said that India under the leadership of Prime Minister Shri Narendra Modi has pledged unequivocal commitment for furthering the cause of New and Renewable Energy since the Paris COP21 UN Climate Change Conference. Shri Jaitley said that our energy requirements are huge and want to make optimal use of our New and Renewable Sources of energy. The Finance Minister congratulated both ISA and EBRD for partnering with an objective to deepen cooperation in support of renewable energy. Shri Jaitley said that ISA has taken a giant leap forward to mobilise international support for investment in Solar Sector. He added that ISA need to firm-up such financial partnership deals with more Multilateral and Bilateral Donor Agencies in order to meet its stated objectives of getting better Technology; aiding easier costing to improve affordability of Solar Energy. The Finance Minister Shri Jaitley urged both the signing parties to go in for innovation of New and Dynamic Mechanism for credit enhancement and risk mitigation in solar sector. Citing the first Financial Partnership collaboration of ISA with the World Bank, Shri Jaitley urged that more and more multilateral and development banks should come forward and join hands with ISA in help fulfilling the objectives of massive and affordable deployment of solar among 121 ISA member countries.

Earlier, Shri Upendra Tripathy, the Interim Director General ISA informed that the ISA and EBRD have agreed to strengthen cooperation in pursuit of their shared goals of mobilising green energy financing. The collaboration will provide an opportunity to EBRD to support solar energy investment in the least developed countries especially in Africa. This will also help funding of solar projects both in African and other countries. He also stated that more such financial partnership deals shall be signed by the ISA in near future to achieve its mandate in a proper and effective manner.

Speaking on the occasion, Sir Suma Chakrabarti, EBRD President stated that this is a very important agreement for the EBRD, which has always been eager to share its expertise with new partners and also to learn from them. He said that with the ISA, we share the vision of sustainable development and of green energy, which ultimately benefits the global economy.

ISA is working for deployment of over 1000 GW of solar energy and mobilising more than US\$ 1000 billion into solar energy by the year 2030. Similarly the European Bank for Reconstruction and Development (EBRD) is keenly interested to increase its green financing portfolio to 40% of its annual business. To this effect the EBRD launched Green Economy Transition Approach in 2015. Till date, the EBRD has invested more than €4 billion directly in renewable energy, supporting projects in over 20 countries and funding more than 6.5 GW of capacity.

The International Solar Alliance is an initiative jointly launched by the Prime Minister Shri Narendra Modi and the President of France on 30th November 2015 at Paris, in the presence of the Secretary General of the UN, on the side lines of COP21 UN Climate Change Conference. The main objective of ISA is to undertake joint efforts required to reduce the cost of finance and the cost of technology, mobilize more than US \$ 1000 billion of investments needed by 2030 for massive deployment of solar energy, and pave the way for future technologies adapted to the needs of 121 countries lying fully or partially between the Tropics. So far 43 countries have signed the Framework Agreement of the ISA, and out of which 14 have also submitted the Instrument of ratification to the depository i.e. Ministry of External Affairs, Government of India. ISA will be the first international inter-governmental treaty based organization to be headquartered in India.

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Draft Regulation of CAR on Civil Use of Drones Announced

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The Directorate General of Civil Aviation announced draft regulations on civil use of Remotely Piloted Aircraft Systems, commonly known as Drones yesterday. The Union Minister of Civil Aviation Shri P. Ashok Gajapathi Raju and the Minister for State for Civil Aviation Shri Jayant Sinha presented and briefed the media about the draft regulation .

As per the draft Civil Aviation Requirements for Unmanned Aircraft System (UAS), the drones have been classified as follows on the basis of their maximum take-off weight :

- | | | | |
|----|-------|---|--|
| 1) | Nano | : | Less than or equal to 250 gm |
| 2) | Micro | : | Greater than 250 gm and less than or equal to 2 kg. |
| 3) | Mini | : | Greater than 2 kg and less than or equal to 25 kg. |
| 4) | Small | : | Greater than 25 kg and less than or equal to 150 kg. |
| 5) | Large | : | Greater than 150 kg |

As per the draft regulation all drones are proposed to be operated in visual line of sight, during day time only and below 200 feet. Dropping of any substance, carriage of hazardous material or animal or human payload is not permitted.

All commercial categories of drones except those in the Nano category and those operated by government security agencies, will have to be registered by DGCA as per ICAO proposed policy, in the form of Unique Identification Number (UIN). The Mini and above categories will require Unmanned Aircraft Operator Permit (UAOP), but the model aircraft up to maximum take-off weight of 2 Kgs flown below 200 feet inside educational institution premises will not require UIN/UAOP. The draft regulation also mandates remote pilots to undergo requisite training, except for Nano and micro categories. As per the draft regulation, the Micro and above category drones will have to be equipped with RFID/SIM, return to home option and anti-collision lights.

The draft regulation also specifies certain restricted areas for operations of drones. Drones cannot be operated within an area of 5km from airport, within permanent or temporary Prohibited, Restricted and Danger Areas as notified by AAI in AIP and without prior approval over densely populated areas or over or near an area affecting public safety or where emergency operations are underway and within 50 km from international border and beyond 500 m (horizontal) into sea along the coastline. Drones cannot be operated within 5 km radius from Vijay Chowk in Delhi and from a mobile platform such as a moving vehicle, ship or aircraft.

The Secretary, MoCA Shri R.N. Choubey informed that the draft for CAR on UAS is available on MoCA's website for a period of one month from today and suggestions and comments on draft is invited from public.

[Click here for Presentation on UAS regulations.](#)

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Financial Assistance of Rs 2,302.05 Crore for Projects under Coastal Berth Scheme of Sagarmala

Financial Assistance of Rs 2,302.05 Crore for Projects under Coastal Berth Scheme of Sagarmala

Scope of Coastal Berth Scheme expanded to cover DPR preparation

The Ministry of Shipping has taken up projects worth Rs 2,302 crore for financial assistance under the Coastal Berth Scheme of the flagship Sagarmala Programme. The Ministry, after due appraisal in consultation with NITI Aayog and Department of Expenditure, has extended the period of the scheme for three years, upto 31st March, 2020 and expanded its scope to cover capital dredging at Major Ports and preparation of DPR for coastal berth project, in Oct 2017.

The projects under Coastal Berth Scheme of the flagship Sagarmala Programme are distributed over eight states with the highest number of projects in Maharashtra (12 projects), Andhra Pradesh & Goa (10 projects), Karnataka (6 projects), Kerala and Tamil Nadu (3 projects), Gujarat (2 projects) and West Bengal (1 project). Out of the 47 projects, 23 projects worth Rs 1075.61 crore have been sanctioned for total financial assistance of Rs 390.42 crore and Rs 230.01 crore has been released to Major Ports, State Maritime Boards and State Governments. The remaining 24 projects are under various stages of development and process of approval.

The most recent beneficiaries of the scheme were Jawahar Lal Nehru Port Trust (JNPT) and Karnataka Government respectively for developing coastal infrastructure at Jawahar Lal Nehru Port, Karwar Port and Old Manglore Port. Rs 25 crore were sanctioned for construction of coastal berth (270m x 30m) at JNPT . Rs 114.4 crore were sanctioned for Karnataka Government for extension of the existing Southern breakwater by 145 metres, construction of a new North breakwater of 1160 metres, construction of coastal berths at Karwar port and construction of coastal berth an capital dredging at Old Manglore port .

The Coastal Berth Scheme aims to provide financial support to ports or state governments for creation of infrastructure for movement of cargo and passenger by sea or national waterways. The admissible financial assistance from Central Government is 50% of the total cost of the project subject to: (i) a maximum of Rs 25 crore for projects relating to construction/up-gradation of coastal berths by Major/Non-Major Ports, (ii) a maximum of Rs 10 crore for construction of platforms/jetties for hovercrafts & seaplanes by Ports/State Governments & passenger jetties in National Waterways and islands by

State Governments, (iii) a maximum of Rs 15 crore for mechanization of berths by Major/Non-Major Ports (iv) a maximum of Rs 50 crore for capital dredging of Major Ports/operational Non-Major Ports ; and (v) a maximum of Rs 50 crore for construction of breakwater for existing and Greenfield Ports. The financial assistance will also be provided for the preparation of DPRs for the projects to be considered under this scheme. The construction of passenger jetties also includes construction of terminal building and allied infrastructure. The balance expenditure has to be incurred by the respective Ports/ concerned State Governments (including State Maritime Boards) from their own resources.

Once completed, the projects will help to promote coastal shipping and increase its share in domestic cargo movement in India. Better infrastructure for coastal shipping will decongest rail and road network besides ensuring cost competitive and effective multi-modal transportation solution. The country has high potential to use coastal shipping for its internal cargo movement given its 7500 kms long coastline.

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Private sector must invest more in contract farming: PM

Beyond the fields: Opportunities exist in primary processing and storage, preservation, cold chains and transportation.

Prime Minister Narendra Modi on Friday asked the private sector to invest more in contract farming, raw material-sourcing and creating agri-linkages, and said there are huge opportunities for global super-market chains considering India as a major outsourcing hub.

Besides, he suggested that aerated drinks manufacturers consider blending 5% fruit juice in their products, and said such a procedure has major potential since fruit-juice based drinks are an intrinsic part of Indian food habits. In addition, he pitched for a venture based on 'nutrition-rich and climate-smart crops' to boost production and supply of India's coarse grains and millets that 'not only have high nutritional value, but can also withstand adverse agro-climatic conditions'.

In his address at World Food India (WFI) 2017, Mr. Modi also said, "Can we link our (India's) potential to the world's requirements? Can we link Indian traditions with the future of mankind? Can we connect India's farmers with markets around the world? These are some questions that I wish to leave you with." He said WFI would provide "valuable insights into our rich culinary landscape, and highlight our ancient wisdom of food processing."

Three-day meet

The WFI — a three-day mega-event being attended by about 2,000 participants, more than 200 companies from 30 countries, 18 ministerial and business delegations, close to 50 global CEOs, including those from leading domestic food processing companies, and representatives of 28 States in India — is likely to see the signing of MoUs to the tune of \$11 billion, according to Food Processing Industries Minister Harsimrat Kaur Badal.

The Prime Minister said, "private sector participation has been increasing in many segments of the value chain. However, more investment is required in contract farming, raw material sourcing and creating agri-linkages. Many international companies in India have taken a lead in contract farming initiatives. This is a clear opportunity for global super-market chains considering India as a major outsourcing hub."

He added that there were opportunities in post-harvest management, including in primary processing and storage, preservation infrastructure, cold chain, and refrigerated transportation. Besides, there was immense potential for food processing and value-addition, especially in niche areas such as organic and fortified foods, he said.

The Prime Minister said many States had come up with attractive food processing policies to attract investment. "I urge each State of India to identify at least one food product for specialisation. Similarly, each district can also select some food items for production, and one item for specialisation," he suggested.

Pointing out that increasing urbanisation and a growing middle class were resulting in an ever-growing demand for wholesome, processed food, he said, "Over a million passengers have a meal on a train in India, every single day. Each one of them is a potential customer for the food processing industry. Such is the scale of opportunity that is waiting to be tapped."

Sweet, blue revolutions

On sub-sectors of the Indian food industry that have the potential to increase farmers' incomes, Mr. Modi said the government aims to take the dairy sector, which is a vital area for the rural economy, to the 'next level' by increasing production levels of multiple products based on milk.

Referring to honey, where India currently ranks sixth in production and export, Mr. Modi said "India is now ripe for a 'sweet revolution'."

Pointing out that India exports fish and fisheries products to about 95 countries, he said, "We aim to make a big leap in the ocean economy through the 'blue revolution'. Our focus is on development of untapped areas, such as ornamental fisheries and trout farming.

We also wish to explore new areas, like pearl farming." India's commitment to sustainable development is at the heart of the government's thrust to organic farming, he said, adding that the entire north-east offers opportunities to create functional infrastructure for organic produce.

Referring to an increase in lifestyle diseases, he said, "The combination of traditional Indian food, with modern technology, processing and packaging, can help the world rediscover the health benefits, and refreshing taste of Indian food ingredients such as turmeric, ginger, and tulsi, to name just a few.

"The perfect blend of hygienic, nutritious and tasty processed food, with the added benefits of preventive healthcare, can be produced economically, here in India."

On the government's stated target of doubling farm incomes within five years, he said the Pradhan Mantri Kisan Sampada Yojana, which aims to create world-class food processing infrastructure, is expected to leverage investment of \$5 billion, benefit two million farmers and generate more than half a million jobs over the next three years."

The creation of Mega Food Parks is a key component of this scheme, he said, adding, "Nine such parks are already operational, and more than thirty others are in the process of coming up across the country."

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Shri Nitin Gadkari says government is committed to providing world class transport and logistics infrastructure in the country within two years

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Work has begun for setting up Logistics Parks at Chennai, Bangalore, Hyderabad, Vijayawada, Surat and Guwahati

Shri Nitin Gadkari, Union Minister of Road Transport & Highways, Shipping, Water Resources, River Development and Ganga Rejuvenation, has reiterated the Government's commitment for providing world class transport and logistics infrastructure in the country within two years to support the growth of economic activity. He was addressing a session on **Opportunity in Infrastructure, Logistics Technology and Equipment** in the World Food India 2017 conference in New Delhi today.

Shri Gadkari informed that the rate of construction of National Highways has gathered considerable momentum. The country had just 96,000 km of NH three years back, but this has grown to nearly 1.7 lakh km, and will soon reach a length of 2 lakh km. This will provide more farmers in remote areas with access to markets for their produce.

The Minister further said that 44 Economic Corridors and 24 Multi Modal Logistics Parks have been planned under the Government's flagship programme Bharatmala. These are being planned on the hub and spoke model to facilitate efficient movement of freight along routes of economic importance. The Multi Modal Logistics Parks are being planned as centres of freight aggregation with warehousing, cold storage and other such facilities. These parks will be built on NH outside cities, so they will help reduce traffic congestion and also reduce pollution. Shri Gadkari informed that work has already begun for setting up Logistics Parks at Chennai, Bangalore, Hyderabad, Vijayawada, Surat and Guwahati. The Economic Corridors and Multi Modal Logistics Parks will facilitate faster movement of farm produce to food processing centres and to markets. This will raise the income of farmers, give a boost to the food processing industry and create a large number of jobs.

Shri Gadkari also said that the Sagarmala Programme of the Shipping Ministry will also be contributing to the growth of the country's food economy in a big way. 14 Coastal Economic Zones have been planned under this programme. Two mega food processing parks are being planned at Kakinada and Satara and a cost of Rs 140 Crores. Support is being given to fishermen under the programme to develop their skills and raise their productivity. Facility for processing, grading and packaging of fish will be developed at

Paradeep Port. In addition to this, 111 waterways are being developed as National Waterways. River Ganga, Brahmaputra, Barak are already under development. Water transport will reduce logistics costs, which in turn will benefit the food processing industry. The development of River Ganga and Brahmaputra for transport will also make it easier to move our produce to Bangladesh. Further, the efficiency of the 12 major ports has been growing rapidly, and they have been making profits consistently over the last three years. Dry ports are being developed at Jalna, Vidarbha and Nasik to begin with. The availability of ports will give a boost to movement of goods.

In addition to developing the road and water transport infrastructure, Shri Gadkari informed that the government is also giving priority to developing micro or drip irrigation in the water deficient regions of the country. 13 river linking projects are also on the anvil of which three will be done within three months. All these projects will improve the availability and utilization of water and raise agricultural productivity.

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Need to focus on planning and design for sustainable and clean urban mobility: Vice President
Need to focus on planning and design for sustainable and clean urban mobility: Vice President

Inaugurates 10th Urban Mobility India Conference and Exhibition, 2017 & CODATU XVII Conference

The Vice President of India, Shri M. Venkaiah Naidu has said that there has to be an increased focus on planning and design for sustainable and clean urban mobility. He was addressing the Inaugural Session of 10th Urban Mobility India Conference & Exhibition, 2017 and CODATU XVII Conference, in Hyderabad today. The Minister of State for Housing and Urban Affairs (I/C), Shri Hardeep Singh Puri, the Deputy Chief Minister of Telangana, Shri Shri Mohammad Mahmood Ali, the President CODATU, France, Mr. Dominique BUSSEREAU, the Ambassador of France to India, Mr. Alexandre Ziegler and other dignitaries were present on the occasion.

The Vice President said that urbanisation is one of the realities of the 21st Century, which is called as urban century. He further said that the 2011 Census has clearly shown that urbanization in India is gaining momentum where every third person is living in urban areas. The current urbanization patterns are causing unprecedented challenges to urban mobility systems, he added.

The Vice President said that urban transport accounts for about 25% of the greenhouse gases worldwide. He further said that it is also the major cause of local air and noise pollution in cities which cause ill health. The traffic congestion created by the transportation systems is responsible for significant economic and productivity costs for commuters and transporters, he added.

The Vice President said that increased motorisation in the Indian cities have caused an ever increasing trend of congestion, pollution, increased travel time, thus producing negative externalities. He quoted Lewis Mumford, the great American urban architect and historian, as saying, "Building more roads to prevent congestion is like a fat man loosening his belt to prevent obesity."

The Vice President said that India has made huge strides in provision of public transport systems in many cities. He further said that Metro rail has seen a rapid growth in many cities with Delhi taking the lead and Bus Rapid Transit System (BRTS) has also seen a phenomenal growth with around 250 kms operational and around 250 kilometers under construction in various cities. He quoted Mr. Enrique Penelosa, the present mayor of Bogota, as saying, "A developed country is not where the poor use cars but where the rich use public transport."

The Vice President said that promoting Non-Motorized Transport infrastructure for walking and bicycle not only acts as last mile connectivity for well-established public transport systems but also has a positive impact on health. He further said that in the pursuit of sustainable mobility, promoting walking and cycling is very important. Need for more pedestrian paths and bicycle

tracks to promote healthy lifestyle, combat diabetes & obesity and reduction pollution, he added.

The Vice President congratulated the Government of Telangana for the implementation of the Hyderabad Metro Rail Project which, on completion, will become the World's largest Metro Rail Project to be implemented in Public Private Partnership mode. He conveyed his best wishes to all in their efforts to create better mobility systems for better quality of life in urban centres.

Following is the text of Vice President's address:

"I am delighted to be with you today at the inaugural session of the 10th Urban Mobility India Conference and Exhibition. It is heartening to know that this event is being organized by the Ministry of Housing and Urban Affairs, Government of India in partnership with the Government of Telangana. CODATU, an organization based in Paris, France, and involved in urban mobility, is also holding its 17th conference in conjunction with this conference.

This is a flagship annual event of the Ministry of Housing & Urban Affairs, Government of India and has played a significant role in churning of ideas and exchange of knowledge in the field of urban mobility over the years.

Urbanisation is one of the realities of the 21st Century, which is called as urban century. The 2011 Census has clearly shown that urbanization in India is gaining momentum where every third person is living in urban areas. Urban sector's share of country's GDP is expected to increase from its current 66 percent to 75 percent by 2031. The current urbanization patterns are causing unprecedented challenges to urban mobility systems.

Despite the increasing level of urban mobility infrastructure worldwide, access to places/activities and services has become increasingly difficult in the urban areas. For decades, most of the countries have experienced rapid urban growth coupled with increase in use of motor vehicles. Unplanned urbanization has, in many cases, led to urban sprawl and thus generating even higher demand for motorized travel. This has resulted in a range of economic, social and environmental challenges.

Urban transport accounts for about 25% of the greenhouse gases worldwide. It is also the major cause of local air and noise pollution in cities which cause ill health. The traffic congestion created by the transportation systems is responsible for significant economic and productivity costs for commuters and transporters. These challenges are more pronounced in cities of developing countries. These get further compounded by the fact that in the coming decades 90 % of the global population growth will take place in the cities of these countries. These cities are already struggling to meet the increasing demand for investment in transport systems.

In many cities of the world, the mistake of drawing a similarity between mobility and transportation has fostered a tendency towards increasing motorization and a propensity to extend the network of urban roads.

India has also seen a similar situation. Increased motorisation in the cities have caused an ever increasing trend of congestion, pollution, increased travel time, thus producing negative externalities. With regard to increasing the road length, I am reminded of a famous quote by Lewis Mumford, the great American urban architect and historian, who said, “**Building more roads to prevent congestion is like a fat man loosening his belt to prevent obesity.**”

Needless to say, there has to be an increased focus on planning and design for sustainable and clean urban mobility. Mobility is not only a matter of developing transport infrastructure and services. It is also about overcoming the social, economic, political and physical constraints of movements. Recognizing mobility as an entitlement implies a focus on people, and removing the obstacles preventing people from reaching destinations.

Public Transport: While private motorisation cannot be wished away completely, providing an affordable, comfortable, reliable and safe public transport can reduce the demand of private motorised vehicles. Global statistics demonstrate that the trips to work made in the world are around 30% on public transport. In India, the average share of public transport in 2011 was 30%. This will probably reduce to 22% by 2021. The lack of affordable and accessible public transport systems has led to the proliferation of informal operators, such as private minibus and microbus services. In some cities, informal carriers are the only forms of public transport available.

High capacity public transport systems are needed to reduce the negative externalities like air and noise pollution, accidents and greenhouse gas emissions. They also provide inclusive access to low income groups.

It is heartening to note that India has made huge strides in provision of public transport systems in many cities. Metro rail has seen a rapid growth in many cities with Delhi taking the lead. Bus Rapid Transit System (BRTS) has also seen a phenomenal growth with around 250 kms operational and around 250 kilometers under construction in various cities. I would like to share with you a quote by Mr. Enrique Penelosa, the present mayor of Bogota, who said that “**A developed country is not where the poor use cars but where the rich use public transport.**”

Last Mile Connectivity: For high capacity public transport to become popular, it is important to provide the last mile connectivity. If the commuter does not get comfortable mode for reaching the metro station or the bus stop, he is likely to use his personal vehicle.

Non-Motorised Transport: Promoting Non- Motorized Transport infrastructure for walking and bicycle not only acts as last mile connectivity for well-established public transport systems but also has a positive impact on health. In the pursuit of sustainable mobility, promoting walking and cycling is very important. Development of pedestrian pathways and dedicated cycle tracks will go a long way in not only promoting sustainable urban transport but also improving the overall ecosystem of the public transport in the city. Need for more pedestrian paths and bicycle tracks to promote healthy lifestyle, combat diabetes & obesity and reduction pollution.

Intermodal Integration: Integration between various modes of transport provides seamless connectivity for the commuters. This may include joint (transfer) stations, coordinated scheduling, joint fares, single ticket or common mobility card and combined public information activities. Basically integration can occur at three levels namely physical, operational and fare integration. Physical integration allows for close proximity of stations facilitating direct connection from one mode to another usually including transfer facility at stations. Cities in Western Europe have taken the lead in facilitating inter modal integration especially between public and non-motorised transport. Kochi metro has introduced a common mobility card which can be used in the metro, bus as well as in the water transport system. Other metro systems like Bangalore metro, Nagpur Metro & Lucknow metro are also adopting similar common mobility card.

Integration of Land Use and Transport Planning: Development of a sustainable transportation system starts with the organization of the urban space with the main objective of reducing the need for travel and the length of travel distance. Neglecting the connection between land use and mobility has created the urban sprawl as can be seen in many cities. An integrated planning approach will yield positive results. One strategy for achieving this can be through Transit Oriented Development (TOD).

Transit Oriented Development (TOD): Transit Oriented Development is a concept which emphasizes mixed and dense development around the high capacity public transport stations. By concentrating a mix of pedestrian oriented development around the metro or BRT stations, residents are more likely to catch a metro or a bus for out-of-neighbourhood trips and walk or bicycle for within the neighbourhood trips. Integrating public transport systems and the built environment makes both the public transport system and the city successful. I am glad to note that Ministry of Housing and Urban Affairs have formulated a National Transit Oriented Development Policy which can be used to formulate city specific TOD policy. With the increasing metro rail and BRT systems, cities should be encouraged to adopt the TOD policy.

Innovative Financing and Land Value Capture: Investment requirements in high capacity Public Transport Systems can be huge due to the large gap in demand and capacity. Therefore it is important to explore the possibility of innovative means of financing. Issuance of bonds and financing of one corridor through land value capture by Bangalore metro is an example how agencies are trying to leverage on the innovative means of financing. The Land Value Capture Policy recently issued by the Government of India can be adopted by various agencies with help and facilitation by the respective city and state governments.

Public Private Partnership: In recent times, more and more cities have chosen the Public Private Partnership (PPP) model for development and implementation of urban transport projects, to leverage both public and private resources and expertise. Some of the cities which have tried the PPP model in some form or the other in either provisioning of the metro rail or other high capacity public transport systems are Bangkok, Kuala Lumpur, Manila, Buenos Aires, Rio de Janeiro, Singapore, Hong Kong, and London.

I would like to congratulate the Government of Telangana for the speedy implementation of the Hyderabad Metro Rail Project which, on completion, will become the World's largest Metro Rail Project to be implemented in Public Private Partnership mode.

A holistic and integrated approach to urban land use and transport planning and investment is needed if urban areas are to become socially, environmentally and economically sustainable.

Many of the environmental challenges in the urban transport sector are rooted in its reliance on the non-renewable fossil fuel to propel private motor vehicles. There is a need to initiating a shift to clean fuels, retiring old polluting vehicles, strengthening mass transportation, and promoting use of electric vehicles, ensuring parking spaces before registering a car at-least in large metro cities.

Better urban planning and a modal shift to public transport along with long-term transport plans are necessary to facilitate the growth of cities in a manner that does not damage the environment. Technical, fiscal and policy actions are needed to direct transport growth towards the path of sustainability. Urban mobility is finely woven into the spatial, social, economic, political and environmental fabric of cities.

I would reiterate that urban transport is one of the key elements of urban infrastructure that calls for urgent action. The future of transportation in lies in sustainable smart mobility and eco-friendly alternatives. The planners, city authorities and civil society have all to join the mission to make our cities a better place to live in.

Urban Mobility India Conference provides such a forum for stakeholder participation in understanding various contemporary issues of urban transport, benefit from the experiences of international and domestic experts, get knowledge about the best practices globally and interact with the peer groups from different organizations.

I convey my best wishes to all of you in your efforts to create better mobility systems for better quality of life in urban centres.

Thank you! Jai Hind!"

KSD/BK

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Hotspots of rattan found in Western Ghats

A rattan clump

Scientists have discovered that non-protected areas near the Agastyamalai Biosphere Reserve, Silent Valley-Mukurthi National Parks and Coorg-Wayanad in the Western Ghats are hotspots of rattan or cane (light, flexible climbing palms) species. Urgent conservation attention in the face of threats including habitat loss and excessive harvesting would be critical here, warns a study published in *Plant Diversity*.

More than half a million people are directly employed in harvesting and processing rattan in Southeast Asia, including India. Though unsustainable harvests driven by rising demands are decimating rattan stands (clumps) worldwide, how are the rattans of the Western Ghats faring?

Distribution

Using location records from field studies and literature, scientists at Bengaluru's Asoka Trust for Ecology and Environment (ATREE) and Pune's Indian Institute for Science Education and Research (IISER) first mapped the distribution of all 21 endemic rattan species across the Western Ghats. At 19, the Western Ghats in Kerala and Tamil Nadu have the highest number of species.

The team then designated 'conservation values' (CV) for each species based on aspects such as the area it is found in and the commercial harvesting pressure it faces. Three species (including *Calamus neelagiricus* which is found only in Kerala's Silent Valley National Park) showed very high CV; the authors suggest that these be classified as endangered (based on categories developed by the International Union for the Conservation of Nature) while three others be categorised as near-threatened and 15 as vulnerable for prioritising conservation action.

Utilising niche modelling to predict areas of high rattan diversity, the scientists also identified three rattan hotspots in the Western Ghats. — near the Agastyamalai Biosphere Reserve, Silent Valley-Mukurthi National Parks and Coorg-Wayanad regions. All these areas fall outside existing protected area networks, where excessive unsustainable harvests could be a problem. Loss of tropical forest tracts to coffee and tea plantations — as is common in the Coorg-Wayanad complex — is also an issue, say the scientists.

"Forest department managers need to encourage farmers to establish large-scale plantations in private lands and develop agro-forestry systems as well," says co-author Aravind N.A. (ATREE). "The Forest Department has already established a few rattan plantations in some districts... this needs to be replicated at a wider scale where the demand for rattan is high. These extractive reserves could meet the requirements of communities that depend on these resources," says ATREE's G. Ravikanth, another co-author.

Life is not always a serious affair, there is lightness, humour and nonsense, too, which we enjoy

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Shri Radha Mohan Singh addresses a conference on Fruits & Vegetables, Dairy, Poultry & Fisheries - Leveraging the Diverse India Opportunity at World Food India 2017**Shri Radha Mohan Singh addresses a conference on Fruits & Vegetables, Dairy, Poultry & Fisheries - Leveraging the Diverse India Opportunity at World Food India 2017**

World Food India is a unique platform where delegates from 60 countries will not only understand but also assess our growth: Shri Radha Mohan Singh

Union Agriculture and Farmers Welfare Minister Shri Radha Mohan Singh said that the unprecedented and multi-faceted development of Indian agriculture post-independence is unparalleled. Shri Singh said the world is eager to study and adapt our growth strategy. The Agriculture Minister said it today while addressing a conference on Fruits & Vegetables, Dairy, Poultry & Fisheries - Leveraging the Diverse India Opportunity at World Food India 2017 in New Delhi.

The Agriculture Minister said that at the time of independence, we were unable to feed 34 crore population, but today, thanks to the hard work and wisdom of our policymakers, farmers, scientists, and food production officers, we have moved ahead among the countries suffering from food shortages and not only providing food to 134 million population but have also become a food exporter.

Shri Singh said that with just two percent of the world's land we are not just feeding 17 percent of the global population, 11.3 percent livestock and vast genetic inheritance, but also exporting food. He said that today we are the world's largest milk producer, second largest fruits and vegetable producer, third in the production of fish and holds fifth place in egg production.

Shri Singh said that at the time of Independence, per capita of milk supply was 130 gram per day to the 34 million population and today per capita of milk supply has increased to 337-gram milk per day to 134 million people. This is an incomparable achievement in milk production. The Minister further said that we export a lot of agricultural commodities which is about 10 percent of the country's total exports.

The World Food India, which is being organized in the national capital, is a unique platform where delegates from 60 countries of the world will not only understand but also assess our progress.

The Agriculture Minister said that special emphasis has been given to the overall

agricultural growth. The Government has taken various steps to increase the agricultural sector's growth rate. Pradhan Mantri Fasal Bima Yojana, Paramparagat Krishi Vikas Yojana, e-NAM, Pradhan Mantri Krishi Sinchai Yojana, Soil Health Card are some of our key schemes. The Government has allowed 100% FDI in food processing.

Shri Singh said that the Government is implementing Horticulture Development for Integrated Development of Horticulture (MIDH) scheme for the Integrated Horticulture Development Mission & Integrated Horticulture Development Mission, which includes various cold chain such as Pack Houses/ Central Sorting, Pre-Cooling, Reefer Vehicle, Primary processing units and Ripening chambers. It also includes processing units in the North-Eastern and Himalayan states.

Under MIDH, 4392 cold storages/ CA Stores of 19.47 million MT capacity, 20710 Farm Pack Houses, 411 Referral Transport, 408 Ripening Chambers, 4414 Primary Processing Units, and 101 Precooling Units have been set up as on March 31, 2017.

The Agriculture Minister said that under the MIDH, the State is promoting the Horticulture Mission, Horticulture crops / Farm level programs to develop the collective area of fruits and vegetables including processing varieties in the field of Mega Food Parks and Export Promotion Areas. In 2016-17, export of horticultural product was 5.03 million MT (Fresh fruits and vegetables - 4.16 million MT, processed fruit, and vegetable - 0.88 million MT, flower farming - 33725 MT) and there has been a 12 percent growth in terms of value.

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The problem of congestion in cities is a problem of cars, not rickshaws

A 12-member committee set up by a directive of the Delhi High Court has recommended that the number of e-rickshaws in Delhi should be limited to a certain number. The recommendation is another attempt to decongest the busy roads of the capital city. While the principle is sound in theory – these rickshaws are slow, they often block fast moving cars, and occupy precious space on the edges of roads. But, the idea becomes problematic when the number of cars on the roads, the population of the city that can afford to travel by private cars, and the issue of last-mile connectivity are taken into consideration.

Delhi has a population density of 20,000 people/km², and car ownership of 131 cars per 1,000 people. 42% of all daily trips in the city are made by public transport. And yet, our focus is on mobility only for those in the social strata that can afford cars. Too many of our schemes aimed at easing urban mobility in most cities are targeted at making it easier for a large number of cars to get around, instead of focusing on getting large numbers of citizens around the city. Large transport systems such as the metro face the problem of getting commuters from their homes to the metro. Transport means such as rickshaws are the bridge in such scenarios.

Rickshaws are not why the roads in so many of our cities are clogged. The roads are clogged because Indian cities, by and large, do not have reliable public transport systems and there are too many cars on the roads. Cutting trees to widen roads, building flyovers, removing rickshaws are all ways to make it easier to drive cars. Urban planning recently appears to entirely focus on making life easier for the rich few at the expense of the many poor. The sign of a safe and efficiently run city is when most of its citizens use public transport instead of private vehicles.

Given that the majority of the people in cities still use the highly inadequate public transport systems including e-rickshaws and buses, reducing them is not the answer to the congestion crisis. There is no cap on the number of cars that are allowed to ply on the roads, but regulating the number of rickshaws that are cheap and efficient for short distance travel seems to be the focus of our urban planning. This attitude must change. In order to make it easier to get around the city, urban planners must shift focus to make public transport efficient enough to reduce the number of cars on the roads.

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Unplanned urbanisation blamed as dengue claims 40 lives in Bengal

Rapid, unplanned urbanisation is the main reason behind the current outbreak of dengue in West Bengal, medical professionals have said. They are of the opinion that large-scale construction work in Kolkata as well as semi-urban areas provide ample breeding grounds to the female *Aedes aegypti* mosquito, the vector of the disease which breeds in clean, stagnant water. As per the latest government estimates, 40 people have died due to dengue while at least 20,500 have been diagnosed with the disease.

Elaborating on the urban nature of dengue, virologist Amitava Nandi said the *Aedes aegypti* mosquito mostly breeds in stagnated water in containers. "Social change due to urbanisation has triggered a sharp increase in the use of artificial containers in cities. Products which were earlier sold in paper bags are sold in plastic packets and containers, providing more breeding space to the mosquito," Dr. Nandi told *The Hindu*.

With container use becoming popular in semi-urban and rural areas, dengue is no longer confined to large cities, he added.

The medical professionals also pointed out that unplanned building construction without a proper drainage system in the semi-urban and rural areas contributed to the spread of dengue.

"Even in the rural areas of North 24 Paraganas district [which, according to the State government, is the worst affected by dengue], unplanned building construction has increased over the last decade," said Shanta Dutta, director of the National Institute of Cholera and Enteric Diseases (NICED).

Till September this year, about 15% of the blood samples at NICED tested positive for dengue, she said. "Since late September, it has gone up to 40 to 45%," she added.

The severity of the situation can be seen from the fact that 108 dengue patients are admitted in the State run Beliaghata Infectious Diseases (ID) hospital. "Apart from these 108 patients, 214 have been admitted with fever. If they are diagnosed with dengue, the number of such patients will increase," said U.K. Bhadra, principal of the hospital.

They also point out that no curative medicine is available for dengue — only supportive treatment can be provided.

"Dengue deaths can be avoided with early detection and proper treatment. Increasing public awareness on the disease is the key," said Dr. Dutta.

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Marooned once more: on Chennai's need for flood management

Chennai's date with a strong northeast monsoon ought to be a cause for all-round relief since the water fortunes of more than eight million residents of the metropolitan region depend on this weather system. Yet, the torrential rains in the meteorological sub-division, [exceeding the normal by 93%](#) in the period of four days from November 1, [left tens of thousands of citizens in a state of despair](#). Flood waters marooned them in the rapidly growing suburban housing clusters, with many having to flee to safer places fearing a repeat of the [deluge of 2015](#). While there have been efforts to alleviate immediate misery through the distribution of relief material in some places, the larger issue of how the city deals with flood and drought cycles remains unaddressed. Chennai is a lower elevation coastal city with global aspirations, and very high population density. Scientific management should have ensured the preservation of the many traditional lakes and canals that existed in the city's core a century ago to absorb the intense downpour of about 1,300 mm of rain, most of it in an annual window of a few weeks. Successive governments have allowed the mindless draining of wetlands and their conversion into expensive real estate, with catastrophic consequences. Regrettably, the great flood two years ago, which left many dead and families impoverished, has not yielded a policy course correction. If the Tamil Nadu government is serious about putting Chennai on the global map of economically viable cities, it must move beyond the creation of weak storm water drains to an integrated flood management system.

Chennai and its sprawl extending to two neighbouring districts should return to the traditional wisdom of creating tanks and lakes for water storage, and rejuvenating old silted ones, in order to harvest the floods and replenish depleted groundwater. The finding from one study in 2013 shows that 27 tanks have totally disappeared and another 400 have lost almost their entire capacity. This underscores the need to revive such natural sponges. Inviting the community to monitor the health of the tanks and lakes can keep out encroachers, who are often protected by patron-politicians. Yet, such measures can work only when the deficit of good housing and civic infrastructure is actively addressed. Tamil Nadu, one of India's most urbanised States, has a poor record in this area, resulting in fragile slums. New housing has mushroomed in Chennai's suburbs, where municipal bodies are mired in incompetence and corruption. It is these localities with little infrastructure that have borne the brunt this year. Looking ahead, the priority for the State should be to integrate flood management using expert opinion and public consultation. Remedial structures should be built for existing localities. Poor waste management is exacerbating the problem by blocking drains, canals and lakes, while ill-planned road projects are cutting off flood flows. These have to be immediately addressed. The tendency to treat floods and drought as events to dole out patronage is preventing Chennai from forging robust solutions.

Revving up infrastructure spending is necessary, but not sufficient

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From plate to plough: Farm to distant shores

The new Commerce and Industry Minister, Suresh Prabhu, has expressed his resolve to expand exports. He has said that increase in agri-exports will not only increase the country's export basket, but also augment farmers' incomes and ameliorate farm distress. His objective is laudable and achievable, provided there is a paradigm shift in policy-making from being obsessively consumer-oriented to according greater priority to farmers' interests. But before elaborating on this, let us compare the trends in agri-trade, both exports and imports, in the period when the UPA was in office (2004-05 to 2013-14) with that of the three-years of the current regime (2013-14 to 2016-17). A close look at these trends and their drivers can help Prabhu and his team identify agri-commodities that can help boost the agri-trade surplus.

In general, both agri-exports and imports have increased substantially since 2004-05. Agri-trade increased from \$14 billion to \$59.2 billion between 2004-05 and 2016-17 (Figure 1). As a share of the agri-GDP, the contribution of this trade increased from 11.1 per cent in 2004-05 to 16.7 per cent in 2016-17 after peaking at 19.6 per cent in 2012-13, reflecting the increasing integration of Indian agriculture with global markets.

It is interesting to observe that during UPA's tenure in office, agri-trade surplus surged seven fold, from \$3.6 billion in 2004-05 to \$25.4 billion in 2013-14. But then fell dramatically by two-thirds after the NDA assumed office, touching \$8.2 billion by 2016-17 (Figure 1). The tumbling agri-trade surplus was the result of falling exports and rising imports. Agri-exports, after peaking at \$42.9 billion in 2013-14 fell to \$33.7 billion in 2016-17, while imports kept rising — from \$17.5 billion in 2013-14 to \$25.5 billion by 2016-17. Agri-exports suffered primarily due to the significant fall in exports of cereals (especially wheat and maize), cotton, oilseeds and, to some extent, bovine meat (Figure 2). This, in turn, was largely due to a steep fall in global prices and restrictive export policies. Global prices of wheat, maize, soybean, and cotton, for example, fell by 47, 39, 25 and 18 per cent, respectively, during 2013-2016. The FAO food price index fell from 209.8 in 2013 to 161.5 in 2016. Export policies for pulses, oilseeds/edible oils and several vegetables were restrictive. Nevertheless, exports of fish-seafood, and fruits-nuts-vegetables (mainly guavas/mangoes, grapes, cashew nuts, onions) have been growing steadily. They touched \$5.8 and \$3 billion, respectively, in 2016-17 (Figure 2).

Banaganapalle mangoes get GI tag

The famous Banaganapalle mangoes of Andhra Pradesh and Tulaipanji rice of West Bengal are among the seven commodities that have been granted Geographical Indication (GI) this year by the Indian patent office.

A GI is primarily an agricultural, natural or a manufactured product (handicrafts and industrial goods) originating from a definite geographical territory.

Typically, such a name conveys an assurance of quality and distinctiveness, which is essentially attributable to the place of its origin.

Darjeeling tea, Tirupati laddu, Kangra paintings, Nagpur orange and Kashmir pashmina are among the registered GIs in India.

The other five products which have received the GI tag this year include Pochampally Ikat of Telangana, Gobindobhog rice of West Bengal, Durgi stone carvings and Etikoppaka toys of Andhra Pradesh, and Chakshesang shawl of Nagaland, according to the Indian patent office website.

In 2016-17, as many as 33 items got GI registration.

Experts said that this tag gave protection to the producers of these genuine products, which commanded premium pricing in the markets, both domestic and international.

“Once the GI protection is granted, no other producer can misuse the name to market similar products. It also provides comfort to customers about the authenticity of that product,” National Intellectual Property Organisation president T.C. James said.

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Making a case for microgrids

On 30 July 2012, one-fourth of Bharat was plunged into darkness. A blackout that lasted for two days affected all of North and East India and exposed a severe deficiency in the distribution infrastructure and demand management system in the Indian power sector.

While we as a nation mercifully don't face such major blackouts on a daily basis, the truth is electricity access in India is a case of death by a thousand cuts. Our towns and villages bear the brunt of this poor distribution infrastructure, which is characterized by low voltages, and frequent power cuts, often lasting more than four hours a day.

Employing localized microgrids and reducing dependence on central infrastructure might be the solution to poor distribution infrastructure. And if you asked the folks in Meerwada, Madhya Pradesh, one of the few bright spots North of the Vindhyas on those dark days, they'd agree and point to the small solar microgrid that kept their homes lit and fields humming.

Most of Bharat that lives outside cities suffers from power outages for two big reasons—underestimating demand, and poor balancing of demand and supply. The power infrastructure outside urban centres has been built under the simplistic assumption that a rural household consumes one unit of electricity per day, which, compared to the national average of 12-15 units, is a gross underestimation.

It's a problem that's only getting worse with the nation aspiring to better living standards and creating economic opportunities.

It's the infrastructure-scale equivalent of plugging a geyser into a regular (non-heavy duty) power socket and then wondering why the fuse blew. Lower demand assumption results in infrastructure built for lower capacity that ends up operating at heavy loads during peak hours.

This reduces their operational life and efficiency, increasing events of grid failure. Mismatched demand and supply can also muddle regional and central level planning and result in more power outages.

Distributed local power generation using solar or wind energy could improve the quality of power and provide flexibility in local grid planning and operations for areas outside urban centres. These could be communities or even commercial operations like transportation hubs, warehouses, cell towers or even a substation itself. Distributed generation, otherwise called microgrids, have been around for some time now. But the lack of commercial feasibility has kept them from going mainstream.

However, in the past few years, the cost of solar power has dropped significantly, making solar microgrids increasingly more viable, and bringing with it an ecosystem full of opportunities. It is worth examining these ecosystem building trends and the resulting opportunities in further detail.

First, scale and economics are starting to make sense. Microgrids are commercially viable when two key conditions are met, a threshold scale of 50kW peak power, and customers that are willing to pay higher retail power costs of Rs5 per unit vs. Rs3.25 for the lowest tariff slab. The proximity of a ubiquitous commercial consumer like a mobile tower can help address both conditions.

Commercial consumers usually demand more power and pay more for it, anywhere between Rs6 and Rs11 per unit. Furthermore, consumers in existing microgrids are willing to pay up to Rs6 per unit for reliable power supply, as is evident from projects in Uttar Pradesh, Bihar and Madhya

Pradesh.

Second, the intermittency of solar power is getting addressed. Solar power microgrids cannot operate in isolation and need to be connected to the main power grid as solar power is only available during the day. Microgrids will be commercially successful in those areas with basic grid connectivity, but that experience low voltage and power outages.

Power outages in semi urban and rural areas usually occur around two peak consumption periods—one that occurs a little after noon and one that occurs at dusk. Solar powered microgrids can solve for one of the two peak outages. The addition of storage which currently costs Rs10 per unit, can provide for the second peak. Storage costs are on a downward trend and can drop to a third of today's cost in 5-6 years.

Last, positive trends in policy, economics, and community acceptance is making it easier to solve for land availability. A 50kW solar microgrid can power 100 households and needs less than half-an-acre of land. The key is choosing a suitable consumer—either a community that is already connected to the grid and can lease private land or use community held land around panchayat offices, or a commercial entity with access to land. Larger entities with remote land holdings across India like the Indian Railways, can also deploy microgrids.

That said, an ecosystem of services business needs to be built for micro grids to achieve their true potential. Microgrids, unlike utility scale grids, are owned by small end-users. This creates the need for three types of services. First, the initial set up of the microgrid will require small-scale PMCs (project management companies).

Second, these assets will require operation and maintenance that can be provided by the same type of service provider that serve utility scale solar plants. Finally, we'll need a services company to manage integration, dispatch, and load balancing of several distributed power plants into the grid.

A financing ecosystem to both fund capex and working capital is a key need. The 50kW solar microgrid serving 100 households will need a capex of approximately Rs60 lakh. The payback period for this microgrid will be about 10 years, which is in line with utility scale infrastructure. Thus such grids can avail project finance debt just like other infrastructure projects. So if 80% of Rs60 lakh can be serviced through debt, the user community of a 100-households will have to pay about Rs12,000 per family. This cost structure of the microgrid is more than worth it, given it costs the government Rs30,000 per person to provide electrification and only solves for half of the problem.

Every trend concerning solar power points towards a future where every nook and corner of the nation will be able to power itself. In the final part of this three-part series, we will analyse the services and financing opportunities that are crucial to enabling this bright and sunny future.

Vaidhehi Ravindran and Vignesh Nandakumar are venture capital investors at Aspada Investment Advisors. The Bharat Rough Book is a weekly column on building businesses for the mass markets represented by the middle of India's income pyramid.

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'2017 will be among top 3 hottest years on record'

The sun rises over Frankfurt, Germany, on Monday. The World Climate Conference with 25 000 people participating starts on Monday in Bonn, Germany. | Photo Credit: [AP](#)

Year 2017 will be one of the three hottest years on record, with many high-impact events, including catastrophic hurricanes and floods, debilitating heat waves and drought, says a provisional statement on the State of the Climate released by the World Meteorological Organization (WMO). The average global temperature from January to September 2017 was approximately 1.1°C above the pre-industrial era, it notes.

As a result of a powerful El Niño, 2016 is likely to remain the warmest year on record, with 2017 and 2015 being second or third.

The WMO statement, which uses 1981-2010 as the baseline, was released on Monday at the opening day of the United Nations (UN) climate change conference in Bonn.

"The past three years have all been in the top three years in terms of temperature records. This is a part of a long term warming trend," said WMO Secretary-General Petteri Taalas, in a release, adding, "We have witnessed extraordinary weather, including temperatures topping 50 degrees Celsius in Asia, record-breaking hurricanes in rapid succession in the Caribbean and Atlantic reaching as far as Ireland, devastating monsoon flooding affecting many millions of people and a relentless drought in East Africa."

Patricia Espinosa, Executive Secretary of UN Climate Change, which is hosting the Bonn conference, said, "These findings underline the rising risks to people, economies and the very fabric of life on Earth if we fail to get on track with the aims and ambitions of the Paris Agreement".

"Bonn 2017 needs to be the launch pad towards the next, higher level of ambition by all nations and all sectors of society as we look to de-risk the future and maximize the opportunities from a fresh, forward-looking and sustainable development path," she said.

Extreme events due to climate change have affected the food security of millions of people, with agriculture accounting for 26% of all the damage and loss associated with medium to large scale storms, floods and drought, says the statement, citing an FAO (Food and Agriculture Organization) assessment. Further, between 2000 and 2016, the number of vulnerable people exposed to heatwave events increased by approximately 125 million.

In 2016, 23.5 million people were displaced during weather-related disasters. In Somalia, more than 7, 60, 000 internal displacements have been reported by UN agencies.

All-India rainfall for the 2017 monsoon season (June to September) was 5% below average. However, above average rainfall in the Northeast and adjacent countries led to significant flooding. Many parts of the Indian subcontinent were affected by monsoonal flooding. The most serious flooding occurred in mid-August in eastern Nepal, northern Bangladesh and nearby northern India. Mawsynram (India) received more than 1400 mm from August 9 to 12.

Three major and high-impact hurricanes occurred in the North Atlantic in rapid succession, with Harvey in August, followed by Irma and Maria in September.

The global mean sea level (GMSL) has been relatively stable in 2017 to date, similar to levels first reached in late 2015. This is because the temporary influence of the 2015-16 El Niño continues to

unwind and GMSL is reverting to values closer to the long-term trend. However, preliminary data shows that a rise in GMSL may have started to resume from July-August 2017 onwards.

If you encounter a 700 kg animal on a high street in Kodaikanal, remember we might have invited its unusual presence

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Two-day conference of States Power Ministers to be held in Rajgir, Bihar

Two-day conference of States Power Ministers to be held in Rajgir, Bihar

A two-day conference of Ministers for Power and New & Renewable Energy of States & Union Territories will be held in **Rajgir, Bihar, on 10th and 11th of November, 2017**. The Conference will be inaugurated by Shri Raj Kumar Singh, Union Minister of State (IC) for Power and New & Renewable Energy. The aim of this two-day conference is to review the implementation of various ongoing Schemes/ Programmes and deliberate on a host of issues pertaining to Power and Renewable Energy sectors.

Ministers and Secretaries of the States and Union territories and senior officials of the two sectors and Public Sector Undertakings under them will meet up to discuss issues like,

POWER SECTOR

Distribution

- **Saubhagya (Pradhan Mantri Sahaj Bijli Har Ghar Yojana):** Achieving 100% household electrification by December, 2018
- **DDUGJY:** Completion of feeder separation, system strengthening projects
- Prepaid/**Smart Meters**
- Expediting **IPDS** works in Urban areas and reduction of **AT&C losses** to less than 10%
- Promotion of **Digital Payments**
- Strategy towards **24x7 Power for All**

Reforms

- **Compliance of RPO targets** and REC mechanism by the States/UTs. RPO trajectory for the year 2022 and incentives to DISCOMs for achievements of these RPO targets
- How to mandate Cross Subsidy Charges within the specified limit prescribed in **Tariff Policy**
- **ISTS:** Transmission charges

- **PPAs:** Signing and honouring

Thermal

- **Ash Management System:** Launch of Mobile Application

Hydro

- **Operating Hydropower Projects** at designed maximum peaking capacity
- Discussion on **Infrastructure Funding** of Hydro Power Projects

Transmission

- **Right of Way (RoW) Issues** in Transmission Projects

Energy Conservation

- Potential opportunities and action plan for making **Buildings Energy Efficient:** Review of progress of adoption of Energy Conservation Building Code (ECBC) by States
- **Demand Side Management** through use of energy efficient appliances
- Promoting **E-Mobility** (Electrical vehicles) in India: Standards, Charging Infrastructure and Market Transformation

NEW & RENEWABLE ENERGY SECTOR

Renewable Energy Sources

- Scheduling & Forecasting for **Renewable Energy Integration**
- Review of Implementation of **Solar programme**
- Challenges being faced in implementation of **Solar Rooftop programme**
- Presentation on new Decentralized ground mounted Grid connected solar energy/**KUSUM Programme**
- **RE-INVEST 2017**
- Review of **Wind Power programme**
- Review of **SHP programme**
- Review of **Biomass programme**
- **LWE Districts**

The concluding session of the conference would consist of comments and feedback by States/UTs and adoption of Conference Resolution by the delegates.

RM/VM

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Rethinking open access in electricity

Recently, the Union ministry of power advised the Central Electricity Authority (CEA) to set up a committee to look into issues related to open access and brought out a consultation paper based on the committee's findings. Open access is one of the key measures to bring about competition in electricity, whereby large consumers have access to the transmission and distribution (T&D) network to obtain electricity from suppliers other than the local distribution company (discom). Open access was expected to encourage investment by private players in electricity supply. Unfortunately, the success of open access has been very limited in spite of numerous attempts to facilitate it. This initiative by the power ministry should be taken as an opportunity to examine the basics of open access and re-conceptualize it, if necessary.

Instead of being an avenue to allow large consumers choice of supplier on a sustained basis, open access has become a way to allow such consumers to move back and forth between the discom and the market as and when they want. Not only is this phenomenon unfair to discoms, it also does not allow competitive suppliers to develop a stable customer base, defeating the purpose of open access. The current approach to open access may relieve, to some extent, the burden of cross-subsidization that falls on large consumers, by allowing them access to the market to get lower prices when they can. The high degree of cross-subsidization certainly needs to be addressed, but tariff rationalization is a political problem and, therefore, is best solved at the political level. Trying to bring about this change through open access is unlikely to succeed, as past experience shows.

The term "open access" itself is a misnomer for consumer choice, muddling the discussion. Open access to the T&D network is required by generators and suppliers, but not by consumers. Consumers need only to shop around for the best deal from competitive suppliers, and it should be the responsibility of the suppliers to obtain access so that the power can be transferred to consumers. Therefore, open access requests should only come from suppliers, not consumers. This distinction may help resolve another issue. For effective competition, open access to the T&D network by suppliers can and should be of any duration—short, medium or long term—so that they can assemble the most efficient mix of resources to serve their customers. However, as discussed later, exercise of choice by a consumer should not be a short-term transaction. Further, while open access is a prerequisite for choice, consumer choice is about more than open access. Choice also requires well-defined rules that govern the relationship between the discom and the consumer exercising choice, defining the rights and responsibilities of each. Not enough attention has been paid to these rules in state regulations.

The first step in re-conceptualizing open access is to recognize that service to consumers exercising choice is a distinct service, and not an extension of regulated supply. Large consumers should not be able to treat the discom as a mothership to which they can return whenever market prices rise. In addition, consumers exercising choice should be required to get all their electricity from the supplier of their choice, not just part of it, otherwise the discom has to handle all the variability of load, and that increases the discom's planning burden and cost, and is unfair.

Open access for end-consumers should not be a short-term option. Discom tariffs are regulated and fixed for the entire year and thus represent an average over the year. Even an efficient discom will have tariffs that are above the prevailing market price at some times and below it at other times. If a very large consumer is able to cherry-pick the periods when it can get supply from the market, it would result in higher and higher costs for the discom. These additional costs would have to be borne by non-open-access consumers, many of whom are small consumers. Furthermore, unlike other markets, because its tariff is regulated and fixed, the discom cannot compete with another supplier by making a counter-offer to retain a consumer.

In states in the US that have allowed choice of supplier, similar concerns have been raised about giving excessive flexibility to consumers to move back and forth between the market and discom service, because discoms find it difficult and expensive to hedge against the risks posed by these swings in load. In those cases, restrictions have been placed on the time that has to elapse before a consumer can either leave a regulated service or return to it—usually 6-12 months. In India, because regulated tariffs are fixed for a year, similar time limits of 6-12 months should be placed to address the problem of frequent shifting. There should be no restrictions on switching between competitive suppliers.

It is possible that a large consumer may be dropped by its retail supplier for reasons beyond the control of the consumer; for example, bankruptcy of the supplier, or its inability or unwillingness to supply. In such cases, while the consumer shops for an alternative supplier, there should be short-term service priced to compensate the discom for its cost.

It is time to move beyond efforts to increase the volume of open access transactions by tinkering with how various open access charges are calculated. Instead, the initiative by the power ministry should be taken as an opportunity to re-conceptualize open access along the lines discussed here, so that its objectives are achieved.

Daljit Singh is with the Centre for Energy, Environment & Resources, New Delhi.

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Shri R. K. Singh leads Indian Delegation in the IEA Ministerial, Paris**Shri R. K. Singh leads Indian Delegation in the IEA Ministerial, Paris****Emphasises importance of Clean Energy and assures achievement of 175GW of Renewable Target of India****Power Minister addresses Plenary Session on Driving the Transitions to Clean Energy**

Union Minister of State (IC) for Power and New & Renewable Energy, Shri Raj Kumar Singh led the Indian delegation in the International Energy Agency (IEA) Ministerial, being held in Paris. The Minister emphasised the importance of clean energy and assured achievement of 175GW of renewable target of India while addressing the Plenary Session on Driving the Transitions to Clean Energy.

At the Ministerial, India signed joint work programmes with IEA and other key members of the IEA Family i.e. Brazil, Chile, India, Indonesia and Thailand. The event focusses on energy security, clean energy technology and government-industry dialogue on investment and digitalization, which would provide major opportunities for efficiency gains in the energy sector in the future.

On the side-lines of the IEA Ministerial, the Minister had a delegate level discussion with the French Minister of State for Ecological and Inclusive Transition, Ms. Brune Poirson. Shri Singh also had a very fruitful discussion on various issues of Power and New & Renewable Energy with the US Secretary of Energy, Mr. James Richard Perry.

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Delhi's debilitating smog is shocking but not surprising

If it weren't for the fact that pollution levels are the worst ever every year, Delhi could have been living in a science fictional time loop for the past few years. The smog gets so bad at this time of the year that Delhiites choke. The government scrambles for immediate stopgap solutions. A few are implemented. Once winter is over, it's back to business as usual. Rinse, repeat.

Delhi continues to bear the ignominy of being one of the most polluted cities in the world with alarming indifference. It isn't as though the solutions to the issue of pollution are shrouded in the smog that currently envelops the city, rendering them invisible. Obvious solutions such as reducing the number of polluting vehicles, imposing strict guidelines for polluting industries, and building better public transport infrastructure have been talked about for many years. Yet, authorities only think of strategies such as the odd-even plan (whose benefits are debatable) for cars when the pollution levels reach these dangerous levels.

Residents of the city must also share the blame. Before Diwali this year, the Supreme Court tried to reduce firecrackers from adding to the problem, but many people defied the spirit of its judgement by bursting polluting crackers well into the wee hours of the morning. The number of cars that are added to the road every day, the number of diesel powered generators that the city uses, and the impunity with which pollution control measures are flouted – all add to the smog that the capital's residents are now breathing.

Crop burning from neighbouring states also adds to the pollution in Delhi. No practical solutions that don't involve criminalising the farmers who grow our food have been found for that either. Identifying and helping farmers implement more efficient ways of mulching and composting, and using crop residue for the production of biogas have been suggested as alternative means of dealing with crop residue that farmers currently burn. But the implementation of such methods will require a serious engagement with farmers, who are already under immense financial pressure.

The problem of air quality is also a problem of unplanned and extensive urbanisation.

There isn't a miracle cure for this problem. Air pollution in Delhi has been caused by several decades of continuing irresponsible behaviour. Whatever the solution, and however much it costs, it is sure to be offset by the cost of man hours lost due to delays in flights, trains and vehicular traffic due to smog and the staggering health costs involved. Quite simply, it makes economic sense to invest in cleaner technologies and practices. This will require political will, commitment, and a concerted effort by all stakeholders including residents, non-governmental organisations and governmental agencies.

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Shri Rajnath Singh chairs second meeting of Island Development Agency**Shri Rajnath Singh chairs second meeting of Island Development Agency****IDA approves holistic development of 9 islands****Shibpur Naval Air station to be converted into Joint User Airport**

The Union Home Minister Shri Rajnath Singh chaired the second meeting of Island Development Agency (IDA) here today. The Island Development Agency reviewed the concept development plans and detailed master plans for holistic development of 09 islands (four in A&N Islands i.e. Smith, Ross, Long, Avis) and (five in Lakshadweep i.e. Minicoy, Bangaram, Thinnakara, Cheriya, Suheli). The project being steered by NITI Aayog aims at promoting and implementing development based on sustainable approach to building a thriving maritime economy of the project islands.

The Union Home Minister expressed satisfaction at the progress made since its last meeting held on July 24, 2017, when directions were given to identify and execute infrastructure and connectivity projects together with provisioning of water and electricity. It was noted that site development potential reports have clearly mapped and delineated environmentally sensitive zones in the project islands and considering the unique maritime and territorial bio-diversity of the islands, enhanced connectivity has been recommended as one of the key priorities. Accordingly, it was decided that the Naval air station at Shibpur near Diglipur in northern Andaman & Nicobar Islands would be co-used as Joint User Airport.

During the meeting, it was also decided to develop a PPP package including a airport (Joint User Airport) at Minicoy Island, to unlock the tourism potential. It was agreed to promote tuna fishing industry for improving livelihoods in Lakshadweep. Union Home Minister directed all concerned to expedite implementation of ongoing key infrastructure projects in the islands and develop community based tourism in consultation with local stakeholders.

NITI Aayog was also asked to drive the formulation of PPP projects and proposed detailed guidelines to boost private sector participation.

The IDA was set up on June 01, 2017 following the Prime Minister's review meeting for the holistic development of islands.

The meeting was attended by Lt. Governor of Andaman & Nicobar Islands, Admiral D.K. Joshi, Former Navy Chief (Vice Chairman of IDA), Cabinet Secretary Shri P. K. Sinha, CEO, NITI Aayog Shri Amitabh Kant, Union Home Secretary Shri Rajiv Gauba, Secretary, Environment, Forest & Climate Change, Shri C. K. Mishra and representatives of Ministries of Tourism, Power, Defence, Health, Telecommunications and Civil Aviation.

KSD/NK/PK/SB

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Heat source under Antarctica melting its ice sheet: NASA

The Thwaites Glacier in West Antarctica. | Photo Credit: [AP](#)

A geothermal heat source called mantle plume lies deep below Antarctica's Marie Byrd Land, explaining some of the melting that creates lakes and rivers under the ice sheet, a NASA study has found.

Although the heat source is not a new or increasing threat to the West Antarctic ice sheet, it may help explain why the ice sheet collapsed rapidly in an earlier era of abrupt climate change, and why it is so unstable today.

The stability of an ice sheet is closely related to how much water lubricates it from below, allowing glaciers to slide more easily, NASA said.

Understanding the sources and future of the meltwater under West Antarctica is important for estimating the rate at which ice may be lost to the ocean in the future.

Antarctica's bedrock is laced with rivers and lakes, the largest of which is the size of Lake Erie.

Many lakes fill and drain rapidly, forcing the ice surface thousands of feet above them to rise and fall by as much as six metres. The motion allows scientists to estimate where and how much water must exist at the base.

About 30 years ago, a scientist at the University of Colorado Denver in the US suggested that heat from a mantle plume under Marie Byrd Land might explain regional volcanic activity and a topographic dome feature. Very recent seismic imaging has supported this concept.

"I thought it was crazy. I didn't see how we could have that amount of heat and still have ice on top of it," said Helene Seroussi of NASA's Jet Propulsion Laboratory (JPL) in California.

With few direct measurements existing from under the ice, Seroussi and Erik Ivins of JPL concluded the best way to study the mantle plume idea was by numerical modelling.

They used the Ice Sheet System Model (ISSM), a numerical depiction of the physics of ice sheets.

Seroussi enhanced the ISSM to capture natural sources of heating and heat transport from freezing, melting and liquid water; friction; and other processes.

To assure the model was realistic, the scientists drew on observations of changes in the altitude of the ice sheet surface made by NASA's IceSat satellite and airborne Operation IceBridge campaign.

"These place a powerful constraint on allowable melt rates — the very thing we wanted to predict," Ivins said.

Since the location and size of the possible mantle plume were unknown, they tested a full range of what was physically possible for multiple parameters, producing dozens of different simulations.

They found that the flux of energy from the mantle plume must be no more than 150 milliwatts per square metre.

Seroussi and Ivins' simulations using a heat flow higher than 150 milliwatts per square meter showed too much melting to be compatible with the space-based data, except in one location: an area inland of the Ross Sea known for intense flows of water.

This region required a heat flow of at least 150-180 milliwatts per square meter to agree with the observations.

However, seismic imaging has shown that mantle heat in this region may reach the ice sheet through a rift, that is, a fracture in Earth's crust such as appears in Africa's Great Rift Valley.

Sundarbans proved a challenge for camera traps and GPS collars

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Blue Economy is a catalyst in India's progress: Nitin Gadkari

Blue Economy is a catalyst in India's progress: Nitin Gadkari

Major Ports register positive growth of 3.27% during April-October, 2017

The Minister for Shipping, Road Transport & Highways and Water Resources, River Development & Ganga Rejuvenation Shri Nitin Gadkari reviewed the work of all ports in Goa this week. He interacted with stakeholders including PPP operators, port users and other private sector service providers. In his address Shri Gadkari said that as per the vision of Prime Minister Shri Narendra Modi, Blue Economy is proving to be a catalyst in India's progress and the performance of ports is a clear pointer towards the same.

The review meeting was aimed at serving the industry needs in a better way, identifying issues holding up new projects and understanding ways to improve efficiency. The meeting provided a platform to all officials and stakeholders to communicate with each other and with the Ministry of Shipping, breaking the conventional tight silo - bound approach and expediting decision making processes. Promoting coastal shipping and improving port infrastructure are high up on the Ministry's agenda. The Minister recently flagged off consignments of trucks to Bangladesh from Chennai and Steel from Vizag.



Overall traffic growth at Major Ports

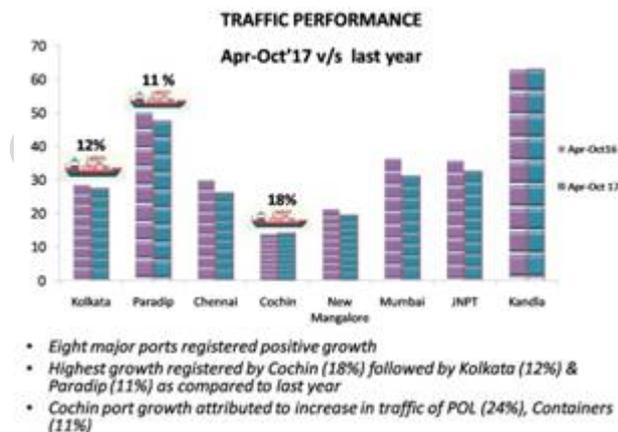
The major ports in India have recorded a growth of 3.27% during the period April to September, 2017 and together handled 383 Million Tonnes of cargo as against 371 Million Tonnes handled during the corresponding period of previous year.

The Eight Ports i.e. Kolkata, Paradip, Chennai, Cochin, New Mangalore, Mumbai, JNPT and Kandla registered positive growth in traffic during the period April to October, 2017.



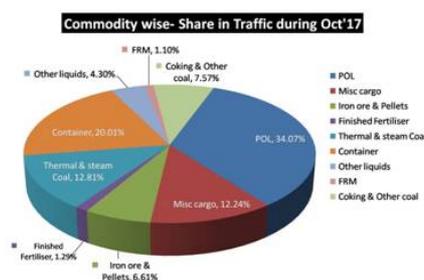
Cargo traffic handled at Major Ports:

The highest growth was registered by Cochin Port (17.66%), followed by Kolkata [incl. Haldia], New Mangalore, Paradip with growth of about 12%. The Cochin Port growth was mainly due to increase in traffic of POL (24.56%) and Containers (11.12%). In Kolkata Port, overall growth was positive i.e. 12.39%. Kolkata Dock System (KDS) registered traffic growth of 3.80%. Haldia Dock Complex (HDC) registered positive growth of 16.66%.



During the period April to September 2017, Kandla Port handled the highest volume of traffic i.e. 63.13 Million tonnes (16.49% share), followed by Paradip with 55.78 Million Tonnes (14.57% share), JNPT with 37.90 Million Tonnes (9.90% share), Mumbai with 36.72 Million Tonnes (9.59% share), and Visakhapatnam with 35.74 Million Tonnes (9.33% share). Together, these five ports handled around 60% of Major Port Traffic.

Commodity wise Share % in Traffic in October 2017



Commodity-wise percentage share of POL was maximum i.e. 34.07%, followed by Container

(20.01%), Thermal & Steam Coal (12.81%), Other Misc. Cargo (12.24%), Coking & Other Coal (7.57%), Iron Ore & Pellets (6.61%), Other Liquid (4.30%), Finished Fertilizer (1.29%) and FRM (1.10%).

NP/MS

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How Krishna Wildlife Sanctuary sanctuary in Andhra Pradesh is becoming a reserve of the rare Fishing Cat

In 2008, the International Union for Conservation of Nature and Natural Resources (IUCN) classified the rare Fishing Cat as endangered. They mostly in the vicinity of wetlands, along rivers, in swamps, and mangrove forests.

But as many as 15 Fishing Cats were recorded in the pilot project conducted at the Krishna Wildlife Sanctuary in Andhra Pradesh in 2014-16.

The sanctuary is a rare eco-region with vast tracts of pristine mangrove forests. It has the potential to become the world's first reserve of the Fishing Cat.

Sundarbans proved a challenge for camera traps and GPS collars

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Shri Nitin Gadkari directs highways projects around Delhi NCR to take steps to reduce air pollution

Shri Nitin Gadkari directs highways projects around Delhi NCR to take steps to reduce air pollution

The Minister of Road Transport & highways, Shipping, Water Resources, River Development & Ganga Rejuvenation Shri Nitin Gadkari has said that directions have been issued to Project Directors, Contractors and field level officials working on highways projects around Delhi NCR to take stringent steps to check pollution arising out of the construction work. The steps to be taken in this regard include sprinkling water at all construction sites and camp, covering of dumpers transporting construction material / waste including flyash, in the region, covering of exposed soil at the construction sites and adherence to air quality norms by all plants and machinery. Field officials have been directed to inspect the construction sites regularly to ensure that all the pollution control measures are adhered to in a strict manner.

Shri Gadkari also said that thorough research needs to be done to find the cause of this pollution. He said this year the smog has descended despite the ban on crackers and restraint on burning of crops. The minister further said that the Road Transport & highways Ministry will offer all possible help for such research.

NP/MS

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India is one of the oldest organic agricultural nations of the world: Shri Radha Mohan Singh

India is one of the oldest organic agricultural nations of the world: Shri Radha Mohan Singh

22.5 lakh hectares brought under organic farming and 3,60,400 farmers benefited by Paramparagat Krishi Vikas Yojana: Shri Singh

For the sake of soil health, sustainable production, and healthy and nutritious food for people, organic farming become a national and global requirement: Union Agriculture Minister

Shri Radha Mohan Singh inaugurates the Organic World Congress 2017

Union Minister for Agriculture and Farmers Welfare, Shri Radha Mohan Singh said India is one of the oldest organic agricultural nations of the world and a large part of the country still practices traditional organic farming. Shri Singh said it today at the inauguration of Organic World Congress 2017 at India Expo Centre in Greater Noida. The event, organized by International Federation of Organic Farming Movements (IFOAM) and OAFI, will see the participation of 1,400 representatives from 110 countries, and 2000 Indian delegates.

Shri Radha Mohan Singh said currently, 22.5 lakh hectares have been brought under organic farming and 3,60,400 farmers have been benefited by Paramparagat Krishi Vikas Yojana. Now, the aim is to bring 50,000-hectare area under organic farming in the northeast region. So far 45,863 hectares have been brought under organic farming, 2,406 Farmers Interest Group (FIG) have been created and 44,064 farmers have been linked to the scheme against the target of 2,500 FIG.

Shri Singh said that in Uttar Pradesh, Paramparagat Krishi Vikas Yojana was launched in 2015-16 and so far 28,750 farmers have been benefited from 28750 acres of land. For the marketing of organic products, the government is allocating Rs.5 lakh per district for the setting up of sales outlet.

Union Agriculture Minister said some international scientists call such farming “default organic”, however, it is important to understand that often farmers, who continue with these methods, are organic farmers by choice. Using their wisdom, they have been treading this path for centuries. They are not happy with chemicals and pesticides and choose not to use them. Therefore, their farming practices cannot be called “default” in

any way.

Shri Radha Mohan Singh said that the Government acknowledges that indiscriminate and excessive use of chemicals during last several decades has posed a question - how long can we continue to do farming like this? The environment and social and economic issues are linked to chemical fertilizer based farming and it needs our attention. Shri Singh said that Food Security is not an issue anymore in the country, but we still have the challenge of providing healthy and nutritious food to the growing population.

We have become dependent on chemical farming and the use of fertilizers, pesticides, and other chemicals have increased the production but at the same time excessive use of chemicals has led to the production of unhealthy crops. Shri Singh said that if we analyze the adverse effects of indiscriminate use of these chemicals on the environment, we realize a large part of chemical is absorbed by the soil, air, and plants. Spraying of chemicals pollutes far away plants. Also, these chemicals seep into the ground and pollute water sources.

Union Agriculture Minister said the use of chemicals has led to climate change and created ecological imbalance and it is affecting human beings too. For the sake of soil health, sustainable production, and healthy and nutritious food for people, organic farming has become a national and global requirement.

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Slippery oil rally: on the oil-price rise

The price of oil has risen sharply in recent weeks leading to renewed forecasts of a sustained bull market in the price of the commodity. The price of Brent crude, which breached the \$60 mark late last month, is currently trading at about \$64 per barrel, a two-year high. In fact, in the last one month alone, oil has gained well over 12%. The oil rally has been even sharper from its June low of a little below \$45, from where the commodity has rallied more than 40% to reach its current price, with some experts saying the ongoing rally could portend even higher prices in the coming months. The upsurge this week has been driven primarily by political uncertainty in Saudi Arabia, the world's second largest producer of oil, and the tightening of supply by the Organisation of the Petroleum Exporting Countries, which is expected to extend its supply-cut agreement beyond March. Whether the price gains would sustain and continue over an extended period of time still remains a big question for various reasons, however. Shale oil production is the biggest among them. In the past, North American producers of shale brought a multi-year bull market in oil to an abrupt end. Since then, OPEC has struggled to maintain control over oil prices except for brief spells. The American shale industry has been let free to increase production in response to higher prices, thus imposing a cap on the price of oil. There are no signs yet of a structural change in the oil market to suggest that it could be any different this time.

Shale producers have continued to pump more oil into the market as crude prices have crossed the \$50 mark. According to the Energy Information Administration, a body under the U.S. Department of Energy, U.S. shale production is likely to increase by about 81,000 barrels per day in the current month. In addition, in its World Oil Outlook report released this week, OPEC said it expects shale output to grow much faster than it had previously estimated. The cartel's new estimate is, in fact, more than 50% higher than its projection last year. It also noted that shale output from North America has increased by about 25% over the past one year. All this suggests that shale is likely to remain OPEC's nemesis for a long time. India has derived huge benefits from lower oil prices since 2014, with the government's fiscal management and inflation-targeting being rendered a lot easier. There is bound to be some economic unease now as the price of oil fluctuates in what looks likely to be a range-bound market. A repeat of the huge damage caused by the last oil bull market, however, seems unlikely. Nonetheless, policymakers in Delhi will surely take a cautious stance given the extensive impact that oil prices have on the Indian economy.

Revving up infrastructure spending is necessary, but not sufficient

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Entrepreneurship development is an integral part of farming process to increase profitability of farming: Vice President

Entrepreneurship development is an integral part of farming process to increase profitability of farming: Vice President

Inaugurates 9th 'Agrovision' Workshops, National Expo & Conference

The Vice President of India, Shri M. Venkaiah Naidu has said that Entrepreneurship development is an integral part of farming process to increase the profitability of farming. He was addressing the gathering after inaugurating the 9th 'Agrovision' Workshops, National Expo & Conference, in Nagpur, Maharashtra today. The Chief Minister of Maharashtra, Shri Devendra Fadnavis, the Union Minister for Road Transport and Highways, Water Resources and Ganga Rejuvenation, Shri Nitin Gadkari, the Minister of Energy, New and Renewable Energy, Maharashtra, Shri Chandrashekhar Bawankule, the Minister of Agriculture and Horticulture, Maharashtra, Shri Pandurang Fundkar and other dignitaries were present on the occasion.

The Vice President said that unless we create a value chain involving the producer till consumer the profitability of farming shall not improve. He further said that in the last few years there has been an agrarian crisis and the profitability of farm sector has declined. This is mainly because farmers have medium to small holdings, and poor market access and also too much dependence on few crops and very little diversification, he added.

The Vice President said that Agrovision has now emerged as the Central India's Largest Agri Summit and is strengthening the confidence of farmers to make agriculture an economically viable and a sustainable profession. The prosperity of the nation is linked to the betterment of farming community and naturally they need to be enlightened on the use of modern technologies for achieving sustainability and profitability, he added.

The Vice President said that the farmers of this country made the nation self sufficient in food milk, vegetables, fruits, cotton sugar and many other agricultural produce through a series of revolutions like green, white and blue revolutions. Unfortunately the increased production has not resulted in proportional increase in the farmers' income, he added.

The Vice President said that the vision of our founding fathers was to have an India that is prosperous, peaceful and progressive. He further said that the Agrovision carries a similar vision to drive its mission forward and in order to move towards home grown food security, we have to create an effective agricultural eco-system. Knowledge sharing and encouraging adoption of new technologies is an integral and key part of this eco-system, he added.

Following is the text of Vice President's address:

"I am extremely happy to participate in this mega exhibition organized by Agrovision.

I understand that this has been an annual feature and lakhs of farmers visit this event and gain knowledge from the exhibition, workshops and conferences organized along with the exhibition of modern technology.

It is a matter of great satisfaction to me that you educate the farmers by arranging free workshops on diverse areas of agriculture so that they can improve their living from the farm sector. Another activity that is praise worthy is arranging special conferences on topical issues that attract agri-entrepreneurs in this region.

I firmly believe that unless we create a value chain involving the producer till consumer the profitability of farming shall not improve. Therefore, events like this can play a major role in transforming the current agricultural situation.

Vidarbha and surrounding regions are mainly dependent on rain with very little irrigation. However, the area is endowed with fertile soil, good sunshine and hard working peasants.

In the last few years there has been an agrarian crisis. The profitability of farm sector has declined. This is mainly because farmers have medium to small holdings, and poor market access. Another reason for the distress is too much dependence on few crops and very little diversification.

Farmers have to move to horticulture, animal husbandry, processing and several such allied sectors if their incomes have to be improved.

Realizing the need to diversify agriculture and to create value chain, visionary leader and chief Patron of Agrovision Shri Nitin Gadkariji, recognized the need for a platform to educate, innovate and encourage the farmers of this region nearly a decade ago. Today's 9th edition of this event is a testimony of its success.

I am glad that through Agrovision, special efforts are being made to educate farmers about the modern farm practices and new technologies. Here farmers, researchers, entrepreneurs, policy makers & other stake holders connected with agriculture come face to face to deliberate & discuss about various developments as well as current challenges in agriculture.

Agrovision has now emerged as the **Central India's Largest Agri Summit** and is strengthening

the confidence of farmers to make agriculture an economically viable and a sustainable profession. I am happy to learn that many farmers from other states like Punjab, Haryana, Rajasthan will participate in this event along with farmers from adjoining states like AP, Chhattisgarh, Madhya Pradesh and Gujarat.

Agriculture is the culture of this great country and around 52% people are directly dependent for their survival on agriculture. The prosperity of the nation is linked to the betterment of farming community and naturally they need to be enlightened on the use of modern technologies for achieving sustainability and profitability. The efforts of Agrovision are highly commendable and need to be replicated all over the country.

The farmers of this country made the nation self sufficient in food milk, vegetables, fruits, cotton sugar and many other agricultural produce through a series of revolutions like green, white and blue revolutions.

Unfortunately the increased production has not resulted in proportional increase in the farmers' income.

This is mainly because of the emphasis on primary produce and not linking it to market and secondary process product development.

The next revolution shall come through development of the value chain and sharing the profit with primary producer, the farmer.

Entrepreneurship development, therefore, is an integral part of farming process to increase the profitability of farming. I am told that AGROVISION emphasizes linking the produce to processing and marketing and therefore has invited several entrepreneurs to participate in this event along with farmers.

I congratulate all those involved in organization of this mega event.

In the past, Vidarbha was known for the crops of Cotton, Soybean and Oranges but in recent years other crops like Sugarcane, Rice, Pulses, Pomegranate, Turmeric, Ginger have seen a remarkable production here.

The real impact of this event can be gauged from the fact that many farmers are now planting

pomegranate, custard apple, amla, dragon fruit and other dry land fruit crops and getting huge benefits from farming. A current evaluation of impact has shown that in the last five years, pomegranate cultivation which was just 100 acres in this region in 2010-11 has now reached 5000 acres in all the western Vidarbha districts. Milk production has shown an upward trend. Sugarcane cultivation and sugar production have improved the quality of life of the farmers.

Agrovision has achieved its goal of creating awareness about diversification of farming. Farmers are moving away from cotton- soyabean, millet and making a shift to Dairy, Horticulture, Sericulture, Bee Keeping, Floriculture and Polyhouse farming.

The vision of our founding fathers was to have an India that is prosperous, peaceful and progressive. Agrovision carries a similar vision to drive its mission forward. In order to move towards home grown food security, we have to create an effective agricultural eco-system.

Knowledge sharing and encouraging adoption of new technologies is an integral and key part of this eco-system. I congratulate Gadkariji who pioneered this initiative and the organizers of this event for revitalizing Indian agriculture.

Intensification and diversification as well as end-to-end processing hold the key to improving the lives of farmers.

Successive governments have been taking up a number of reform measures to strengthen the ecosystem but I think more time-bound, systematic and systemic efforts are called for. Irrigation is of course the most crucial factor.

In addition to irrigation, the government is rightly focusing on infrastructure like rural roads, dependable quality power, godowns, cold storage facilities, refrigerated vans and market yards.

Two other important building blocks of a robust ecosystem are timely credit facilities at reasonable interest rates and farmer-friendly insurance policies. These allow for farmers to invest in better, income-generating crops and agricultural practices and increase their incomes. The insurance cover shields the farmers against unforeseen climatic and natural disasters. The kisan credit cards and the Pradhan Mantri Fasal Bima Yojana (PMFBY) are steps in the right direction and need to be universalized.

Marketing of agricultural produce and getting a fair return is a big challenge for most farmers. A new initiative called E-NAM seeks to remedy this situation by adopting an e-trading platform for agricultural produce.

The Agricultural Produce Market Committee (APMC) Act is also being proposed to be amended by introducing single-point levy of market fee across a State and a united single trading licence.

I see Agro-vision is an important step in enhancing awareness and transforming Indian agriculture to make it more productive.

I hope to see more such initiatives in many more states in our country in the months to come.

JAI HIND!"

KSD/BK

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NITI Aayog releases proposal for a quick pilot on EV charging infrastructure in Delhi**NITI Aayog releases proposal for a quick pilot on EV charging infrastructure in Delhi**

NITI Aayog Vice Chairman, Dr. Rajiv Kumar, today released a proposal to develop electric vehicle charging infrastructure in Delhi. The proposal was drafted by AC2SG in collaboration with NITI Aayog.

The proposal for the quick pilot could be used to provide a structure for EV infrastructure rollout in the Gurgaon-IGI-South Delhi-Noida corridor. This planning will make the actual rollout easier and faster and also save cost on the deployment. The planning process is based on a five-step process; 1) project kickoff, 2) formation of "long list" of locations, 3) streamlining and timing, 4) documentation and 5) wrap-up

This proposal for developing the pilot includes 55 locations with 135 charging stations of which 46 are DC quick charging stations and 89 are slower AC charging stations. This deployment would require co-operation with state governments, selected government authorities and companies as well as some private enterprises (e.g. DIAL at IGI, DLF Mall).

The plan includes a deployment timeline with first installations in November 2017.

The plan is implementable, it includes a large number of stations. Further expansion of this in Delhi NCR and other cities in India is something to be considered based on the experience from this "Quick pilot".

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Cabinet approves continuation and Restructuring of National Rural Drinking Water Programme**Cabinet approves continuation and Restructuring of National Rural Drinking Water Programme**

The Union Cabinet chaired by the Prime Minister Shri Narendra Modi has accorded its approval for continuation and restructuring of National Rural Drinking Water Programme (NRDWP) to make it outcome-based, competitive and better monitored with increased focus on sustainability (functionality) of schemes to ensure good quality service delivery to the rural population.

A sum of Rs. 23,050 crore has been approved for the programme for the Fourteenth Finance Commission (FFC) period 2017-18 to 2019-20. The programme will cover all the Rural Population across the country. The restructuring will make the programme flexible, result-oriented, competitive, and will enable the Ministry towards to reach the goal of increasing coverage of sustainable Piped Water Supply.

The details of the decision are as follows:

1. National Rural Drinking Water Programme (NRDWP) is to be continued co-terminus with the 14th Finance Commission cycle till March 2020.
2. With the restructuring of the NRDWP, there will be 2% earmarking of funds for Japanese Encephalitis (JE) /Acute Encephalitis Syndrome (AES) affected areas.
3. A new Sub-programme under NRDWP viz. National Water Quality Sub-Mission (NWQSM) which has been started by the Ministry of Drinking Water and Sanitation in February 2017 will address the urgent need for providing clean drinking water in about 28000 Arsenic & Fluoride affected habitations (already identified). As per estimates, about Rs. 12,500 crore as Central share will be required over 4 years i.e. up to March, 2021. This is being funded from the allocation under NRDWP.
4. Pre-financing for the agreed schemes, to the extent of half of the second instalment amount, will be made by the State Governments, which will be reimbursed later on from the central funding. If the State(s) fails to claim this amount before 30th November in the financial year, then, these funds will become a part of the common pool, which will be released to the high performing States, which have already pre-financed the requisite Government of India share on a first come first serve basis.
5. Other half of second instalment of funds will be released to the States based on functionality

status of completed piped water supply schemes, which will be evaluated through a third party.

6. The Cabinet has approved Rs. 23,050 crore for the programme for the FFC period 2017-18 to 2019-20.

The NWQSM aims to cover all rural population in Arsenic/Fluoride affected habitations with clean drinking water on a sustainable basis by March 2021. States have been given more flexibility in utilization of NRDWP funds by reducing the number of components under the programme.

As per the Integrated Management Information System (IMIS) of the Ministry of Drinking Water and Sanitation, about 77% of rural habitations in India have achieved a fully covered (FC) status (40 litres per capita per day) and 56% of the rural population have access to tap water through public stand posts within which 16.7% have household connections.

Background:

The NRDWP was started in 2009, with a major emphasis on ensuring sustainability (source) of water availability in terms of potability, adequacy, convenience, affordability and equity. NRDWP is a Centrally Sponsored Scheme with 50:50 fund sharing between the Centre and the States. Over the years, learning from the success achieved and the deficiencies felt during the implementation of NRDWP, certain modifications are needed in existing guidelines and procedure of release of funds to the States for making the programme more outcome-oriented and competitive.

Keeping in view the need to make the NRDWP more result-oriented, incentivize competition amongst States and focused on sustainability, a series of discussions were held with States, various stakeholders / domain experts / international institutions and NITI Aayog, some amendments in the guidelines of the programme have been introduced. These are giving more flexibility to the states in utilization of NRDWP funds by reducing the number of components under the programme. Focus on piped water supply, increase level of service delivery, thrust on coverage of water quality affected habitations (National Water Quality Sub-Mission to tackle Arsenic & Fluoride affected habitations, JE / AES areas), coverage of Open Defecation Free (ODF) declared villages, SAGY GPs, Ganga GPs, Integrated Action Plan (IAP) districts, Border Out Posts (BOP) with piped water supply and Institutional set up for proper O&M of water supply assets etc. have been introduced.

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Cabinet approves utilisation of pulses from the buffer stock through Central Government Schemes having nutrition component

Cabinet approves utilisation of pulses from the buffer stock through Central Government Schemes having nutrition component

The Cabinet Committee on Economic Affairs chaired by the Prime Minister Shri Narendra Modi, has approved to utilize part of stock of pulses in the buffer maintained by the Department of Consumer Affairs, for meeting the protein component under various schemes of Central Government providing nutrition to various target groups/beneficiaries. To give effect to the decision, the CCEA has empowered the concerned Departments/Ministries to carry out suitable amendments in their schemes/guidelines to enable them to take/provide pulses from the buffer in kind under their respective Schemes.

The disposal through the Central Government Schemes is in addition to the disposal of pulses from the buffer through open market sale and supply to States.

All the concerned Ministries/Departments will make necessary changes in their schemes and assess requirement of pulses within next three months of the approval. Supply of pulses from the Central buffer would commence based on such requirement indicated by these Ministries/Departments.

The objective of the approval is to enable the concerned administrative Ministries/Departments to ensure that pulses from the buffer are utilized as in 'kind' component of the Centre's contribution in such schemes, in lieu of its financial contribution of equivalent amount. The concerned Departments may revert to the current system of making nutrition available only in case of non-availability of pulses in the buffer. Ministries/Departments or their agencies providing food/catering/hospitality services have also been enabled to make suitable provision in their Commercial arrangement(tenders/contracts) to ensure that the requirements of pulses for such operations are met through the central buffer.

The approval will also help ensure adequate supply of nutrients/pulses under the various schemes/programmes of Government including Mid Day Meal(MDM) scheme, hospitals, etc. as well as Ministries/Departments or their agencies providing food/catering/hospitality services.

For a sustainable buffer operation, availability of regular and assured channels of disposal wherein a committed quantity is taken/lifted from the buffer at regular periodicity may be of critical importance. This would facilitate optimal utilization and efficient management of pulses in buffer through regular/planned rotation of pulses and replacement of stock through fresh crop on continual basis.

The cost of pulses supplied to States would, in no case, be higher than the market price, protecting their interest as well.

Background:

The buffer of up to 20 Lakh MT has been created to enable effective market intervention by government, discourage market manipulation and provide cushion against price rise to consumers. It may incentivize farmers and encourage production of pulses as well.

As the buffer of pulses serves the interests of both consumers and farmers, ensuring its attainability and efficient operation is important for the welfare of these stakeholders. For a sustainable buffer operation, availability of regular and assured channels of disposal wherein a committed quantity is taken/lifted from the buffer at regular periodicity may be of critical importance. This would facilitate effective management of the buffer. Such assured channel for disposal of pulses may be provided by the Central Government Ministries/Departments and their agencies that are operating Schemes under which food and nutrition is being provided to the beneficiaries e.g. Mid Day Meals. This would also facilitate nutritional security.

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Crop Residue Management

Crop Residue Management

Burning of crop residue in the states like Punjab, Haryana, Uttar Pradesh and Rajasthan also contributes in increasing environmental pollution levels. National Green Tribunal has directed the Delhi government and these four northern states to take strict measures to deal with this serious biennial threat.

In this regard, Agriculture Ministry issued an advisory to the state governments to create awareness among the farmers about the harmful effect of straw burning.

- Facilitate farmers residue management machines and equipment such as Zero Till Seed Drill, Happy Seeder, Straw Baler, Rotavator, Paddy Straw Chopper/ Mulcher, Gyro Rake, Straw Reaper, Shredder, etc., to through Custom Hiring Centres or village level Farm Machinery Banks.
- The State Governments have also been directed that Rs. 4000/ Hectare shall be used from the funds available for demonstration of machines under Sub-Mission on Agricultural Mechanization for demonstration of straw management machinery at farmers' fields.

For crop residue management, under Sub-Mission on Agriculture Mechanization, the Department of Agriculture Cooperation and Farmers Welfare have allocated funds to the four states

| State | Allocation of Funds (In Crore) | | Funds Utilised (In Crore) | |
|---------------|--------------------------------|---------|---------------------------|---------|
| | 2016-17 | 2017-18 | 2016-17 | 2017-18 |
| Punjab | 49.08 | 48.50 | ---- | ---- |
| Haryana | ---- | 45.00 | ----- | 39.00 |
| Rajasthan | ----- | 9.00 | ----- | 3.00 |
| Uttar Pradesh | 24.77 | 30.00 | 24.77 | 26.01 |

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1.5 MW Small Hydro Power Plant in Biaras Drass, Kargil (J&K) becomes first project to be commissioned under Prime Minister's Ladakh Renewable Energy Initiative

1.5 MW Small Hydro Power Plant in Biaras Drass, Kargil (J&K) becomes first project to be commissioned under Prime Minister's Ladakh Renewable Energy Initiative

Power Project would meet normal power requirement of about 1000 families

The Biaras Small Hydro Power Project (SHP) of 1.5 MW capacity, in Biaras Drass, Kargil Jammu & Kashmir, was commissioned on 4th November 2017. The total cost of the project, fully funded by the Ministry of New & Renewable Energy, is Rs. 17 crores and this is the first project to be commissioned under the Prime Minister's Ladakh Renewable Energy Initiative (LREI).

The plant will power the Drass town in Kargil, which is one of the coldest places in India. Power from Biaras SHP would be sufficient to meet normal power requirement of about 1000 families, which would make them comfortable in the extreme winter season. The project has been developed by Kargil Renewable Energy Development Agency (KREDA) under Ladakh Autonomous Hill Development Council.

RM/VM

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The gigantic Sagarmala project could put the coastline in peril, says Pankaj Sekhsaria

An estimated 40 lakh people from traditional fishing communities live along the coastline. | Photo Credit: [AP](#)

The 'blue economy' has been an important element in many of Prime Minister Narendra Modi's recent national and international engagements. He placed particular emphasis on the idea in his address at the 103rd Indian Science congress in Mysuru last year and also spoke about it several times in Gujarat last month.

Made popular by Gunter Pauli's 2010 book *Blue Economy — 10 Years, 100 Innovations, 100 Million Jobs*, the idea has become the buzzword today.

Simply put, blue economy is a framework that places the coasts and the oceans at the centre of economic growth, for a development that is substantial, sustainable and inclusive. For a planet that is more blue than brown and green, where the ocean covers 70% of its surface and where water connects people, places and systems, a focus on blue might seem just the right step forward.

The idea has also come centre-stage now in India with the Niti Aayog noting recently that the "development of Blue Economy can serve as a growth catalyst in realizing the vision to become a \$10 trillion economy by 2032." But India is mobilising the idea of the blue economy without being fully true to some of its key fundamental values.

Massive centrepiece

The centrepiece of India's push for the blue economy is the Sagarmala project that includes constructing ports, augmenting coastal infrastructure, developing inland waterways, intensifying fishing, and creating special economic zones and tourism promotion.

The scale of what is being proposed is gigantic. The consolidated Sagarmala project proposes to execute nearly 400 different projects along the coastline at a whopping cost of nearly 8 lakh crore in the next two decades.

While support for the blue economy agenda has been welcomed by a wide range of actors, there has been limited, if any, discussion on the financial viability, the environmental implications and social costs of pushing it. This is set to change now with the compilation of, perhaps, the first consolidated critique for the Indian context.

The Research Collective (TRC), a group of researchers, has put together a report that looks at a number of aspects that have remained unexplored thus far. Titled '*Occupations of the Coast — Blue Economy in India*', it will be released in New Delhi on November 15 at the World Forum of Fisher Peoples' 7th General Assembly.

Homes by the sea

At the heart of the concern is the fact that the coastline is important ecologically, socially and economically. An estimated 40 lakh people from traditional fishing communities live along the coastline and are dependent on near-shore fisheries for their livelihood and survival. The coastline is also an extremely dynamic entity that is made of multiple ecosystems, many of which are rare and threatened.

It is a densely populated zone and vulnerable to storms, tidal surges, floods and the occasional tsunami. Any major intervention should be made only after serious consideration of the multi-faceted implications and a cost-benefit analysis that goes far beyond just numbers and economic evaluation.

And this, the report notes, is precisely what is missing in the way the agenda of the blue economy and Sagarmala is being pushed in India. In the report, Jesu Rethinam and Siddharth Chakravarty map the changes in coastal and marine regulation in the country since 1991 — from the Coastal Regulation Zone (CRZ) notification 1991 to the CRZ notification 2011 to the draft Marine and Coastal Regulation Zone notification of 2017.

They note that while resource-intensive activities carried out mainly by the state and big corporate players have gone from prohibition to regulation to promotion in the last 25 years, the state's engagement with the resource-based communities has moved from engagement to consultation to finally, their alienation now.

The blue economy agenda and the way it's being driven now is only going to exacerbate the situation; it could well be a recipe for considerable environmental damage and hardships for millions along the coastline.

(Disclosure: The writer has contributed a piece on Andaman & Nicobar Islands to the report)

This isn't the first time a charpai has helped rescue a leopard in a well

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At the heart of the Pakistan-Iran-India tango lies Chabahar

A new churning is taking place in the region, with India announcing its first shipment to Afghanistan, via the Chabahar port in Iran, and Pakistan's army chief taking a delegation to Iran earlier this week for a series of meetings.

Has India's Chabahar initiative caused Pakistan to re-engage with Iran? Or, is this a parallel development, addressing bilateral issues and the repercussions of Pakistan's involvement in the Middle East?

Pakistan's Iran Predicament

Since Zia ul-Haq's time, Pakistan's relationship with Iran has been tense, indifferent and sometimes, even hostile. Zia's Islamisation strategies were perceived by Shia Tehran as the deepening of Sunnization, creating new stress in the bilateral relationship and emphasising sectarian faultlines inside Pakistan.

High-level visits between Iran and Pakistan became the exception. Afghanistan soon became a much more important neighbour, with the US using Pakistan as a cat's paw in its own war against the former Soviet Union in the late 1980s. Meanwhile, Iran-US relations went through the wringer, even as Teheran was bogged down with other issues in the Middle East.

Despite the continuing political tension between Iran and Pakistan, both countries drew closely together on two other matters. First, Pakistani nuclear scientist A Q Khan drew a willing Iran into his own underground network of nuclear linkages that served both sides well. Second, smuggling between the Pakistan-Iran border, especially along the Makran coast, began to take place.

Enter the Middle East Cold War and the Islamic Military Alliance

But the political divide was exacerbated by Saudi Arabia's expanding influence on Pakistan. Riyadh's Islamic Military Alliance is now headed by Pakistan's former army chief, Gen. Raheel Sharif. Clearly, the Pakistani government isn't terribly attracted to the idea, especially because its own Shias, between 30-40 million, are said to comprise about 10 per cent of the total 200 million population. Pakistan's National Assembly has even discussed Raheel Sharif's new job and pointed out that there is a need to go slow.

Was Raheel Sharif given the job because he was once the most powerful man in Pakistan and Pakistan is the only country in the Islamic world with a proven nuclear weapon capability ?.

Meanwhile, Teheran's relations with Saudi Arabia began to deteriorate over the ongoing conflict in Yemen. Riyadh also seemed determined to isolate Qatar, in an attempt to consolidate its leadership in the Muslim Ummah. Its efforts to get the US on board this regional great game were enormously boosted with Donald Trump identifying Iran as the cause of instability in the Arab Islamic American summit in Riyadh in May 2017, even as King Salman looked on.

Certainly, Pakistan being a part of this Summit would not have gone down lightly in Tehran.

Chabahar: Trigger, not the Cause

The operationalization of Chabahar port by India has triggered the panic button within Pakistan. As Delhi faltered in its execution of Chabahar in recent years, Pakistan was cynical and even sarcastic; meanwhile there was the China-supported Gwadar port as well as the Beijing-funded

China-Pakistan Economic Corridor, both projects being described as a “regional game changer”.

With Chabahar now in the mix, the regional great game has taken a new turn. Chabahar is not far from Gwadar. As the crow flies, the straight distance is only 171 km, while the road route doubles it to 356 km. Second, Chabahar is more than a port, it is the starting point of a trade and transit corridor that could become parallel to the CPEC as it cuts across Iran and into Afghanistan. Third and most importantly, New Delhi has big plans for Chabahar, to connect it to the International North South Transport Corridor (INSTC) and opening it up to the passage of goods into Russia and onwards.

Gen Bajwa’s Visit: Should India be worried?

India’s political will to walk the talk with Chabahar has exaggerated the bilateral and regional predicament in Pakistan’s west. Islamabad would certainly like to repair its relations with Teheran. Gen. Bajwa’s visit to Iran must be seen in this context, when he met the Iranian president, its defence minister as well as the commander-in-chief of the Islamic Revolutionary Guards.

The army in Pakistan has always been all-powerful, but a trend towards greater consolidation of power can now be clearly seen. Gen. Bajwa’s visit to Iran was preceded by a trip to Kabul, where he also met President Ashraf Ghani as well as the top Afghan leadership. Both New Delhi and Teheran, now connected through the Chabahar thread, must be closely watching.

But despite the fanfare of the visit, Gen. Bajwa did not succeed in getting a succulent joint statement with the Iranians. Whatever was made public is mediocre and focussed on border security between the two countries relating hotline communication, border fencing and patrolling, intelligence sharing etc. The fact that Pakistan has to talk about establishing hotlines in 2017 shows the level of communication so far!

The powerful director-general of the media wing of Pakistan’s armed forces, ISPR, Maj-Gen Asif Ghafoor, effusively thanked the Iranian Supreme Leader for a “supportive statement” on Kashmir and said, “It is a long pending dispute between India and Pakistan. Regional peace and security remains at stake unless it’s resolved to the aspiration of Kashmiris in line with UN Resolution.”

Predictably, the Pakistan media sought to project this as Iran’s Supreme leader throwing its “weight behind Pakistan on Kashmir”.

That’s why the operationalization of the Chabahar port in Iran is so significant. India has demonstrated its intention to play on the regional chessboard, even while it balances its own relations with the US and Iran. The old great game just got a new veneer.

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Elephant corridors in India threatened, says study

Unsafe roads: Two-thirds of the elephant corridors have a National or State Highway passing through them, fragmenting habitats and hindering the animals' movement. Special Arrangement

Elephant herds are known to migrate across 350-500 sq. km. annually but increasingly fragmented landscapes are driving the giant mammals more frequently into human-dominated areas, giving rise to more man-animal conflicts, experts have found. Maintaining elephant corridors is therefore of crucial importance to both elephant and human habitats.

"Elephant corridors are narrow strips of land that connect two large habitats," says Dr. Raman Sukumar, scientist, Indian Institute of Science, Bengaluru. "In many cases, they are already under the control of a government agency such as the Forest or Revenue Department. Corridors could include unutilised spaces in large commercial estates, and fallow or agricultural lands."

'Right of Passage', an 800-page study released in August 2017, authored by experts and published by the Wildlife Trust of India (WTI) in collaboration with Project Elephant and the U.K.-based NGO Elephant Family, identifies and records details pertaining to 101 elephant corridors across India.

Of these 101 corridors, 28 are located in south India, 25 in central India, 23 in northeastern India, 14 in northern West Bengal and 11 in northwestern India.

In terms of their functionality or usage by elephants, almost 70% of the 101 corridors are regularly used, 25% are occasionally used, and 6% rarely. Almost all elephant corridors in south India (93%) and northern West Bengal (86%) are regularly used; 66% of corridors are regularly used in northeastern India.

The study offers specific conservation solutions for the corridors but points to an inverse relationship between the forest cover available and the number of corridors in each region — the more fragmented the forest cover in a region, the more elephant corridors in it.

Thus, the highest number of corridors are located in northern West Bengal, which has one corridor for every 150 sq. km. of available elephant habitat, resulting in heightened human animal conflict and an average of 48-50 human deaths every year. This is followed by northwestern India, which has one corridor for every 500 sq. km. of available elephant habitat. Central India comes next with one corridor for every 840 sq. km.

In southern India, there is one corridor for every 1,410 sq. km. of available elephant habitat. Northeastern India fares best with one corridor for every 1,565 sq. km.

Among the States, West Bengal has the highest number of corridors (14), followed by Tamil Nadu with 13 and Uttarakhand with 11.

In 2005, WTI had mapped and listed 88 elephant corridors. With alterations to natural landscapes and a heightened pace of development, researchers found that seven of these corridors have been impaired and are currently not used by elephants. The team also added 20 new corridors to the list, bringing the total to 101 corridors in the 2017 'Right of Passage' study.

The then-and-now comparative findings are worrying. The 2017 report notes that about 74% corridors are of a width of one kilometre or less today, compared with 45.5% in 2005, and only 22% corridors are of a width of one to three kilometres now, compared with 41% in 2005, pointing

to how constricted corridors have become in past 12 years.

The ground situation studied in 2005 and 2017 also indicates degradation of corridors: 21.8% of corridors are free of human settlements in 2017 compared with 22.8% in 2005, and 45.5% have 1-3 settlements in 2017 compared with 42% in 2005. In terms of land use, only 12.9% of the corridors are totally under forest cover in 2017 compared with 24% in 2005.

“About eight corridors have been secured on the ground by State Forest Departments, MoEFCC (Ministry of Environment, Forest and Climate Change), WTI, and other conservation organisations. This process needs to be hastened and other high priority as well as threatened corridors need to be secured on an urgent basis,” says co-author Dr. Sandeep Kr Tiwari, Programme Manager, IUCN Asian Elephant Specialist Group (AsESG).

To increase awareness on elephant corridors, the team is planning ‘Gaj Yatras’ — parading life-size elephant models crafted by local artisans on road shows through corridors across 12 States where elephants range.

Disrupted areas

Moreover, two in every three elephant corridors in the country are now affected by agricultural activities, the study points out, adding that 58.4% corridors fall under settled cultivation and 10.9% under *jhum* (slash and burn) cultivation.

“All the corridors in northern West Bengal (100%) and almost all in central India (96%) and northeastern India (52.2% under settled cultivation and 43.4% under slash and burn cultivation) have agriculture land. About 72.7% of the corridors in northwestern India and 32% corridors in southern India have agriculture land,” the study states.

Taking note of 266 instances of elephants deaths caused by being run over by trains between 1987 and July 2017, the report points out that 20 corridors have a railway line passing through them.

In all, about 36.4% of the elephant corridors in northwestern India, 32% in central India, 35.7% in northern West Bengal and 13% of the elephant corridors in northeastern India have a railway line passing through them. Moreover, almost two-thirds of the corridors have a National or State Highway passing through them, fragmenting habitats and hindering elephant movement further.

The study notes that almost 20% of the corridors urgently require an overpass for vehicles to facilitate the unhindered movement of elephants. In addition to railway tracks and highways, 11% of corridors have canals passing through them, and 12% are affected by mining and the extraction of boulders.

Three months ago, the Supreme Court, in response to a Public Interest Litigation (PIL) petition submitted by Wildlife Conservation Society-India (WCS) scientist Vidya Athreya suggested that nine States acquire land across 27 high-priority corridors to enable safe movement of elephants.

“Identifying corridors is a dynamic process; many States have started notifying corridors,” says R.K. Srivastava, Director of Project Elephant. The States’ responses are expected this month.

“Large-scale land acquisition is not required,” says Professor Sukumar. “It is the small, strategic pieces of land that are crucial.”

The International Fund for Animal Welfare and the WTI bought 25.5 acres of village land in 2003

and handed over India's first ever privately-bought corridor to the Karnataka government in 2007. The WTI and its partners have also secured six corridors, including the Edayaralli-Doddasampige corridor in southern Karnataka, which connects the Biligiri Rangaswamy Temple and MM Hills wildlife sanctuaries. "The way corridors are acquired is important," says Professor Sukumar. "Approaches have often been antagonistic to local people — this really needs to change. Land acquisition has to be a voluntary and rewarding process."

'Eviction not the answer'

"It is important to involve communities in conservation," concurs Paramesha Mallegowda, Programme Associate at the Bengaluru-based Ashoka Trust for Research in Ecology and the Environment. "Eviction is definitely not the answer. Rather than relocating entire villages, we need to restore the corridors and ask people to avoid using critical [elephant] migratory routes. Conservation is an achievement only if local communities are also involved in the process."

As Dr. Tiwari notes, "At a time when about 400 to 450 humans are losing their lives due to human-elephant conflict annually in India and around 100 elephants are being killed in retaliation, it is high time that the migratory corridors that elephants have traditionally used are saved before it is too late."

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Chennai, during the northeast monsoon

It is becoming a standing joke in Chennai that schools might as well write off two months in the year — November and December. Since 2015, when the northeast monsoon season descended as a cataclysm on a city that was scarcely prepared for it, the impending monsoon brings a measure of foreboding and trepidation to residents.

Three years on, the level of preparedness leaves much to be desired. The first showers were intense and left many parts in a shambles — water-logging on the roads and water entering homes in low-lying areas, while on a night of particularly heavy rain, the entire city slowed down in waters that flowed on the roads, not unlike waves crashing on the shore.

Why is it so vulnerable?

As the city grew and expanded beyond its core, it was built over water bodies that were cleared out to make space for human settlements.

As more and more people moved to urban areas, these settlements filled out and the resources soon grew inadequate for the burgeoning population dependent on them.

Natural draining paths were built over. In addition, years of rampant encroachment on waterbodies and lake beds did not help. Inadequate monsoon preparation, in terms of desilting tanks and deepening water channels and stormwater drains and removing encroachment, has not been adequately addressed across the city and suburbs, residents say.

Did drought stop greater damage?

The monsoon of 2017 came, in fact, after a summer of drought, as the city struggled to find water from multiple sources to meet its drinking water needs. Chennai district has so far registered 674.8 mm of rain this season. This is 70% more than the average of 397.9 mm for the season. Though in the first heavy spell of November, Chennai recorded 30 cm of rain, on subsequent days, the volume of rainfall came down, and the rain spells too were relieved by short dry periods. The city's four reservoirs that had dried out are still only over a third full.

And yet, water-logging in the southern suburbs continued, and people had to move away, afraid that the next shower would lead to a repeat of the nightmare of 2015.

In many places, inexplicably, roads were dug up to undertake waterline/storm-water and sewer line repairs though it is common knowledge that the northeast monsoon wings its way at October-end.

According to initial estimates by the Chennai Corporation, at least 15% of the 471 bus route roads were damaged. Chief Minister Edappadi K. Palaniswami admitted last Sunday that 115 places were still waterlogged in the city and its suburbs and attributed it to the heavy downpour over five days. The State government has asked Prime Minister Narendra Modi for Rs. 1,500 crore to handle relief work.

What happened in 2015?

In retrospect, scientists co-related the unprecedented heavy rain between November 30 and December 2 in 2015 to an active El Nino year. It is true that the quantum of rainfall was high, but it was not the rain alone that was responsible for the disaster that followed.

A key element that is still being pointed out was the reportedly tardy release of excess water from Chembambakkam lake, which flooded the entire city and led to the loss of many lives and property worth several crores. Improper silting of waterways and stormwater drains, rampant encroachments that stood solidly in the path of the water, giving residents very little or insufficient warning to leave their homes, as the floodwaters raced to the city — in a post mortem analysis, these factors stand out too. Water entered homes, over several floors, and washed out people and their possessions.

What next?

Environmental activists insist that drastic action to evict encroachers and those who sit on waterbodies must be taken. Better preparedness of official machinery to face the floods across the city, as some pockets faced this November, is crucial. It is the only way a natural calamity is not exacerbated by man-made errors, they point out.

Ramya Kannan

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Demystifying Science: What is the Pacific shadow-zone?

The shadow zone is an area of almost stagnant water sitting between rising currents caused by the rough topography and geothermal heat sources below 2.5 kilometres and shallower wind-driven currents closer to the surface in the North Pacific. This is the oldest water in the ocean in the North Pacific and has remained trapped in a shadow zone around 2 kilometres below the sea surface for over 1,000 years. Until recently, models of deep ocean circulation did not accurately account for the constraint of the ocean floor on bottom waters. Once the international team of researchers precisely factored it they found the bottom water cannot rise above 2.5km below the surface, leaving the region directly above isolated. "Carbon-14 dating had already told us the most ancient water lay in the deep North Pacific. But until now we had struggled to understand why the very oldest waters huddle around the depth of 2 km," said lead author from the University of New South Wales, Dr. Casimir de Lavergne. "What we have found is that at around 2km below the surface of the Indian and Pacific Oceans there is a 'shadow zone' with barely any vertical movement that suspends ocean water in an area for centuries." The article, "Abyssal ocean overturning shaped by seafloor distribution", has been published in the journal, *Nature*.

The Ig Nobel Prizes show that scientists too have a sense of satire, sarcasm, humour and yet appreciation.

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Crisis is in the air

The first thing that the Central and Delhi governments should own up to regarding the air pollution crisis is that everyone was forewarned and cannot pretend to be taken unawares. This “winter of our discontent” is the season when, as temperatures dip, pollutants hover around the surface of the city and do not waft upwards. Things will only get more acute towards January. To make matters worse, smoke from burning farm waste descends on the capital from surrounding states at this time, which is a far more intractable problem.

Three years ago, the writing on the wall was the revelation by the World Health Organisation (WHO) that Delhi was the most polluted city in the world, and 13 out of the 20 worst impacted were in north India. The tell-tale parameter is the smallest measurable particulate matter — PM of less than 2.5 microns — which was an annual average of 153 micrograms per cubic metre that year, well above the WHO limit of 35. Beijing, which was previously the black sheep of the world’s urban air contamination, recorded 53 micrograms.

Last year, Delhi lost this dubious distinction to Zabol in Iran and fell to 11th place on the world map. However, north India continued to fare among the worst on the globe, with Gwalior second, Allahabad third, Patna sixth and Raipur seventh. While Delhi continues to get all the attention on this score, one should pay heed to children and senior citizens in these other beleaguered cities. These residents can’t afford air purifiers like many of the capital’s well-to-do and diplomats, not to mention the bizarre measure of installing huge vacuum cleaners on its roads.

Has any decision-maker in the capital understood the full consequences of declaring its air a “national emergency”? Visitors — whether on business or diplomats — will think three times before visiting Delhi this winter. One has only to recall that it was estimated that when President Obama visited for the Republic Day parade in 2015 he may have lost six hours of his life by spending three days in the capital. The US Embassy imported 1,800 air purifiers for his entourage. Children can’t attend school or play outside, and this has made Delhi the air pollution pariah of the world.

This could put paid to the prime minister’s “Make in India” campaign. Indeed, if a good economist could calculate the financial losses on days missed at work, avoiding the outdoors at certain times of the day and the bills for respiratory diseases, it would reveal a huge bill borne mostly by individuals, and prompt the authorities to take all measures possible to curb this public health menace.

Certain causes, like the burning of farm residue require a carrot and stick approach to encourage farmers to recycle crop waste rather than burn it. But other causes like the pollutants from thermal power stations in and around the capital and the dust from construction can be more easily tackled by stiff penalties.

The sources which can be tackled head-on are the pollutants from vehicles. Delhi’s AAP government has done well to experiment with an odd-and-even number plate scheme, which ought to be extended through the winter. Last March, the capital had 8.8 million vehicles, followed by Bengaluru with 6.1 million. Chennai, Kolkata and Mumbai have far fewer — 4.8 million, 3.9 and only 2.7 respectively. The reasons are not far to seek: Mumbai has an excellent public transport system, with its lifeline — the two local railways — carrying 3.7 million passengers a day, despite atrocious travelling conditions, which manifested in the foot overbridge accident this September. The once-renowned BEST bus service, now being bled to death by the city’s municipal corporation, still carries 2.9 million passengers (a sharp fall from 4.4 million seven years previously).

It is a no-brainer that the pollution caused by private vehicles, whether they are four- or two-wheelers, can be curbed by restricting their numbers, as Beijing and other Chinese cities have done successfully even as public transport is greatly increased. Shanghai, for instance, has emulated Singapore's example of setting a limit on the number of cars permitted on its roads; Singapore allows market forces to decide the price of such a licence, which can exceed the cost of a car sometimes. Parking fees ought to be drastically increased, and payable even at night time. And, following London's example, the proceeds should be ploughed back into bettering the bus service.

With India going on a transport infrastructure spree, including in cities, there ought to be a clear discouragement of private motorised transport in favour of public transport. Mumbai's reckless city fathers are doing precisely the reverse by building an Rs 15,000-crore coast road only for cars. If Mumbai has been spared the ignominy of Delhi when it comes to air pollution, one reason is that the sea breezes waft pollutants away. Once this road is built, all that will change since the prevailing winds are in a south-west direction. Indeed, a rule of thumb for any transport infrastructure scheme, whether in cities or outside them, should be that they can be permitted only if half the users constitute the public.

All cities are making the mistake of prescribing metros as the solution for local transport. Although far superior to adding roads, these are expensive. In Delhi, and to a smaller extent in Mumbai, any raising of fares sparks off a controversy. In Delhi, the 200-km-plus Metro network doesn't seem to have reduced the number of cars appreciably, only two-wheelers. Mumbai is going in for a slew of such projects at a high cost, even parallel to the existing express highways, which is inexplicable. The fact that its standalone 11-km Metro sees 3.5 lakh users a day, while Delhi has only 28 lakh or around nine times as many, demonstrates that the Metro won't prove the ideal mode of mass public transport.

That distinction should go to buses, which can run both long distances in cities, as well as provide last-mile connectivity to and from metros and local railway stations. And, dare one even state it, reserved bus lanes are the most cost-efficient and egalitarian means of city transport, which penalise the polluters — cars and two-wheelers — and carry commuters comfortably and cleanly. What's more, it's virtually a no-cost solution.

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City in search of an idea

A recent seminar on cities in Brasilia was revealing on two counts. First, it pointed out the dismal quality of life in the world's most wretched urban areas — almost all, without exception, in South Asia. Second, since the seminar was Third World-centric, its outcome was all the more damning. The criteria it used were truly basic — health, education, population density, access to water and clean air. The seminar did not even venture into First World standards of parks, recreation, social cohesion, entertainment, culture, or the quality of life.

Polluted air, rain-flooded streets and traffic snarls — these are obvious to most residents of Indian towns, and hardly need any restating. Strained on utilities and infrastructure, the city survives from day to day like a heavily-sedated patient in an ICU. Its future, even its survival the next day, is filled with multiple insecurities. Yet, Indian cities are remarkable in that they display their warts and all without hesitation and with utmost clarity. Look, for instance, at five of India's largest towns, each a critical marker of one major problem.

Delhi's pollution levels were among the highest in the world long before they were statistically reckoned in terms of particulate matter, carbon dioxide emissions, industrial effluents and daily air quality measures. As temperatures drop and crop stubble is burnt in neighbouring Punjab and firecrackers are lit — despite bans — toxic particulate matter rises to alarming levels. Pollution spikes to such unsafe standards in winter that news reports claim — without irony — that "today's level has improved from dangerous to very harmful". Marathons and cyclothons continue to be staged in Delhi, but with participants wearing masks. Is this acceptable for Asia's largest and most populous capital?

In Bengaluru, traffic comes to a virtual halt during peak hours. While, there is no viable public transport system for a population of one crore, the city has almost 70 lakh motorised vehicles — a number that has grown by 6,000 per cent from the 1970s. As a result, the average speed of vehicles in the city has dropped radically. It was recently clocked at 4.7 km per hour, slower than a middle-aged pedestrian walking normally. With the fastest internet connections to the rest of the world, India's IT city is slowest in terms of physical movement.

Mumbai, the country's business centre, comes to a virtual standstill for a completely different reason — floods. Every year, between June and September, people are stranded on embankments, swallowed up by open manholes, electrocuted by low-hanging wires, injured under collapsed buildings, or plain incapacitated in their daily routines between home and office. At Elphinstone Road Railway Station, a stampede after the recent floods left 22 people dead. Numerous old structures are in danger of collapse. For four months, it is not business as usual in Mumbai.

Kolkata's affliction is not new and stems from a lack of civic amenities. Without regular increases in power supply and water provision, the city survives on an entirely outmoded and inadequate supply and distribution system. With the Ganga along its Western flank, the city traditionally had extensive groundwater reserves and wetlands, but large parts of South and Central Kolkata now experience chronic water shortages. With rationing, power cuts and blackouts, India's oldest and once-most sophisticated modern city is now its most un-modern and antiquated.

Chennai is still the most livable of the big five. But that does not mean that it has no problems. Indeed, it has all the same afflictions, but in smaller measure — broken incomplete roads in Perumbakkam, water logging, lack of street drainage and lighting, and continual shortage of drinking water in the new areas. Residents of Chennai have learnt to do with less.

Providing relief to people in the Indian city now lies beyond the scope of conventional solutions and governance ideas — both of which have denied residents a better quality of life. Odd and even-numbered cars, a ban on diesel, planting trees, reviving mangroves, establishing flood break-heads, rationing utilities and reviving public transport are minor and ad-hoc solutions to problems that are now beyond environmental and bureaucratic control.

More than ever now, city officials need to start asking the right questions. Will Bengaluru benefit from the graded transition from fossil-fuel powered cars to electric cars over the next decade? Or will it benefit from the reduction and eventual eradication of cars altogether? Is private pod transport an answer to traffic problems? Should bylaws be revised to allow offices and homes at one place, and cut out commuting altogether? Should Mumbai merely clean up its storm drainage system before the monsoon — or upgrade it as is normally done prior to the rainy season — or seriously examine the possibility of creating large catchment areas throughout the city? Should Delhi encourage carpooling in winter and levy fines on burning coal and — in the obvious next stage of its convoluted policies — provide government subsidies to private air purifiers? Or, as has been done in many South American cities, reduce construction and create biomass parks with a sizeable proportion of trees per person in every neighbourhood?

The real test in the next decade will be one of far-reaching urban ideas that will have to be put in place by a mayor or a CEO (city enforcement officer) — someone in a position to take on responsibilities and initiate action. The promise of a brighter urban future rests with testing new ideas from new sources enacted by new people. The choices are many, but they need to be made now and by a single authority.

“More than any time in history,” wrote Woody Allen, “mankind faces a crossroads. One path leads to utter despair and hopelessness, the other to total extinction”. When applied to the present Indian city, Allen’s prophecy has been realised on both counts.

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Loan waiver is not the solution

Since Independence, one of the primary objectives of India's agricultural policy has been to improve farmers' access to institutional credit and reduce their dependence on informal credit. As informal sources of credit are mostly usurious, the government has improved the flow of adequate credit through the nationalisation of commercial banks, and the establishment of Regional Rural Banks and the National Bank for Agriculture and Rural Development. It has also launched various farm credit programmes over the years such as the Kisan Credit Card scheme in 1998, the Agricultural Debt Waiver and Debt Relief Scheme in 2008, the Interest Subvention Scheme in 2010-11, and the Pradhan Mantri Jan-Dhan Yojana in 2014.

It is encouraging to see a robust increase in institutional credit from 8 lakh crore in 2014-15 to 10 lakh crore in 2017-18. Of this, 3.15 lakh crore is meant for capital investment, while the remaining is for crop loans, according to the Ministry of Agriculture and Farmers Welfare. Actual credit flow has considerably exceeded the target. The result is that the share of institutional credit to agricultural gross domestic product has increased from 10% in 1999-2000 to nearly 41% in 2015-16.

Clamour for loan waiver

While the flow of institutional farm credit has gone up, the rolling out of the farm waiver scheme in recent months may slow down its pace and pose a challenge to increasing agricultural growth. The [Uttar Pradesh government](#) has promised a 0.36 lakh crore loan waiver covering 87 lakh farmers, whereas the [Maharashtra government](#) has announced its writing off 0.34 lakh crore covering more than 89 lakh farmers. The demand for a loan waiver is escalating in Punjab, Karnataka, and other States. This clamour is only poised to increase as the 2019 general election comes closer.

There is a serious debate on whether providing loans to farmers at a subsidised rate of interest or their waiver would accelerate farmers' welfare. At the global level, studies indicate that access to formal credit contributes to an increase in agricultural productivity and household income. However, such links have not been well documented in India, where emotional perceptions dominate the political decision quite often. A recent study by the International Food Policy Research Institute reveals that at the national level, 48% of agricultural households do not avail a loan from any source. Among the borrowing households, 36% take credit from informal sources, especially from moneylenders who charge exorbitant rates of interest in the 25%-70% range per annum. More importantly, the study using the 2012-13 National Sample Survey-Situation Assessment Survey (schedule 33) finds that compared to non-institutional borrowers, institutional borrowers earn a much higher return from farming (17%). The net return from farming of formal borrowers is estimated at 43,740/ha, which is significantly greater than that of informal sector borrowers at 33,734/ha. Similarly, access to institutional credit is associated with higher per capita monthly consumption expenditures.

Think beyond loan waivers

A negative relationship between the size of farm and per capita consumption expenditure (a proxy for income) further underscores the importance of formal credit in assisting marginal and poor farm households in reducing poverty. Indeed, access to formal institutional credit also tends to enhance farmers' risk-bearing ability and may induce them to take up risky ventures and investments that could yield higher incomes. Going by the NSS schedule 18.2 (debt and investment), rural households' investments in agriculture grew at a high rate of 9.15% per annum between 2002 and 2012. While 63.4% of agricultural investments are done through institutional credit, landless,

marginal and small farmers' investment demand is met through informal sources to the tune of 40.6%, 52.1%, and 30.8%, respectively. Statistics show that nearly 82% of all indebted farm households (384 lakh) possess less than two hectares of land compared to other land holders numbering 84 lakh households. Those residing in the less developed States are more vulnerable and hence remain debt ridden.

Not helping farmers' welfare

Clearly, a major proportion of farmers remain outside the ambit of a policy of a subsidised rate of interest, and, for that matter, of loan waiver schemes announced by respective State governments. In other words, this sop provides relief to the relatively better off and lesser-in-number medium and large farmers without having much impact on their income and consumption. This anomaly can be rectified only if the credit market is expanded to include agricultural labourers, marginal and small land holders. It is, therefore, important to revisit the credit policy with a focus on the outreach of banks and financial inclusion.

Second, the government along with the farmers' lobby should desist from clamouring for loan waivers as it provides instant temporary relief from debt but largely fails to contribute to farmers' welfare in the long run. To what extent this relief measure can help bring farmers out of indebtedness and distress remains a question. This is because farmers' loan requirement is for non-agricultural purposes as well, and often goes up at the time of calamity when the state offers minimal help. If governments are seriously willing to compensate farmers, they must direct sincere efforts to protect them from incessant natural disasters and price volatility through crop insurance and better marketing systems.

Third, it should be understood that writing off loans would not only put pressure on already constrained fiscal resources but also bring in the challenge of identifying eligible beneficiaries and distributing the amount.

The report of the Committee on Doubling of Farmers' Income, Ministry of Agriculture and Farmers Welfare, has rightly suggested accelerating investments in agriculture research and technology, irrigation and rural energy, with a concerted focus in the less developed eastern and rain-fed States for faster increase in crop productivity and rural poverty reduction. Additional capital requirements estimated for 20 Indian States are 2.55 lakh crore (1.9 lakh crore on irrigation and rural infrastructure by State governments and 0.645 lakh crore by the farmers) at 2015-16 prices by 2022-23. Public and private investments are required to grow at an annual rate of 14.8% and 10.9% in the next seven years. A diversion of money towards debt relief, which is in fact unproductive, will adversely impinge on state finances, may dissuade lending by the banks, and hence prove counterproductive to the government's broader mandate of doubling farmers' income by 2022-23.

Anjani Kumar and Seema Bathla are agricultural economists at IFPRI and Jawaharlal Nehru University, New Delhi, respectively. Views are personal.

The definition of harassment needs to be constantly updated, and the process for justice made more robust

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Why number plate-based bans are odd, even existing tech can do better!

Delhi has a huge problem. Every winter, people realize they are breathing the equivalent of 50 cigarettes a day. However, as soon as the smog clears, so does the issue. Every year, policymakers find and announce quick fixes that demonstrate the government's resolve to do something about pollution. Since crop burning and dust storms are not immediately addressable, all the focus turns to vehicular pollution. This year, the National Green Tribunal (NGT) is ordering measures such as banning road-side parking and the retiring of old cars. Odd-Even road rationing was suggested, diluted with exceptions and then scrapped.

Such quick fixes may even be effective, but will only remain under the glare of the media. They are not sustainable. Recently, I wrote about 'policy windows', and how demonetisation led to the permanent unblocking of regulatory hurdles to a less-cash economy. Even though we have a similar crisis at hand, those in charge are unable to find a way to move the needle forward significantly. This is surprising, because the infrastructure to do this already exists!

The FASTag, launched by the Indian Highways Management Co. Ltd (IHMCL) in 2014, is a way to collect tolls electronically. Each car gets a radio-frequency identification (RFID) tag that is based on an open standard. This means the RFID readers are cheap, inter-operable and not locked in to any particular vendor. The transaction switch is managed by the National Payments Corp. of India (NPCI). When fully implemented, we will be the only country with a nation-wide inter-operable electronic toll collection (ETC) system. The ministry of road transport and highways and the National Highways Authority of India have been doing a great job of installing these RFID tags without much fanfare since 2014. Of the four million vehicles plying on highways daily 600,000 have RFID tags. From 1 December, every new car will come pre-installed with a FASTag.

At first glance, FASTag may seem useful only for automating toll collection. In reality, the architecture of the FASTag is very versatile. Each car gets a unique ID, and is linked to a bank account/wallet. Money is deducted based on the event that has happened, like passing a toll booth. There are at least five ways in which the FASTag platform can help Delhi's vehicular problem.

First, FASTags can implement congestion pricing. This is a model perfected by London and Singapore. Delhi, especially, with the subcontinent's most extensive metro network, and yet the third highest density of cars (424 cars per 1,000 people), needs congestion pricing. The pricing itself can be dynamic to affect demand.

Second, the same FASTags can enable the government to have lower congestion pricing for those who are pooling to work. The government does not even have to create its own ride-sharing app, it has to simply provide application programmatic interfaces (APIs) to legitimate ride-sharing app providers.

Third, these tags can regulate parking, while simultaneously creating a revenue opportunity for cities. FASTags can ensure that a no-parking sign is not just a warning, but a serious penalty for those looking to park illegally. Individuals and businesses can 'switch on' temporary parking spaces during peak hours.

Fourth, the FASTag readers can also be used to implement many of the policy recommendations of the NGT that are otherwise difficult to implement. Pollution Under Control Certificates (PUC) can be linked to the FASTag accounts, and a tag without a valid PUC can be fined automatically when it crosses a reader. The government can run experiments like it did with Odd-Even last year and then quickly scale them up if needed in an automated way.

Fifth, and the most important, all of these problems are really difficult to solve because the government lacks granular traffic data needed to make better decisions. Every decision from the width of the flyover, to the timing between red lights needs better quality data.

Companies like Uber and Google are able to figure it out by tracking which cell tower your phone connects to and tracking your phone's global positioning system (GPS). Right now, an engineer in San Francisco has a much better idea of traffic movement in Delhi than the officials whose job it is to design roads.

With a trusted implementation of FASTag readers, the government can get such anonymized data directly from the ground. Basically, an invisible toll booth that doesn't collect a toll but captures every time any car crosses it. This data can be immensely powerful when used correctly.

Tomorrow, our smart cities can have smart traffic lights that don't stay red a second longer than is optimal. The possibilities of this system are endless, but we need to push collectively to make it happen. Policymakers need to act now, before the policy window closes. Because when the smog finally dissipates, so will the political will to solve the issue, but the problem will still hang in the air. Till next winter!

Nandan Nilekani is chairman of Infosys Ltd and former chairman of Unique Identification Authority of India.

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Inland Waterways Authority of India pushes for early completion of Jal Marg Vikas Project on Ganga

Inland Waterways Authority of India pushes for early completion of Jal Marg Vikas Project on Ganga

Hires expert technical support for projects at Haldia and Farakka

The Inland Waterways Authority of India (IWAI) has awarded a contract to a reputed consultant for technical support services for the Multi-Modal Terminal at Haldia and new Navigation Lock at Farakka. These projects are part of the Jal Marg Vikas Project (JMVP) on National Waterway -I (River Ganga), being implemented with technical and financial assistance of the World Bank at an estimated cost of Rs. 5369 Crore. The objective of this is to ensure adherence to timelines and budgeted costs of the project and full compliance with the other stated guidelines.

The consultants will ensure efficient management of the two EPC contracts awarded by IWAI under the JMVP. They will provide comprehensive project technical support, including day to day supervision, proof checking of design, quality and safety parameters and coordination and management with all stakeholders. The Contractor will also monitor the implementation of Environment Management Plan and Social Impact Management Plan.

The Jal Marg Vikas Project seeks to facilitate plying of vessels with capacity of 1500-2000 tons in the Haldia-Varanasi stretch of the River Ganga. The major works being taken up under JMVP are development of fairway, Multi-Modal Terminals, strengthening of river navigation system, conservancy works, modern River Information System (RIS), Digital Global Positioning System (DGPS), night navigation facilities, modern methods of channel marking etc.

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Shri J P Nadda inaugurates the 'Transport Ministers' Forum on Road Safety'**Shri J P Nadda inaugurates the 'Transport Ministers' Forum on Road Safety'**

All sectors need to be fully engaged in responsibility, activity and advocacy for preventing accidents: J P Nadda

“All sectors including the health sector need to be fully engaged in responsibility, activity and advocacy for preventing accidents”. This was stated by Shri J P Nadda, Union Minister of Health and Family Welfare at the ‘Transport Ministers’ Forum on Road Safety’ organised by International Road Federation (IRF), here today. Shri Nadda further said that the political commitment and a will to achieve can bring about significant and rapid decline in road injuries and requires planning at all levels, capacity creation, involvement of all sectors and good data.

Transport Ministers from eight countries along with Shri Yudhvir Singh Malik, Secretary (RT&H), Ministry of Road Transport & Highways, Mr. Jean Todt, UN Secretary General’s Special Envoy for Road Safety and Mr. Kiran K. Kapila, Chairman, IRF, Geneva, were also present at the occasion.

While emphasizing on the need to have a National Trauma Care Policy for road accident victims, Shri Nadda said that the possibility of novel methods of quick relief through airlifting such as Air Ambulances and providing relief in remote areas, well equipped Mobile Clinics etc., should be explored. The Health Minister further added that it is important to create an enhanced capacity and infuse the knowledge of road safety related actions in public bystanders, road side facilities such as dhabas and amongst commercial truck drivers, who are most often the first on the accident sites and are first responders.

Speaking at the function, Shri Nadda informed the participants that the “capacity building for developing Trauma Care Facilities in Government Hospitals on National Highways”, was approved for development of 85 new trauma care facilities. He further said that during 12th FYP, 85 Medical Colleges/ District Hospitals have been approved. Out of the 116 trauma care facilities funded during the 11th FYP, 100 are reported to be functional by the States.

“National Injury Surveillance, Trauma Registry and Capacity Building Centre have been established at Dr. RML Hospital, ATLS/NELS training for doctors and BLS training for

nurses is being organized at Dr. RML Hospital. The scheme is proposed to continue as 'National Programme for Trauma Care' under the umbrella scheme 'National Programme for Prevention & Management of Trauma & Burn Injuries' for establishing 30 new trauma care facilities, Shri Nadda added. The Health Minister further said that the proposal for continuation of the scheme with an outlay of Rs. 554.41 cr has been approved by EFC and is placed before the CCEA for approval.

Also present at the function were senior officers of the Ministry, delegates from other countries and representatives of development partners.

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Combine Agricultural Technology with Information Technology to improve Agricultural Sector: Vice President

Combine Agricultural Technology with Information Technology to improve Agricultural Sector: Vice President

Inaugurates AP AgTech Summit 2017

The Vice President of India, Shri M. Venkaiah Naidu has said that combine Agricultural Technology with Information Technology to improve Agricultural Sector in the country. He was addressing the gathering after inaugurating AP AgTech Summit 2017, in Vizag, Andhra Pradesh today. The Chief Minister of Andhra Pradesh, Shri N. Chandrababu Naidu, the Minister for Agriculture, Horticulture, Sericulture and Agri-Processing, Andhra Pradesh, Shri Somireddy Chandramohan Reddy, the Minister for Human Resources Development, Andhra Pradesh, Shri Ganta Srinivasa Rao, the Minister for Endowments, Andhra Pradesh, Shri Pydikondala Manikyala Rao and other dignitaries were present on the occasion.

The Vice President said that agriculture plays a vital role in India's economy. Agriculture, along with fisheries and forestry contributes around 17 per cent of the Gross Value Added (GVA) during 2016-17 at 2011-12 prices, he added.

The Vice President said that we have formidable challenges confronting us and we have set for ourselves a very ambitious target of doubling farmers' income by 2022. If we have to achieve this, the progress in various sources of growth has to be accelerated by 33 percent, he added.

The Vice President said that business as usual will not do and we have to innovate, work with farmers to infuse knowledge and technology. We must use technology to enhance productivity and see that the economic benefits of increased production reach all the farmers, he added.

The Vice President said that growing needs of our country's increasing population require us to evolve our own home grown food security strategy. He further said that increased production and efficient distribution of food grains can move our country forward to achieve the goal of zero hunger and adequate nutrition for all. The AP AgTech Summit 2017 is an excellent opportunity for global leaders, start-up founders and technology experts to discuss innovative ideas for agricultural transformation in Andhra Pradesh as well as in the rest of India, he added.

The Vice President said that technology can help improve farmers' lives in a number of ways - to know the health of the soil and help him choose from a variety of crops that can be grown on the land; forecasting the seasonal conditions in advance; intensification and diversification of farming in order to increase productivity and farmers' incomes; diversify towards other allied occupations as well like dairy and forestry; conservation of water, rain water harvesting, construction of check dams, drip and sprinkler irrigation; infrastructure like rural roads, dependable quality power, godowns, cold storage facilities, refrigerated vans and market yards; food processing; timely credit facilities at reasonable interest rates and farmer-friendly insurance policies and the market. We need to work collaboratively and strategically to make a difference in the lives of our farmers and tap into the nature's bounty, he added.

Following is the text of Vice President's address:

"I am happy to be with all of you at the inaugural session of AP AgTech Summit 2017.

Ours is a country with a vast agro-ecological diversity and where 64 percent of the total workforce in the rural areas is engaged in agriculture and contributes 39 percent of total rural net domestic product.

Agriculture plays a vital role in India's economy. Agriculture, along with fisheries and forestry contributes around 17 per cent of the Gross Value Added (GVA) during 2016-17 at 2011-12 prices.

The last seventy years after independence have been years of significant growth. The country's food grain production increased by 8.7 per cent and reached a record high of 273.83 million tonnes in 2016-17.

As the Food and Agriculture Organization acknowledged:

"India is the world's largest producer of milk, pulses and jute, and ranks as the second largest producer of rice, wheat, sugarcane, groundnut, vegetables, fruit and cotton. From 50 million tons in 1950, India's food grain production rose more than five times, to over 257 million tons in 2014-15. India is the world's largest milk producer, producing over 130 million tons annually. The dairy sector is also one of the largest employers of rural people, especially women. With an annual production of over 10 million tons, India ranks second in global fish production and aquaculture, next only to China."

Yet, we have formidable challenges confronting us.

We have set for ourselves a very ambitious target of doubling farmers' income by 2022. According to one estimate, if we have to achieve this, the progress in various sources of growth has to be accelerated by 33 percent".

Clearly, business as usual will not do. We have to innovate. We have to work with farmers to infuse knowledge and technology. We must use technology to enhance productivity and see that the economic benefits of increased production reach all the farmers. Combine Agricultural Technology with Information Technology to improve Agricultural Sector. Workforce in agriculture sector is declining at the rate of approximately 2 percent every year. There is a general perception that agriculture is not a good economic proposition. This perception and trend must be reversed.

It is obvious that a concerted, coordinated focused action is required on a number of issues that impact the growth of agriculture sector and the quality of life of people who depend primarily on this sector.

We cannot be complacent about the food security situation as it exists today. The growing needs of our country's increasing population require us to evolve our own home grown food security strategy. Increased production and efficient distribution of food grains can move our country forward to achieve the goal of zero hunger and adequate nutrition for all.

The AP AgTech Summit 2017 is an excellent opportunity for global leaders, start-up founders and technology experts to discuss innovative ideas for agricultural transformation in Andhra Pradesh as well as in the rest of India. I am glad that there is a competition among innovators to come up with solutions to small farmers' problems and afterwards, the state government intends to actually roll out viable solutions across the state. I am pleased that the focus is not only on generating new ideas but also on translating good ideas into programmes. In fact, this is the need of the hour. We must learn from the best minds around the world and adapt the knowledge and skills to transform our farmers' lives.

Technology can help improve farmers' lives in a number of ways. Let me mention five crucial areas that I think are very important.

Technology can enable a farmer to know the health of the soil and help him choose from

a variety of crops that can be grown on the land. This is already being done through the Soil Health Cards. We must go beyond this by effectively transferring information and knowledge to the farmers.

First, we have to bring in a major shift in Indian agriculture moving it **from a low-productivity stage to a high productive level** and at the same time ensure that it is sustainable and equitable. The productivity of most of the crops in the country is below world average **mainly because of poor access to irrigation and improved technology**.

Forecasting the seasonal conditions in advance, testing the soil and water availability scientists must work with the government's extension machinery like Krishi Vignan Kendras to advise the farmers on the cropping patterns and post-harvest processes and food processing technologies.

We must focus on **intensification and diversification** of farming in order to increase productivity and farmers' incomes. Productivity will go up through use of high yielding varieties of seeds and efficient use of land and water. Today, high yielding varieties cover only 69 percent of the total area under cereal crops. This coverage should be expanded. Equally important is that more crops must be grown on the same land.

The farmers' incomes can be improved if, through technology, we can advise them on not only the best cropping pattern but also suggest **diversification**. Farmers must be encouraged to diversify and take up high value crops like fruits, vegetables, fibre, condiments, pulses, spices and sugarcane.

There is also a tremendous potential to diversify towards other allied occupations as well like dairy and forestry. Similarly, we need to encourage farmers to take up agro-forestry and forestry, **Irrigation** is of course the most crucial factor in which technology can greatly help. Not only should we use technology to increase the availability of water, but we should also advise the farmers on the optimum utilization of available water. Conservation of water, rain water harvesting, construction of check dams, drip and sprinkler irrigation are areas in which technological inputs will be valuable. "It is seen that even districts at same level of irrigation show large difference in aggregate productivity". Every drop of this scarce resource must be made use of optimally. As Pandit Deen Dayal Upadhyay said, give work to every hand and water to every land to improve the agricultural sector.

Second, in addition to irrigation, we need to focus on **infrastructure** like rural roads, dependable quality power, godowns, cold storage facilities, refrigerated vans and market yards.

A major thrust must be given to **food processing**. **Technology plays a very important role in encouraging farmers to take up entrepreneurial ventures and agro-based industries**. The farmers have to be given to the latest know-how and trained in the do-how as well.

The third area in which technology can support the transformation we are envisaging is **Marketing**.

Selling agricultural produce and getting a fair return is a big challenge for most farmers. The farmers still rely on local markets and have to resort, very often, to distress sale. Reliable, real time information is key. I am glad that a new initiative called E-NAM seeks to remedy this situation by adopting an e-trading platform for agricultural commodities.

The farmers will gain if we can enable them to tap into the **export** markets as well. Technologies can help in making this transition from mere sellers in the domestic market to exporters of surplus produce.

The **fourth** and the **fifth** important building blocks of a robust ecosystem are timely **credit** facilities at reasonable interest rates and farmer-friendly **insurance** policies. Both these can be made more transparent and farmer-friendly if the power of digital technologies can be harnessed. These encourage farmers to invest in better, income-generating crops and agricultural practices and increase their incomes. The insurance cover shields the farmers against unforeseen climatic and natural disasters. The kisan credit cards and the Pradhan Mantri Fasal Bima Yojana (PMFBY) are steps in the right direction and need to be universalized.

I am glad that this event is taking place in the sunrise state and in Vishakhapatnam, the smart city in the making. Government should give top priority to Agriculture. Linking rivers is the best solution for improving agricultural sector in the country.

Andhra Pradesh is one of the major producers of a number of crops in India. One of the leading producers of food grains and oilseeds, the state is also the top producer of mango, chillies and turmeric. With Horticulture growing at 16.8% and Fishing and Aquaculture at 30.1% in 2016-17, there is a significant push to augment agricultural

incomes from the Hon'ble Chief Minister. The untapped potential for aquaculture and fisheries in Andhra Pradesh is immense because of its 974 Km of coastline.

The bye line you have adopted for this summit is also apt.

In the new India we are looking forward to, we definitely need progressive farmers who adopt smart farming practices.

We need to work collaboratively and strategically to make a difference in the lives of our farmers and tap into the nature's bounty.

I hope the scientists, technology experts and policy makers as well as the programme implementers will come up with a strategy that will bring in significant, sustainable change in the agriculture landscape of Andhra Pradesh and India.

Jai Hind!"

KSD/BK

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Mission Innovation Smart Grids Workshop

Mission Innovation Smart Grids Workshop

In order to combat the growth of green house gas emission, the world is fast moving to the increased use of renewable energy sources. However, there is increased concern that high penetration of renewable energy can cause disruptions in the existing power network due to their intermittent nature. Technology solutions are, therefore, needed to address the challenges related to development design, integration, operation and management of grids which allows use of upto 100 percent renewable energy.

Mission Innovation challenge on Smart Grids is collectively working to enable future smart grids powered by renewables. 20 participating countries with India, Italy and China as Co-lead are working together to realise this aspiration. An international workshop is being organised during 16-19th November, 2017 at New Delhi to define research priorities and develop action plan for time bound action for realisation of these objectives.

The Technical meeting of the event was inaugurated by Secretary-DST on 16th November, 2017 in presence of several dignitaries including Directors of IIT-Delhi and IIT-Roorkee. The participating countries Australia, China, Denmark, European Commission, Finland, India, Italy, Saudi Arabia, Sweden, United States of America , United Kingdom will present the status on smart grids. With this background, the participants will deliberate on research needs and potential for collaboration in the domains of regional grids, distribution grids, micro-grids and cross innovations. The modalities for greater private sector participation and enabling mechanisms will also be discussed besides incentivising the performing research activities. The participating countries will resolve on future action plan and finalise technical contours of the Mission Innovation. A panel discussion with industrial experts is also planned.

The Public Workshop of the event will be held on 18th November, 2017 where the outcomes of brainstorming session would be disseminated to the larger stake holder forum. The Minister of State for Science, Technology and Earth Sciences, Shri Y.S.Chowdary, and Minister for Power, Shri R.K.Singh will inaugurate the exhibition showcasing achievements of industrial as well as R&D communities in the area. Both the Ministers will share their perspectives on the topic and will be supplemented by representatives from Co-lead countries as well as Directors of IITs (Delhi, Kanpur and Roorkee).

A Report on "Mission Innovation Smart Grids" activities, strategies and vision will also be released. India's collaborative programmes with United States and United Kingdom on the theme will also be formally launched. The Forum will adopt **New Delhi Declaration** and as an initial step in this direction, collaboration agreement between RSC Italy and IIT-Roorkee, India will be signed.

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International Conference & Exposition of Society of Petroleum Geophysicists**International Conference & Exposition of Society of Petroleum Geophysicists**

The 12th Biennial International Conference & Exposition of Society of Petroleum Geophysicists (SPG) India was inaugurated by Union Minister of Petroleum & Natural Gas and Skill Development & Entrepreneurship at Jaipur today. The three days International Conference & Exposition of SPG India will remain open till 19th November 2017.

During his second consecutive visit to SPG conference, Shri Dharmendra Pradhan stressed upon theme of conference "Energy through Synergy" in his inaugural address and emphasized upon the importance of Oil sector in India's energy ecosystem and its role in national economy. Elaborating on the changing energy scenario, he mentioned the historic stages of development of the energy supply and its impact on industry. Elaborating further, he expressed that the first industrial revolution was a result of development of Coal-seam derived energy. In due course of time, the energy sourcing changed over to hydrocarbon followed by electricity. With India being the third largest consumer of the energy in the world, the Hon'ble minister emphasized upon bringing new and alternate energy sources like Gas hydrates in the energy supply chain. Speaking about SPG, he mentioned that such conferences are platform to provide an environment for various players of the energy arena to come together and exchange ideas for scientific and technological innovation.

In his opinion, Data is a key factor for growth because Old data viewed from a new perspective over a period of time, can result in new opportunities. Referring to Geoscience technologies as the key link in improving exploration success for oil and gas in the country, He categorically expressed his expectations from the Geoscientific community to reduce import dependency by at least 10% and ensure energy affordability, sustainability and accessibility for entire spectrum of people of India in order to fulfil the vision of the Prime Minister of India.

Talking about policy decisions taken by Govt. of India, he made reference to various initiatives taken by the Govts. to facilitate the ease of carrying out business in energy sector of India while ensuring that the revenue income will also grow.

He also released the Souvenir and special issue of half yearly journal, GEOHORIZON.

Speaking on the occasion, Guest of honour, Padma Vibhushan, Dr. Anil Kakodkar emphasized upon the 'Exploitation of Knowledge' for national growth. Talking about the importance of knowledge, he emphasized upon need to develop a peer system to retain decision specific knowledge. He also opined that hierarchical system is not conducive for proper utilization of knowledge in decision making. Towards this he exhorted the energy sector for nurturing a body of peers to develop the youngsters.

In the inaugural session, the Union Minister Shri Dharmendra Pradhan presented the

coveted B S Negi Convention Gold medal and life time achievement award to Mr. P S N Kutty, Ex-Executive Director, ONGC for his lifetime achievement in the field of geosciences.

The session was also addressed by Mr. Shashi Shanker, CMD, ONGC & Chief Patron SPG, Mr. A K Dwivedi, Director (Expl) ONGC & Patron SPG, Ms Nancy House, President, SEG USA, Mr. Marcel Van Loom, Director, EAGE, Netherland & Mr. D Purkayastha, President SPG, India.

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Rent-a-roof policy can give residential solar energy the push it requires

The [Centre is planning a rent-a-roof policy to support its ambitious](#) plan to generate 40 gigawatts (GW) of power from solar rooftop projects by 2022, MINT reported this week. The government's solar power target is 100 GW; of this 60 GW is expected to come from ground-mounted, grid-connected projects. If the new policy comes through, solar developers — these companies provide end-to-end service to those interested in installing solar systems — can rent rooftop space, fit it with solar panels, and feed the power to the grid. If the policy takes off, householders will not have to bother themselves any more with the time-consuming, bureaucratic nitty-gritty that precedes the installation of panels.

India offers a big opportunity for solar energy. Its 750GW potential is driven by roughly 300 sunny days a year, with an average solar radiation range of 4-7 kilowatt-hours per square metre. Despite this, and attractive fiscal incentives, households haven't exactly taken to solar power. As a result, financial incentives are not being utilised and consumers are not availing significant potential savings on their electricity bills, even as the burden on electricity distribution companies to meet power demand from the grid is growing. A Greenpeace analysis shows that all the major metros are far from meeting rooftop solar targets as laid down by state governments and the ministry of new and renewable energy. This is despite a significant national incentive in the form of a 30% capital subsidy, and a range of state incentives and schemes.

The success of the rooftop solar is critical for India which is faced with the challenge of decarbonising its electricity sector and tackling air pollution, some part of which is caused by coal-fired power plants generating electricity. A Global Burden of Diseases report says air pollution accounts for 1.2 million deaths every year, and costs India 3% of its GDP.

Large solar plants require land, lots of it. Therefore, it is important that policies support rooftop and decentralised solar power generation, both off grid and on. The proposed policy could empower the solar energy industry to focus on households; it also gives every home a chance to be energy independent. However, it cannot magically transform the sector unless other issues are addressed.

For one, people must be better apprised of the benefits of solar power (for instance, the government must give solar the same push it gives to Swachh Bharat Abhiyan); and the perceptions that households will have to make a huge upfront investment or that solar installations will make rooftop space unusable have to be removed. These may sound like small issues, but can work as deterrents when households take that leap of faith.

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Shri Nitin Gadkari lays foundation stone for Cochin Shipyard's Rs 970-crore International Ship Repair Facility

Shri Nitin Gadkari lays foundation stone for Cochin Shipyard's Rs 970-crore International Ship Repair Facility

The facility will double the number of ships that can be repaired every year

Shri Gadkari also laid foundation stone for National Highways project in Munnar

The Minister of Shipping, Road Transport & Highways and Water Resources, River Development and Ganga Rejuvenation Shri Nitin Gadkari has said that Cochin is all set to become a global ship repair hub. He was speaking at Cochin today, after laying the foundation stone for a Rs 970-crore International Ship Repair Facility (ISRF) for Cochin Shipyard Limited. The facility is being built at Cochin Port Trust where CSL has leased out a 40-acre plot for the project.

The International Ship Repair facility will be a State of the Art facility that can handle a major chunk of small and medium sized vessels plying in India. CSL will set up a ship lift system of size 130 m x 25 m with lifting capacity of 6000 tonnes and 6 work stations. The facility can repair up to 85 vessels, and CSL will thereby be almost doubling the number of ships that can be repaired every year.

Pointing out that this facility will help boost India's share in commercial ship repair market, Shri Gadkari said that the industry will also generate about 6000 direct and indirect jobs, besides giving rise to a number of ancillary industries in the state, thus having a multiplier effect on employment and economy.

Shri Gadkari also inaugurated the conference **Build The Ship – 2017** organized by the Ministry of Shipping in Cochin today. The event deliberated upon the recommendations of a study regarding the growth strategies for promotion of Shipbuilding, Ship Design, Ship Repair and Marine Ancillaries in India.

At the conference the Minister announced the start of **Center of Excellence in Maritime and Shipbuilding (CEMS)**, a start up in skill development for maritime and shipbuilding sector. CEMS will have campuses at Vishakhapatnam and Mumbai. It is being set up by the Ministry of Shipping in collaboration with Siemens under the flagship programme Sagarmala. CEMS will provide industry-relevant skill development, equip students with employable engineering and technical skills in the port and maritime sector and contribute to the Government of India's ambitious Sagarmala programme. It will help meet the domestic skill requirement in ship design, manufacturing, operating and Maintenance, Repair and Overhaul (MRO) and aims to become an international nodal centre in South Asia, attracting students from neighboring countries like Sri Lanka, Bangladesh, Thailand, Malaysia and Indonesia for skill development in the Port and Maritime sector. This initiative will also add to the **Make in India** and **Skill India** efforts in the maritime sector. Shri Gadkari unveiled the logo of CEMS at the launch event in Cochin today.

A joint venture b/w CSL & HDPEL- Hooghly Cochin Shipyard Ltd. (HCSL) has been incorporated with CSL 74% and HDPEL 26% shares in HCSL. A Shareholders agreement was signed between CSL and HDEPL at the conference today, for taking over manufacturing facilities of HDEPL in Kolkata. With this, CSL is setting the stage for revival and strengthening of maritime heritage in Kolkata.

Shri Gadkari also visited Munnar today, where he laid the foundation stone for rehabilitation and upgradation of NH 85 from Bodimettu to Munnar to two laned with paved shoulder. The 42 km project has an estimated cost of Rs 380.76 Crores.

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MNRE organises panel discussion on 'Innovative Financing and Market Evolution to achieve 175 GW Renewables by 2022' at CoP 23, Bonn, Germany**MNRE organises panel discussion on 'Innovative Financing and Market Evolution to achieve 175 GW Renewables by 2022' at CoP 23, Bonn, Germany****India committed to its Renewable Energy Targets to provide Equitable Sustainable Development**

The Ministry of New and Renewable Energy (MNRE), Government of India, in partnership with the Confederation of Indian Industry (CII), organised a panel discussion on 'Innovative Financing and Market Evolution to achieve 175 GW renewables by 2022' on 16th November 2017 at the India Pavilion at Conference of Parties (CoP) 23, Bonn, Germany.

Reaffirming India's resolution to go ahead with the set agenda with determination and clarity, Shri C.K. Mishra, Secretary, Ministry of Environment, Forests and Climate Change, Government of India, said that India has been pursuing its goals of setting up renewable energy capacities and changing its energy mix, and will continue to do so to provide equitable sustainable development.

Speaking about the Government's interventions, Dr. P.C. Maithani, Adviser, MNRE said that policies are being drafted on a continuous basis to address challenges as the market evolves. Giving examples of how the question is no longer about availability of finances but that of cheap finances, Shri K.S. Popli, CMD, Indian Renewable Energy Development Agency Limited (IREDA) said that the markets have matured and one indicator of that is seen in how the bond markets have progressed.

Dr. Ajay Mathur, DG, The Energy and Resources Institute (TERI) stressed upon the need to push for higher research in storage technology which could compliment the infirm renewable power. There is an imminent need to look at bringing down storage costs, he added.

India's renewable energy journey has come a long way since it set its ambitious target of 175 GW by 2022. Prices of solar and wind have dramatically reduced to 3-4 cents per Kwh as against 9-12 per unit in 2013, even as capacities have scaled up to 47.5 GW. Policymakers and industry are now confident of accelerating this growth trajectory to provide electricity, along with storage, at an estimated Rs 5 per unit before 2025.

Explaining the scope of the renewables market, Shri Rahul Munjal, MD, Hero Futures Energy said that there has been an exponential expansion of the industry, with almost 10,000 firms operating in the ecosystem. This is a result of the market being conducive to business and investments. Echoing a similar thought and projecting high optimism, Shri Rajiv Ranjan Mishra, MD, CLP India said that renewables are becoming more an imperative for economies like India which have to reach power to large sections of the people. Shri Ratul Puri, Chairman, Hindustan Power Projects Pvt Ltd (HPPPL) highlighted the need to make power available at affordable rates and said that Indian industry is working towards achieving that goal.

The panel also included Mr Frank Determann, Principal Project Manager, KfW Development Bank; Shri Reji Pillai of India Smart Grid Forum, among others.

RM/VM

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Delay in the protection of corridors threatens tiger population

Precious time Construction of a vehicular flyover designed to facilitate animal movement has been delayed. | Photo Credit: [I. P. Bopanna](#)

It is not just poaching or habitat loss that threatens India's tiger population. Delayed action to protect crucial wildlife corridors — despite the availability of relevant ecological knowledge — is also killing these big cats, shows a study published in conservation journal *Oryx*.

For species like tigers which move across large distances, wildlife corridors, protected patches of land connecting two habitats, are crucial. Uttarakhand's Chilla–Motichur corridor is one such patch connecting the eastern and western tracts of the Rajaji Tiger Reserve. It is the only way tigers from the eastern tract (part of a larger, more connected landscape) can colonise the isolated western one. Over the years, however, the corridor has been deteriorating due to reasons including the expansion of nearby townships and the construction of a national highway and rail line.

Multi-pronged approach

Scientists at the Panthera, Nature Conservation Foundation and the University of Kent, U.K., used a multi-pronged approach to study the status of the Chilla–Motichur corridor. First, they studied tiger presence in the area using presence–absence surveys of tiger signs, assessing change in tiger presence from data gathered between 2002 and 2009. While the eastern tract showed a high presence of tigers, the western one showed a distinct decline in tiger numbers and presence.

Second, the team studied the corridor's connectivity using remotely-sensed night-time lighting as an indicator of urbanisation.

They found that since 1993, urbanisation had decreased opportunities to restore the effectiveness of the corridor considerably.

The team compiled 31 research articles on the corridor and made 14 distinct recommendations to restore corridor connectivity. Only five recommendations have been incorporated into government management plans, and delays in mobilising funds and approvals from state departments followed by the lack of deadlines to implement these actions exacerbated the problems.

“Institutional failings are mirrored in the inability of many state and central departments to work together for the restoration of Chilla-Motichur; this case typifies what happens with most wildlife corridors across the country,” says lead author Abishek Harihar (Panthera and Nature Conservation Foundation). “If immediate action is not taken, the population in the western tract could go extinct.”

Tux brushing tussar, cards being exchanged like cocaine packets, billionaires mingled at Illuminating India

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Asia's cities could save the planet

The world's cities will add 2.5 billion more residents by 2050, more than half of them in Asia. The effect of this great migration on climate change will depend in part on what kind of homes, factories and office buildings they live and work in.

It's a seemingly minor but significant issue that should attract attention from officials gathered at this week's United Nations-sponsored climate talks in Bonn. (Michael Bloomberg, the founder and owner of Bloomberg LP, is the UN special envoy for cities and climate change.) Buildings generate almost 20% of energy-related greenhouse-gas emissions — a proportion that's likely to rise as onetime farmers move into more energy-intensive modern homes. Yet less than 10% of the \$4.6 trillion spent on construction in 2015 went into energy-efficient "green" buildings.

The reasons are many: Some energy-saving technologies and designs have only recently become widely accessible. There is a widespread belief among many developers, especially in poorer countries, that building green costs considerably more than traditional methods. Officials in many countries are lax about enforcing building codes for energy efficiency.

But there is now software that can give architects and engineers access to the most efficient designs and quickly certify their work. As for cost, the International Finance Corporation estimates that building green raises construction costs less than 2% on average. And new business models, such as so-called energy savings companies, popular in China, can enable commercial developers to better afford energy-efficient technologies.

The challenge also presents rich countries, which are supposed to be contributing to a Green Climate Fund to assist poorer ones in reducing their carbon emissions, with a more politically palatable way to help. Europe, for instance, has plenty of knowledge to share on designing green certifications and building codes. More important, Western banks could play a critical role in marshaling new financial instruments, such as green construction bonds, to pay for all these new buildings.

Asian governments also need to do more to encourage homeowners and builders to make greener choices. Part of the task involves providing reliable certifications and educating the public about the virtues of energy-efficient buildings, so that property buyers choose and will pay a premium for them. At the same time, officials must do a far better job of getting local governments to adopt and enforce tougher building codes.

Asia's urban leaders need to worry about much more than buildings, of course. They'll have to map out cleaner and more efficient systems for public transportation, waste, water and so on. At the same time, if the world's fast-growing cities can make more of their new buildings more green, they will play a crucial role in fighting climate change. **Bloomberg Views**

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Infra status for logistics sector

The Centre has granted infrastructure status to the logistics sector, allowing it to avail loans at competitive terms that come along with the status.

“The need for integrated logistics sector development has been felt for quite some time in view of the fact that the logistics cost in India is very high compared to developed countries,” the government said in a statement.

“High logistics cost reduces the competitiveness of Indian goods both in domestic as well as export markets. Development of logistics would give a boost to both domestic and external demand thereby encouraging manufacturing and ‘job creation.’

“This will, in turn, be instrumental in improving country’s GDP.”

“The cost of logistics is extremely high in India with some estimates putting it at about 13% of GDP, which is higher than the U.S. (9) and Germany (8),” said Pirojshaw Sarkari, CEO, Mahindra Logistics, in a statement. “Hence, the logistics sector needs improvement in efficiency. We believe that the infrastructure status will reduce the cost of capital in transportation and warehousing, thereby reducing the cost of logistics.”

“There are a number of benefits that the infrastructure status has,” said K. Ravichandran, senior vice president, ICRA said.

Longer maturity period

“Number one, infrastructure industries get longer maturity loans compared to typical manufacturing sector. They are also eligible for slightly higher equity ratios while applying for the loans. The third is that the external commercial borrowing guidelines say that the infrastructure sector has certain advantages and flexibility, and they can also do refinancing with specialised lenders like IDFC, IIFCL, etc.”

The inclusion of the logistics sector in the Harmonised Master List of Infrastructure Sub-sectors was discussed at the 14th Institutional Mechanism (IM) Meeting held on November 10, 2017, where it was approved by Finance Minister Arun Jaitley.

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Farm policies for India

Farmers from across the country are out on Delhi's streets agitating just as the deliberations for the 2018 budget are beginning and it's time to seek solutions to the structural issues that plague the system.

The "one-size-fits-all" policy created for the farm sector is self-destructive in design and programmes meant to double farmer incomes are collapsing. The Pradhan Mantri Fasal Bima Yojna (PMFBY) is a classic case where the best intentions of the prime minister were muddled in the policy's fine-print. The PMFBY is designed to provide crop insurance and the Central government shares part of the premium subject to conditions. To receive the Central government's share, the state has to walk the dotted line, come hell or high water; whether the region is rain-fed or irrigated; whether the cropping density is less than 100 per cent or upwards of 200 per cent. Simply allowing each state to design its own crop insurance scheme and yet receiving the Central government share of the premium would yield the desired results.

Similarly, an incentive of Rs 75 lakh per mandi is given by the Centre to the states for linking each market with E-NAM, the electronic platform for trading commodities. Much of the recorded turnover is, in fact, a sham. States like Haryana log in all FCI purchases as E-NAM transactions. Rather than force E-NAM on states, incentivising each state to have the electronic platform which meets the basic criteria of interoperability with other states is the correct path.

Recently, worried by the way the Regional Economic Comprehensive partnership (RCEP) for trade within Asia was shaping up, I advocated that the Central government shouldn't negotiate international trade treaties on agriculture commodities without the consent (which differs from "consultation") of state governments. I was told that as per the Constitution of India, trade negotiations are under the purview of the Centre, even though agriculture is in the domain of the states.

That is precisely the reason that every time food prices rise, the Centre intervenes to rein in inflation by facilitating the unhindered import of agricultural commodities. This constantly drives down farm-gate prices. But when prices fall, the Central government remains apathetic.

To offset these annual losses, states should demand that the Centre set a floor price for all such farm produce, where only the Central government shells out the shortfall between the market price and floor price via a "Price Deficiency Payment". At present, farmers and states are penalised for the fallout of a policy not sanctioned by them and have to share the cost. Additionally, to prepare Indian farmers for global assimilation, funding for programmes such as the Rashtriya Krishi Vigyan and the sub-mission on agriculture mechanisation should be doubled and the funding ratio should be changed from 60:40 to 80:20, where the Central government's contribution rises to 80 per cent.

When different states announced farm loan waivers, banks were asked to provide farm loan data. Scrutiny of the data revealed the horrifying fact that public and private sector banks have indiscriminately given loans of over Rs one lakh crore to gullible farmers based on their asset value rather than economic viability. In the frantic quest to meet their own priority-sector lending targets, they have given these loans beyond the farmers' scale of finance or actual value of crop sold each year by individual farmers. The culpability of banks has been established by the RBI through an in-house study conducted by the Financial Inclusion and Development Department — there was no way the loans could have been repaid. Now, that the malafide intent of the banks in giving loans to desperate farmers has been established, it's time to institute a class action lawsuit for the complete waiver of all such farm loans. The question is: Which jurist will have the courage to accept such an audacious case and what will be the stand of the ministry of finance? Will it side

with the poor farmers or with the banks which are too big to fail?

For farmers to prosper, hundreds of changes are required but, more importantly, a devaluation of the Indian rupee is essential. Even how funds devolve to the states in a federal structure has to be looked at afresh by the 15th Finance Commission but states are either innocent of the emergent contradictions or too financially dependent and meek to challenge these notions

Not that fund utilisation is much better in the states, where policy is influenced by the whims of individual short-sighted policy-makers. Each state needs to be nudged and funded to create a data bank and adopt a blockchain process for government decision-making. Big data analytics will usher in improved governance and transparency.

In the recently concluded “World Food Day” extravaganza of the food processing ministry, investments for over Rs one lakh crore were signed. The only lasting impression, however, was the Guinness World Record for cooking 918 kg of khichdi at the event; probably because no intelligent soul was convinced by the propaganda. Sadly, the “mega food park” policy, like the “farm policy”, has been botched. The PMO can't be naïve enough to believe in either. It's time to end the policy khichdi by merging the ministry of food processing with the ministry of agriculture and farmer welfare to create synergy.

The age-old perception of farmers that the BJP works only for the urban middle classes is being reinforced. The PM must either listen to the farmers or it's beyond doubt that, come 2019, the policy anomalies will drive the farmers into a fury that will engulf the establishment. For how long can the leadership continue to hope for support grounded on farmers' expectations of off-farm jobs and achhe din?

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India Signs Loan Agreement with World Bank for USD 100 Million for “Shared Infrastructure for Solar Parks Project”

India Signs Loan Agreement with World Bank for USD 100 Million for “Shared Infrastructure for Solar Parks Project”

A Guarantee Agreement for IBRD/CTF loan of USD 98 million and Grant Agreement for USD 2 million for the “Shared Infrastructure for Solar Parks Project” was signed with the World Bank here today by Mr Sameer Kumar Khare, Joint Secretary (MI), Department of Economic Affairs on behalf of Government of India, and Mr Hisham A. Abdo, Acting Country Director, World Bank India, on behalf of the World Bank. A Loan Agreement was also signed by Mr K S Popli, Chairman and Managing Director, India Renewable Energy Development Agency Ltd. (IREDA) and Mr Hisham A. Abdo, Acting Country Director, World Bank India, on behalf of the World Bank.

The project consists of two components viz. (i) Shared Infrastructure for Solar Parks (estimated total project cost of USD 100 million, including USD 75 million in IBRD loan and USD 23 million in CTF Loan) and (ii) Technical Assistance (USD 2 million in CTF Grant).

The objective of the project is to increase solar generation capacity through establishment of large-scale parks in the country. The project will help establish large-scale solar parks and support the government’s plan to install 100 Gigawatts (GW) of solar power out of a total renewable-energy target of 175 GW by 2022.

DSM/SBS/KA

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More than just a counting game

Yesterday, November 19, 2017, was World Toilet Day, with the theme 'Wastewater and Faecal Sludge Management'. In India, there is greater awareness about the importance of using toilets, largely due to the high profile, flagship programme Swachh Bharat Mission launched in 2014, so much so that even Bollywood capitalised on this topic in the recent film Akshay Kumar starrer, *Toilet — Ek Prem Katha*, where a marriage is saved thanks to toilets. However, in real life, the sanitation story only begins with toilets, something clearly stated by the targets under the 2015 Sustainable Development Goals. These targets are not just about 'toilets' but also suggest improvements to the entire cycle of sanitation, which certainly begins with toilets but has to end with safe waste disposal.

Four stage cycle

Sanitation is intrinsically linked to health, and unless faecal waste is treated properly and disposed of safely, it will find its way back into our bodies and make us sick either by contaminating our sources of drinking water or getting into the food chain. The full cycle of sanitation has four stages: access to toilets; safe containment; conveyance either through the sewerage network or de-sludging trucks, and treatment and disposal. The faecal waste needs to be handled safely at each of these stages in order to gain public health benefits.

As recognised in the last decade, urban India faces considerable gaps along the full cycle of sanitation. One probable reason for these deficits was the belief that sewerage and sewage treatment systems could be built in all cities. Sewerage refers to fully sealed pipes, that are underground, and must not be confused with open storm water drains that are supposed to carry only rainwater. After decades of investment, India has managed to connect only a little more than a third of its urban households, most of which are located in metropolitan cities, to sewerage systems. This is because sewerage systems and sewage treatment plants (STPs) — a preferred system in most western countries — are not only expensive but are also complicated to maintain.

An alternative to sewerage systems is something known as on-site systems. Septic tanks and pit latrines, which are prevalent in many Indian households, fall into this category. If these systems are designed, constructed and managed properly, they can be perfectly safe options. Safe containment, collection and treatment is known as septage management or faecal sludge management (FSM), and is being increasingly recognised by the Government of India as a viable option.

Multi-stage challenges

Though viable, there are several challenges for FSM across all stages.

Emerging evidence from across the country indicates that on-site systems are not constructed properly. While the designs of 'septic' tanks and leach pits have been set out in standards issued in government documents, homeowners and masons are often not aware of these. The most severe consequence of these poorly designed pits is the potential contamination of groundwater. In addition, they are not de-sludged at regular intervals. Faecal waste needs to be transported using de-sludging vehicles (and not manually) but only some States, Tamil Nadu for example, have these vehicles. Once collected, the waste needs to be treated properly to ensure that it does not land up in our lakes and rivers. There aren't enough treatment facilities to guarantee proper treatment of the sludge.

A way forward

After the National Urban Sanitation Policy (NUSP) in 2008, a national policy on Faecal Sludge and Septage Management (FSSM) was released earlier this year. Tamil Nadu, Maharashtra and Odisha have released State-wide septage management guidelines and taken concrete steps to execute these policies. While de-sludging vehicles and robust informal markets exist for de-sludging services in some States, others are either procuring vehicles for their urban local bodies or encouraging private players to get into this.

Tamil Nadu has decided to utilise existing infrastructure, namely STPs, and allowed the co-treatment of faecal sludge in these facilities. It has also put in additional infrastructure called decanting stations at some pumping stations to make it easier for de-sludging vehicles to deposit their waste. Devanahalli in Bengaluru has a dedicated Faecal Sludge Treatment Plant (FSTP) operational since 2015. Others of varying sizes are either under construction or already running in Kochi (Kerala), Tiruchi (Tamil Nadu) and as far as Leh. Thus, there are many promising steps being taken, but much more needs to be done if we are to truly become an open-defecation free nation.

Here are some suggestions that both the government and us, citizens, can work towards.

Raising awareness about correct design and construction practices of on-site systems (new and legacy) will perhaps remain the biggest hurdle in the years to come. But, urban local bodies and State governments could start by ensuring that the larger containment systems such as community toilets and public toilets are properly constructed and managed. In addition, permission could be granted to new buildings, especially large apartment complexes only when the applicants show proper septage construction designs. The safety of sanitary workers who clean tanks and pits must be ensured by enforcing occupational safety precautions and the use of personal protective equipment as set out in the law. The last two suggestions are actions for us as citizens. As home-owners and residents, our tanks and pits must be emptied regularly, thereby preventing leaks and overflow. We must ask our governments to invest in creating treatment facilities that our cities can afford.

Let us move beyond the cute poop emojis on our smartphones and make this an acceptable discussion topic in the drawing room. Maybe the biggest victory will come when citizens realise that the focus needs to be on more than just toilets.

Kavita Wankhade works at the Indian Institute for Human Settlements, Bangalore, and is part of the Tamil Nadu Urban Sanitation Support Programme (TNUSSP) in Chennai. The views expressed are personal

The definition of harassment needs to be constantly updated, and the process for justice made more robust

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The roots of the crisis in the seed industry

For many decades, the Indian policy framework facilitated the interaction of science and innovation with entrepreneurship, which led to competition and the subsequent development of an industry structure that delivered sustainable economic benefits.

The government was a major contributor to investments in seed research in India for close to three decades after independence. Policy reforms like the New Policy On Seed Development (1988) and New Industrial Policy (1991), and advances made by science and technology, provided an impetus to the participation of the private sector in the Indian seed industry and private investments helped India benefit from hybrid seed technology and biotechnology.

However, according to the Rabobank report (2006), India's top 10 seed firms accounted for just 25% of the total volume of seeds sold by the private sector in 2005. This level of fragmentation was aided by the low entry barriers. Historically, intellectual property (IP) had no sanctity in the industry. Some of the staff of seed companies had free access to the most vital intellectual property of the company, i.e. the germ plasm and the parent lines. People could easily start a new seed company with the freely available parent lines. Many seed-producing farmers also set up seed production companies.

Consequently, research investment by private companies remained at a meagre 3-4% of revenue against the international norm of 10-12%. Investment by the public sector in seed research continued. A steady formal and informal flow of material from public institutions to private entrepreneurs continued.

There was no IP law for the seed industry till The Protection of Plant Varieties and Farmers' Rights Act (PPVFRA), 2001, came about. In the preamble to the Act, the government said this law was intended to promote research in, and creation of, intellectual property in the seed sector.

In a 2014 paper by David Spielman et al, it is argued that science, technology and innovation play a central role in driving change in the industry. Adoption of new technology leads to the creative destruction of old players and systems, pushing forward technological frontiers.

They quote Joseph Schumpeter (1934), who posited that innovation by large firms through temporary monopolies or other forms of market power leads to technological reforms and appropriate gains, albeit with short-term consequences for social welfare. In the long run, technological change and economic growth result from the continuous entry and exit of entrepreneurs who innovate on production processes and secure advantages that force the exit of older, obsolete firms from the market.

This is an accurate conceptual summary of the impact created by genetically modified (GM) seeds technology, which disrupted the existing industry structure in India. Forty-five Indian seed companies got a licence to use the technology and participated in the explosion in the Indian cotton market. These changes led to a temporary monopoly for the technology provider but the policy framework had the opportunity to help society reap long-term economic benefit by enabling the industry to absorb and exploit the new technology. Sadly, the policies of the Central and state governments fell short of the required visionary approach.

First, no steps were taken to encourage competition in the sector. Existing technology providers continued to enjoy a monopoly. Second, the government stifled further research investment by controlling prices, dictating licensing terms and confusing IP laws between different Acts. Third, timely actions were not taken to prevent the illegal introduction of GM technology into the market.

In the process, the government killed the second part of the theory proposed by Schumpeter. It failed to clearly articulate the industry structure it wants to promote and the roles of the different stakeholders it would like to establish. Political posturing prevailed and they did not understand the long-term impact of the confusion they created.

There are some actions that the government has to undertake quickly:

1. A quick and decisive action in collaboration with state governments to identify and take over fields where illegal GM cotton is being grown.
2. Agree on a national policy on GM crops, define the exact areas where GM is required by the country and where the government will encourage public and private investment in GM technology. This will bring greater clarity and remove the current policy paralysis.
3. A quick resolution to the conflicts between the different IP laws that are affecting this industry and clearly defining how the government wants to encourage research investment with assured IP protection in this important sector.
4. Invest in educating the public about the facts regarding GM technology and stress on its critical role in enhancing agriculture productivity and its benefits to farmers and consumers.
5. Strengthening the regulatory mechanism for the seed and biotech industry to make it transparent, science-based, predictable and fair.

These actions will bring back normalcy and establish predictability in the system. The implications of not doing so could be very damaging to the seed and biotech industry, with the Indian farmer and the consumer being the ultimate losers.

Ram Kaundinya is an expert on agricultural policy matters and the former CEO of Advanta Seeds.

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Low tariffs slowing new bids for wind, solar energy projects: ICRA

Winding down: State utilities prefer the bid tariff as it is significantly lower than the feed-in tariffs for wind projects.

The renewable energy sector is in the midst of a lull after the storm, as bidding for wind and solar energy projects is seeing a short-term slowdown, said rating agency ICRA on Tuesday.

“With very limited progress on the firm bidding plans by the State-owned distribution utilities to award the wind energy projects, this particular sector is facing near term headwinds and the capacity addition in the near term remains adversely impacted due to migration from feed-in tariff to bid tariff route,” ICRA said in a note.

“The wind energy sector is now following a bid based regime since February 2017, given the success of a reverse auction under two rounds of 1GW each by Ministry of New & Renewable Energy (MNRE) with a bid tariff discovery at Rs. 3.46/kwh in February 2017 & Rs. 2.64/kwh in October 2017,” said Sabyasachi Majumdar, senior vice-president & group head at ICRA Ratings.

This option is being preferred by the State utilities since the bid tariff level is significantly lower than the approved feed-in tariffs by State Electricity Regulatory Commissions (SERCs) for wind power projects. “The recent increase by about 15% (i.e. 6-7 cents/watt) in imported PV module prices, if sustained, could have an adverse impact on the viability of solar power projects with tariffs lower than Rs. 3.5 per unit,” the note added.

“The bidding activity for award of solar projects has slowed down in calendar year 2017 (till Oct.) as reflected in awarded project capacity of 3.75 GW as against 7.2 GW in the corresponding period of CY 2016.”

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Fisheries and Aquaculture are multidisciplinary subjects where scientists and technologists have to work: Vice President

Fisheries and Aquaculture are multidisciplinary subjects where scientists and technologists have to work: Vice President

Inaugurates 11th Indian Fisheries and Aquaculture Forum

The Vice President of India, Shri M. Venkaiah Naidu has said that . He was addressing the gathering after inaugurating the 11th Indian Fisheries and Aquaculture Forum with the theme 'Fostering Innovations in Fisheries and Aquaculture', in Kochi, Kerala today. The Governor of Kerala, Shri P. Sathasivam, the Minister for Fisheries, Harbour Engineering & Cashew Industry, Kerala, Smt. J. Mercykutty Amma, the Minister for Local Self-Governments, Welfare of Minorities, Wakf and Haj, Kerala, Dr. K.T. Jaleel and other dignitaries were present on the occasion.

The Vice President said that the Society is helping our country to realize the goals of not only providing nutritional and food security, but also creating opportunities for entrepreneurship, income generation, self-employment, trade and commerce. He further said that India contributes to about 6.3 % of global fish production which is also 1.1% of the national GDP and 5.15 % of the agricultural GDP of the country. The total fish production during 2015-16 was 10.79 million metric tons (MMT) of which 7.21MMT comes from inland aquaculture and capture fisheries and 3.58 MMT from marine capture fisheries, he added.

The Vice President said that our country is the 3rd largest fish producer and 2nd largest aquaculture producer in the world. The country has not only been able to meet the demand of the fish for the domestic need, it has also been able to add substantially to the foreign exchange earnings through export of fish and fisheries products, he added.

The Vice President said that our future outlook must focus not on increasing our fishing efforts in the seas where there is already over capacity, but on judicious use of the declining fishery resources. It is necessary that much of the economic benefits from both capture fisheries and aquaculture are reaching the primary producers, i.e. the fishers and fish farmers, he added.

The Vice President said that we need to focus on areas which will improve the economic condition of farmers. A number of interventions are needed like reducing the role of middlemen, providing crop insurances, enhancing access to credit, developing cold chains and good upcountry market linkages, providing infrastructure for post-harvest storage, handling and value addition, he added.

The Vice President said that scientific gatherings such as the present should focus not only on sharing information on science and technologies. There should be a conscious effort to convey this knowledge to the common people, fish farmers and primary producers, he added.

Following is the text of Vice President's address:

"I am extremely pleased to be here amidst this distinguished gathering. I am glad that you are going to discuss and share knowledge on how fisheries and aquaculture can result in greater economic, commercial, nutritional, environmental and societal benefits to more people. Fisheries is a topic close to my heart. A great part of my public life has been entwined with activities related to the welfare of the coastal people in my home state, Andhra Pradesh. Also, Asian Fisheries Society Indian Branch (AFSIB) is an organization not new to me. Way back in 1988, this young organization had invited me in my role as the Member of Parliament from Andhra Pradesh to inaugurate the 1st National Workshop on 'Carp Seed Production Technology' at Eluru on 2nd September, 1988, a remarkable beginning for a two year old Organisation.

Some of these events have definitely played a significant role in transforming Andhra Pradesh as the largest producer of farmed fish in India. Today, I am happy to note that the Society is helping our country to realize the goals of not only providing nutritional and food security, but also creating opportunities for entrepreneurship, income generation, self-employment, trade and commerce and a host of fish related activities for betterment of people.

Across the Asian region, fisheries and aquaculture are important economic activities. As you know, Asia is the largest fish producer in the world. In India, only after the independence in 1947 fisheries were recognized as a growth opportunity. Mechanization commenced in the 1950s which has revolutionized the harvest and post-harvest fisheries sectors. Aquaculture became an important agriculture production activity in almost all states of the country. Other than farming finfish in the farms on main land, our fish farmers are engaged now in farming of several species of shrimps, crabs, mussels, oysters and seaweeds in seawater in farms and in cages in open seas. India contributes to about 6.3 % of global fish production which is also 1.1% of the national GDP and 5.15 % of the agricultural GDP of the country.

As per the Govt. of India estimates, the total fish production during 2015-16 was 10.79 million metric tons of which 7.21MMT comes from inland aquaculture and capture fisheries and 3.58 MMT from marine capture fisheries. The vibrancy of the sector can be visualized by over 14-fold increase in fish production in just six and half decades. The dependence of over 14.5 million people on fisheries activities for their livelihood is a testimony of the importance that the sector holds today.

It is heartening to note that today our country is the 3rd largest fish producer and 2nd largest aquaculture producer in the world. The country has not only been able to meet the demand of the fish for the domestic need, it has also been able to add substantially to the foreign exchange earnings through export of fish and fisheries products.

Riding on a robust demand for its frozen shrimp and frozen fish in international markets, India exported over 1.1MMT of seafood worth an all-time high of US\$ 5.78 billion (Rs 37,871 crores) in

2016-17, as against 0.95 MMT and US\$ 4.69 billion dollars a year earlier. Fish and fish products have contributing nearly 20% of the agricultural exports.

More than 50 different types of fish and shellfish products are exported from India to 75 countries around the world.

That being said, what is our outlook for future? Most Asian countries are focusing on increasing the fish production through advanced technological interventions, as there is a general understanding that production from marine capture fisheries do not promise much future in terms of quantity. Studies have shown that catches from wild capture fisheries have actually been declining since peak global catches in the mid-1990s.

Nevertheless, our future outlook must focus not on increasing our fishing efforts in the seas where there is already over capacity, but on judicious use of the declining fishery resources. We need to focus on reducing losses and value addition and supplementing the ever-increasing need for fish through modern aquaculture technologies and diversification of the products.

On the one hand, we must focus on ensuring the FAO Code of Conduct for Responsible Fisheries (CCRF). On the other hand, we must have a more regulated and well-managed fishing environment through global marine capture fisheries policy and governance. We must also address marine conservation concerns.

It is necessary that much of the economic benefits from both capture fisheries and aquaculture are reaching the primary producers, *i.e.* the fishers and fish farmers.

We are doing exceedingly well in aquaculture, especially freshwater aquaculture sector, and achieving an unparalleled annual growth rate of 6-7% since last three decades. I urge the scientists to lay greater emphasis on the issues of diversification, water requirement and disease problems.

The Government of India has set for itself a goal of doubling farmers' income. Currently, much of the economic benefits from capture fisheries and aquaculture are not going to the farmers. We need to focus on areas which will improve the economic condition of farmers. A number of interventions are needed. We must, for example, reduce the role of middlemen, provide crop insurances, enhance access to credit, develop cold chains and good upcountry market linkages, provide infrastructure for post-harvest storage, handling and value addition.

I am aware that all essential technological support is being provided by the eight Fisheries

Research Institutes under Indian Council of Agriculture Research (ICAR), several other mandated organizations like the National Fisheries Development Board (NFDB) and numerous NGOs such as the Asian Fisheries Society Indian Branch (AFSIB). However, much more needs to be done to spread awareness and provide services to the farmers.

Fisheries and Aquaculture are multidisciplinary subjects where scientists and technologists have to work as teams. Scientific gatherings such as the present should focus not only on sharing information on science and technologies. There should be a conscious effort to convey this knowledge to the common people, fish farmers and primary producers.

I am happy to note that there are Special Sessions on Gender Justice and Equity, Farmers'-Scientists' interactions and also an extensive exhibition of products and services available for entrepreneurs.

The future would be brighter and the fish farmers would be happier when all the technologies developed by you are made use of by them.

I hope your knowledge will enhance their economic returns and transform the lives of fishing population in Asia.

I am happy to declare the 11th Indian Fisheries and Aquaculture Forum open.

Thank you. **JAI HIND.**"

KSD/BK

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India becomes second largest fish producing country in the world: Shri Radha Mohan Singh
India becomes second largest fish producing country in the world: Shri Radha Mohan Singh

"Letter of Permit" or "L.O.P." system implemented for fishing in the Indian E.E.Z has been rescinded since January 2017: Shri Singh

Overall fish production registers an increase of approximately 18.86% in comparison to the last three years & inland fisheries sector registers a growth of 26%: Union Agriculture Minister

Combining the production of all types of fisheries (capture and culture), the total fish production in the country reaches at about 11.41 million tonnes in 2016-17: Shri Singh

Shri Radha Mohan Singh addresses at function of 'World Fisheries Day' celebration

Union Agriculture and Farmer Welfare Minister, Shri Radha Mohan Singh has said that the previously implemented "Letter of Permit" or "L.O.P." system in the E.E.E. has been stopped since January, 2017. Besides, specific decisions have been taken to safeguard the interests of traditional fishermen in the area of EEZ beyond 12 nautical miles, which is regulated by the Government of India, such as the traditional fishers have been exempted from the fishing ban implemented during monsoon period in the EEZ; use of LED lights/other artificial lights for fishing as well as practice of bull-trailing or pair-trailing have been completely banned, recently on 10th November, 2017. The duration of fishing ban has also been increased from 47 days to 61 days, with the consent of all coastal State Governments.

Shri Singh has said that the scheme 'Blue Revolution' has been launched with the outlay of Rs. 300 crore for the integrated development of the Fisheries sector in the country. As a result, overall fish production has registered an increase of about 18.86% in comparison to the last three years, whereas inland fish production has registered a growth of more than 26%. Combining the production of all types of fisheries (capture and culture), the total fish production in the country has reached at about 11.41 million tonnes in 2016-17. Shri Singh further said that about 1.5 crore people in the country are

employed in the fisheries sector for their livelihood. The Union Agriculture Minister said about in a function organized on "World Fisheries Day" in the National Agricultural Science Center (NASC) complex, Pusa Road, New Delhi.

It is worth mentioning that 21st November is celebrated as a World of Fisheries Day worldwide every year. In India, which is the second largest fish producing country, the World Fisheries Day is being celebrated from 21st November, 2014 and it is being celebrated for the fourth consecutive year. The theme of this year is **"2022 ka hai sapna..... kisaan ki aay ho duguna – Sankalp se siddhi"**. Shri Radha Mohan Singh also inaugurated the World Festivals Day celebrations. Smt. Krishna Raj, Minister of State for Agriculture and Farmers Welfare was also present on the occasion.

Shri Singh emphasized that the vast aquatic resources present in the country provide more opportunities and potential for further development in fisheries sector. He said that main aim of Blue Revolution Scheme is to increase the fish production and productivity to up to 8% annual growth rate and to produce 15 million tonnes of fish by 2020. This scheme will contribute significantly to achieving the targets of doubling the income of farmers and fishermen by 2022.

Shri Singh said that in line with Blue Revolution Scheme and with active participation of all the States / Union Territories, Government of India has taken effective steps and proposed a long-term plan "Blue Revolution Mission-2016" for the period from 2015-16 to 2019-20. Under this scheme, it is proposed to achieve full production capacity and increase the fish productivity from the aquatic resources and aquaculture in both inland and marine sectors.

Smt. Krishna Raj, Minister of State for Agriculture and Farmers Welfare, said that India has a fleet of 2.48 lakh fishing vessels, and the country has exported fish products amounting to US\$ 5.78 billion (Rs. 37,871 crore) during 2016-17, which is the highest export from the country so far. Globally, the value of export of annual fish products ranges from 85 to 90 billion dollars. Smt. Raj also informed that in the last decade, where the average annual growth rate of fish and fish products was recorded at 7.5%, India remained the first place with an average annual growth rate of 14.8%. She also informed that more than 25% of the world's protein diet is obtained by fish, and that the human population consumes more than 100 million metric tonnes of fish per year in the form of food.

SS/AK

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Sustainable Waste Management is the Need of the Hour: Puri

Sustainable Waste Management is the Need of the Hour: Puri

National Workshop on “Processing and Use of Construction & Demolition Waste on Deconstruction & in-Situ Processing for Ecology and Economics Inaugurated

“Sustainable waste management is the need of the hour, which involves managing waste in an environmentally sound, socially satisfactory and techno-economically viable manner. The waste management hierarchy demands firstly, avoiding generation of waste, followed by reducing, reusing, recycling, recovering, treating and disposing whatever wastes produced. The fundamental objective should be to maximize re-use and recycling so that minimum land space is occupied for disposal and at the same time, natural resources and energy are saved” said the Union Minister of state (I/C) Ministry of Housing and Urban Affairs at the National workshop on “processing and use of construction & demolition waste on deconstruction & in-situ processing for ecology and economics which he inaugurated here today. Shri Durga Shanker Mishra, Secretary, M/o Housing & Urban Affairs, Govt. of India, Dr. Shailesh Kr Agrawal, Executive Director, BMTPC and senior officials were also present at the workshop.

During his address, Sh Puri stated that there is pressing need to bring awareness about the problem of waste management and the necessity to adopt proper procedure of collection, processing, recycling and use of C&D wastes in manufacturing of building components among different stake holders of the country. “In order to meet requirements of urban transformation and flagship programmes of our Government as regards housing and infrastructure, it is known fact that we can not continue to make use of conventional building materials which continue to depend on finite natural resources mainly drawing upon the carrying capacity of the eco system and often causes irreparable environmental damages. It is being increasingly recognized that raw materials from natural resources are being used at a faster rate than they are being replenished or alternatives being found. The challenge posed by the emerging trends of higher consumption levels has to be met within the concept of sustainable development, of which gainful utilization of waste is one of the important components”, he added.

Highlighting the problem, Sh Puri stated that often it is seen that building owners, waste haulers and demolition contractors improperly and illegally dispose off these wastes in gravel pits or ground water recharge areas, on farm land and prime residential property, borrow pits and low lying areas. Such stacks of wastes may choke the surface drains causing flooding of roads and low lying areas while wastes from individual house construction or demolition, often find its way to nearby municipal waste storage bin, waste storage depots, making the municipal wastes very heavy and unsuitable for further treatment, he said. The wastes which are buried at site itself, form impervious layer, which adversely affect the growth of vegetation and prevents the infiltration of surface runoff into the ground water table. Therefore, it is essential to properly manage the C&D wastes. The Ministry of Environment, Forest and Climate Change, Govt. of India, under Environment Protection Act, 1986 has recently notified Management of Construction and Demolition Wastes Rules 2016 to provide an institutional framework for management of C&D Wastes. This gives timelines for the state government to formulate policy,

identification of sites for collection and processing facility, commissioning and implementation of the facility and monitoring by State Pollution Control Boards, the Minister informed.

The proper implementation of the Notification is the collective responsibility of all stakeholders gathered here. Guidelines on Environmental Management of Construction & Demolition Wastes was brought out by Central Pollution Control Board (CPCB) in March, 2017. CPCB guidelines address the issues pertaining to abatement of adverse environment impacts specifically arising from C&D waste management activities. BMTPC has also published Guidelines on Utilization of C&D Wastes as a useful resource for building materials and components. All these guidelines supplement each other and provide a technical and legal framework for effective utilization and management of C&D waste. In many developed countries, substantial part of its construction & demolition waste are re-used and recycled. In India, there are some significant initiatives such as C&D waste processing plants at Burari & Shastri Park in Delhi, use of C&D waste in East Kidwai Nagar Project in Delhi by NBCC and C&D Waste processing plant at Ahmedabad.

The minister also mentioned that major municipalities like Surat, Mumbai, Hyderabad and Rajkot have floated tenders and are at the verge of putting up C&D waste processing plants and many more processing plants are also understood to be in the process of getting installed in other parts of the Country.

RJ

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A wilful negligence

How many more farmers must die before the prime minister condescends to take notice? How many rats must the protesting Tamil Nadu farmers at Jantar Mantar eat before the government acts? How many more fake farm loan waiver schemes will be announced before the cabinet realises that farmers cannot be fooled anymore? Despite 300,000 farmers taking their lives over the past two decades, this government is unmoved.

The central government constituted a series of high-powered committees on farmers' suicides. They made explicit recommendations. The Ramesh Chand Committee Report of March 2015 said the Minimum Support Price (MSP) should be calculated by computing farm labour at the skilled wage rate, calculating land rent at the actual rent without any ceiling, calculating interest on working capital by including a factor relating to borrowing from non-institutional sources, calculating interest on working capital for the whole and not half the crop season, by including in the cost of cultivation post-harvest costs and by including the rate of inflation. If this is done, the MSP would rise by over 50 per cent.

It also recommended that the government correct all instances where the MSP is lower than the cost of production. It drew attention to the recommendations of the National Farmers Commission headed by M.S. Swaminathan that had made a similar recommendation decades ago. Not only has the MSP not been scientifically revised, but farmers have been forced to sell below the MSP across India.

The Pradhan Mantri Fasal Bima Yojana (PMFBY) was launched with fanfare to provide crop insurance to nine crore agricultural households. The Centre for Science and Environment reported that only 20 per cent of the eligible farmers were covered and most farmers had no idea about the scheme. Rs 13,240 crore of government money found its way into the bank accounts of private insurance companies that more often than not refused to pay, making a variety of excuses.

This insurance scheme does not cover tenant farmers even though they constitute 50 per cent of farmers' suicides in Andhra Pradesh and other states. They should be registered and given documents such as the Loan Eligibility Cards as in AP and the Bhoomiheen Kisan Credit Card or the Certificate of Cultivator so that get crop insurance, crop loss relief and other benefits. The insurance schemes does not cover women farmers even though the National Farmers' Commission recommended decades ago that their names be included in the column of cultivators and concessions on registrations and stamp duty be granted to women to incentivise land transfers to them. M.S. Swaminathan had even drafted a Women Farmers Entitlements Bill, 2011 which was revised by the Mahila Kisan Adhikar Manch. No one in government took notice.

Many expert committees have recommended urgent steps to reduce rural indebtedness to contain the intensification of the debt burden which has risen alarmingly. For this, the RBI guidelines that require 18 per cent of Adjusted Net Bank Credit (ANBC) to be set aside for agriculture, and 8 per cent of this exclusively for small and marginal holders, must be followed. Instead, the government allowed big industrial houses to corner capital meant for poor farmers by amending the RBI definition of "agriculture" and "allied activities" to allow for large agri-businesses.

The central government-appointed Task Force on Organic and Non-Chemical Farming recommended in 2016 that all states should substitute chemical fertilisers with bio inputs in at least 10 per cent of the net cultivated area (up from 1 per cent today) and provide high-quality organic seeds to farmers by 2025. Similar recommendations were made by the Parliamentary Committee on Estimates headed by Murli Manohar Joshi. However, GM food giants like Monsanto have a more powerful lobby of MPs than organic farmers.

Finally, trade policies have destroyed the lives of tens of thousands of farmers. At times of high production, import policies have been tweaked to allow for cheap imports, decimating the farm economy. All over the world, governments subsidise and take care of their farmers. Here we push them to suicide.

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Centre Promulgates Indian Forest (Amendment) Ordinance, 2017 to Encourage Bamboo Cultivation in Non-Forest Areas

Centre Promulgates Indian Forest (Amendment) Ordinance, 2017 to Encourage Bamboo Cultivation in Non-Forest Areas

Union Minister of Environment, Forest and Climate Change, Dr. Harsh Vardhan has said that under the visionary leadership of the Prime Minister, Shri Narendra Modi, the Union Government, in a landmark initiative, has promulgated the Indian Forest (Amendment) Ordinance, 2017 to exempt bamboo grown in non-forest areas from definition of tree, thereby dispensing with the requirement of felling/transit permit for its economic use.

Bamboo, though, taxonomically a grass, was legally defined as a tree under the Indian Forest Act, 1927. Before this amendment, the felling and transit of bamboo grown on forest as well non-forest land attracted the provisions of the Indian Forest Act, 1927 (IFA, 1927). This was a major impediment for bamboo cultivation by farmers on non-forest land.

Earlier, the Union Cabinet meeting chaired by the Prime Minister, Shri Narendra Modi, had yesterday approved the promulgation of the Ordinance on amendment of Section 2 (7) of the Indian Forest Act, 1927 in this regard.

Dr. Harsh Vardhan emphasised that a major objective of the amendment is to promote cultivation of bamboo in non-forest areas to achieve twin objectives of increasing the income of farmers and also increasing the green cover of the country. He also stated that bamboo grown in the forest areas shall continue to be governed by the provisions of Indian Forest Act, 1927.

The Minister underlined that the amendment and the resultant change in classification of bamboo grown in non-forest areas will usher in much needed and far-reaching reforms in the bamboo sector. He said that while on the one hand, the legal and regulatory hardships being faced by farmers and private individuals will be removed and on the other hand, it will create a viable option for cultivation in 12.6 million hectares of cultivable waste land. The measure will go a long way in enhancing the agricultural income of farmers and tribals, especially in North-East and Central India. The amendment will encourage farmers and other individuals to take up plantation/ block plantation of suitable bamboo species on degraded land, in addition to plantation on agricultural land and other private lands under agroforestry mission. The move is in line with the objective of doubling the income of farmers, besides conservation and sustainable development.

Dr. Harsh Vardhan said that some of the other benefits of amendment include enhancing supply of raw material to the traditional craftsmen of rural India, bamboo based/ paper & pulp industries, cottage industries, furniture making units, fabric making units, incense stick making units. Besides promoting major bamboo applications such as wood substitutes and composites like panels, flooring, furniture and bamboo blind, it will also help industries such as those dealing with food products (bamboo shoots), constructions and housing, bamboo charcoal etc. The amendment will greatly aid the success of recently constituted National Bamboo Mission.

Bamboo grows abundantly in areas outside forests with an estimated growing stock of 10.20 million tonnes. About 20 million people are involved in bamboo related activities. One tonne of bamboo provides 350 man days of employment. An enabling environment for the cultivation of bamboo will help in creation of job opportunities in the country. The amendment will unleash the potential of bamboo in terms of rural and national economy apart from ecological benefits such as soil-moisture conservation, landslide prevention and rehabilitation, conserving wildlife habitat, enhancing source of bio-mass, besides serving as a substitute for timber.

The current demand of bamboo in India is estimated at 28 million tonnes. Though India has 19% share of world's area under bamboo cultivation, its market share in the sector is only 6%. At present, India imports timber and allied products, such as pulp, paper, furniture etc. In 2015, India imported about 18.01 million cubic meters of timber and allied products worth Rs 43000 crores. The amendment will help in addressing some of these issues, besides meeting the demand from domestic production.

As per the assessment of United Nation's Industrial Development Organisation (UNIDO), the bamboo business in the North-East Region alone has a potential of about Rs. 5000 crores in the next ten years. "The amendment will therefore, help in harnessing this great potential and enhance the scope to increase the present level of market share and improve the economy of the entire country, particularly the North Eastern region", Dr Harsh Vardhan said.

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Centre to seek 20,000 MW of solar bids

Harnessing sunshine:SECI will invite two bids for 3,000 MW of solar projects in December and January each.AFP

The government is planning bids for a total of 20,000 MW of solar energy plants projects in this financial year, of which 3,600 MW have already been completed, the Ministry of New and Renewable Energy said on Friday.

The Ministry is planning bids for 30,000 MW of solar projects in 2018-19 and 2019-20, each. In wind energy, the Centre on Friday announced the third wind power auction of 2,000 MW, the largest of its kind in India so far.

Power and New and Renewable Energy Minister R.K. Singh also said that the government would soon invite expressions of interest for the setting up of end-to-end solar component manufacturing in India of 20 GW capacity. "We need manufacturing in India in solar," he said. "There is no reason for imports, and so we will encourage manufacturing in India. We are planning a 20 GW auction, but only for those who are willing to manufacture in India. We will invite expressions of interest in the next four or five days."

As per the Ministry's plan, Solar Energy Corporation of India (SECI) will invite two separate bids for 3,000 MW of solar projects in December 2017 and January 2018 each. NTPC is to invite a bid for 5,000 MW of solar projects in February 2018, and another 6,000 MW will be bid out in March 2018 by SECI and other Central PSUs.

'50% of 2022 target met'

In wind energy, the Ministry said it had already received bids for 32 GW of projects, which is more than 50% of the 60 GW target set for 2022. The government is expecting bids for a total of 8-9 GW this year, and 10 GW each in 2018-19 and 2019-20.

On problems faced by the sector, New and Renewable Energy Secretary Anand Kumar said. "One demand had to do with customs duty [being charged] for solar components." Earlier, they were exempt. "We have taken this up with the Finance Ministry... and the issue will be fixed in 10 days."

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Government announces Trajectory to achieve its targets of commissioning 100 GW of Solar generating capacity and 60 GW of Wind power by 2022

Government announces Trajectory to achieve its targets of commissioning 100 GW of Solar generating capacity and 60 GW of Wind power by 2022

Government to conduct Third Wind Power Auction of 2000 MW Capacity

Power Supply Agreements signed by SECI with utilities of UP, Bihar, Jharkhand, Assam, Punjab, Goa and Odisha

The Government today announced the trajectory for achieving its targets of commissioning 175 GW of Renewable Energy (RE), 100 GW of solar generating capacity and 60 GW of wind power, by 2022.

Addressing the gathering, Union Minister of State (IC) for Power and New & Renewable Energy, Shri Raj Kumar Singh said that there was a long pending demand from the Industry to declare the RE roadmap of the Government. Hence, today with the declaration of this trajectory, the Government has clearly spelt out its plan of speeding up of RE installation in the country and strengthening the RE manufacturing base in India.

Shri Singh informed that to encourage the Make in India in RE sector, Ministry of New & Renewable Energy (MNRE) is working out the scheme and going to issue an Expression of Interest (EoI) to the Industry, for establishing domestic Manufacturing facilities to the tune of 20GW, in the near future. Further, the MNRE is exploring innovative ways to achieve additional installed RE capacity through Floating Solar Power Plants over dams, Offshore Wind Energy Systems and Hybrid Solar-Wind power systems, which may provide over 10GW additional capacity. The MNRE team of experts has already surveyed the Bhakra Nangal dam for floating solar power plants and off-shore Gujarat and Tamil Nadu for wind power plants, the Minister added.

Expressing confidence of comfortably achieving a rather conservative RE target of 175GW by 2022 and even exceed it, along with providing 24x7 affordable, clean and efficient power for all, Shri Singh said that all these targets would be positively achieved with the cooperation of the States in ensuring that their power utilities/ DISCOMS remain financially viable. The Centre has provided all the required support, including funds under Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY) and Integrated Power Development Scheme (IPDS), to the States to ensure 24x7 Power for All by strengthening the intra-State transmission networks and by ensuring mandatory presence

of metered connections. The Ministry is in talks with the States to ensure 100% metered connections through Smart/Pre-paid meters, Shri Singh added.

Talking about issues in Power Purchase Agreements (PPAs), Shri Singh made it very clear that the sanctity of the PPAs have to be ensured and they would have to be mandatorily honoured. The Ministry is in constant talks with State Governments, including Andhra Pradesh and Karnataka, to ensure the same. Talking about the Renewable Purchase Obligations (RPOs), the Minister that these obligations are mandatory and need to be adhered to strictly.

Elaborating the RE Development road map , Shri Anand Kumar, Secretary MNRE, said that for achieving 100 GW solar power target by 2022, the Ministry, along with the States, would lay out bids for ground mounted solar parks for 20 GW in 2017-18, out of which 3.6 GW have already been bid out, 3 GW will be bid out in December 2017, 3 GW will be bid out in January 2018, 5 GW in February 2018 and 6 GW in March 2018. 30 GW will be bid out in 2018-19 and 30 GW in 2019-20.

Further, Shri Kumar informed that against the target of 60 GW for wind power, 32 GW have already been commissioned. The Central Government in participation with the State Governments intends to issue bids of cumulative capacity of about 8 GW this year. Out of this, 5 GW (including present 2 GW) have already been bid out, 1500-2000 MW will be bid out in January 2018 and 1500-2000 MW in March 2018. A total of 10 GW will be bid out in the financial year 2018 and 10 GW in 2019, leaving a margin of 2 years for commissioning of projects. Further adding to this, Shri Kumar informed that the Ministry would soon be issuing the Wind Bidding Guidelines.

Shri Kumar also said that with wind power tariffs becoming competitive and State DISCOMs encouraged to buy more of Renewable Energy power, the Government has doubled the auction capacity for the third national level wind auction from 4GW last year to around 9GW in the current year. Regarding clarity on GST rates on Solar panels, Shri Kumar said that the MNRE is in talks with the Ministry of Finance and in the next 7-10 days all the issues would be resolved.

The present scheme of Wind Power Auction is for setting up of 2000 MW Wind Power Project connected to Inter-State Transmission System (ISTS). The bidder can bid for a minimum capacity of 50 MW and maximum up to 400 MW. The projects under this scheme are expected to be commissioned towards the end of 2019.

On the occasion, Power Sale Agreements (PSA) for purchase of wind power under second wind auction with States were also signed with Solar Energy Corporation of India with utilities of Uttar Pradesh, Bihar, Jharkhand, Assam, Punjab, Goa and Odisha. The reverse auction for SECI-II wind bid was conducted on 4th October 2017, which resulted in very competitive tariff of Rs.2.64/2.65 per unit.

It may be mentioned that the winners of SECI II wind bid namely Renew Power (250 MW at Rs.2.64/unit), Orange (200 MW at Rs.2.64/unit), Inox (250 MW at Rs.2.65/unit), Green Infra (250 MW at Rs.2.65/unit) and Adani Green (50 MW at Rs.2.65/ unit) would be setting up wind power plants in states of Gujarat, TN and MP to sell power to these utilities. PPAs with these winners are expected to be signed shortly.

Other dignitaries present on the occasion were Shri Praveen Kumar, Additional Secretary MNRE, Shri K.S. Popli, CMD IREDA, Shri J.S. Swain, MD SECI and other senior officers of the Ministry and State Governments.

RM/VM/AS

A Kiran MK-IA basic trainer aircraft of the Indian Air Force crashed minutes after it took off from Air Force Station Hakimpet on 24 Nov 17 at around 1415 hrs. It was on a routine training mission for the trainee pilot.

It crashed around 35 miles North East of the base. The trainee pilot ejected safely and landed on the ground with minor injuries. A court of inquiry has been ordered to ascertain the cause of the accident.

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India's dairy sector offers numerous possibilities for entrepreneurs globally: Shri Radha Mohan Singh

India's dairy sector offers numerous possibilities for entrepreneurs globally: Shri Radha Mohan Singh

Milk production increased by 18.81% in 2016-17 when compared to 2013-14: Shri Singh

Per capita availability of milk increased from 307 gm/day in 2013-14 to 351 gm/day in 2016-17

National Milk Day Celebrations

Union Agriculture & Farmers' Welfare Minister, Shri Radha Mohan Singh today on the occasion of National Milk Day said that India is the 'Oyster' of the global dairy industry with opportunities galore for the entrepreneurs globally. Since last 15 years, India continues to be the largest producer of milk in the world. This phenomenal increase is contributed to the several measures initiated by the Government of India to increase the productivity of livestock.

Shri Singh said that increasing the milk production significantly from 137.7 million tonnes in 2013-14 to 164 million tonnes in 2016-17. Milk production increased by 18.81% in 2016-17 when compared to 2013-14. Similarly, the per capita availability of milk increased from 307 gram in 2013-14 to 351 gram in 2016-17. Annual growth rate of Milk Production during the period 2011-14 was 4%, which has increase to 6% during 2014-17. The annual growth rate of world milk production has increased by 2% during 2014-17.

On this occasion the Minister said that Livestock sector contributes significantly towards livelihoods and security net for the landless and marginal farmers. About 70 million rural households are engaged in dairying in India with 80% of total cow population. The strength of women in Dairy has reached to the 70% of the total work force (about 44 lakh) of which 3,60,000 women are in leadership roles in village dairy cooperatives and 380 women on the boards of Union and State Federations.

Union Agriculture & Farmers' Welfare Minister said that the consumption of milk is rising, commensurate with increase in the purchasing power of people, increasing urbanization, changing food habits & life styles and demographic growth. Milk with its varied benefits is the only source of animal protein for the largely vegetarian population of the country. Further, factors such as increased consumer interest in high protein diets and increasing

awareness & availability of value-added dairy products through organised retail chains are also driving its demand. During last 15 years, Milk Cooperatives have converted about 20% of milk procured into traditional and value added products that offers about 20% higher revenue. This share of value-added products is estimated to increase to 30% by 2021-22.

Shri Singh informed that the Government has initiated a number of dairy development schemes so that the enhanced demand due to variety of factors is met through domestic sources by laying special focus on raising milk production through improved productivity of our dairy animals. A new scheme “**Rashtriya Gokul Mission**” has been initiated for the first time in the country under which 18 Gokul Grams in 12 different States are being set up. Also two awards ‘Gopal Ratna Award’ for upkeep of the best dairy animals of indigenous breeds and ‘Kamdhenu Award’ for institutions maintaining best herd of indigenous breeds. This year on World Milk Day 10 Gopal Ratna and 12 Kamdhenu awards have been awarded. Two “**National Kamdhenu Breeding Centres**” one each in Andhra Pradesh and Madhya Pradesh are being setup for conservation of indigenous breeds. In these centres 41 cattle and 13 buffalo breeds would be conserved. In order to make dairy business more profitable “**National Bovine Productivity Mission**” has been initiated with creation of e Pashuhaat portal. This is playing an important role in linking milk producers and breeders for indigenous breeds.

Union Agriculture & Farmers’ Welfare Minister further said that a scheme titled **Dairy Processing & Infrastructure Development Fund (DIDF)** for dairy cooperative sector has been initiated with an outlay of Rs.10881 crore. This scheme would focus on creation of additional milk processing infrastructure and chilling infrastructure through setting up of Bulk Milk Coolers. Also provisions have been made for providing Electronic milk adulteration testing equipment and facilities for manufacturing value added products.

Shri Singh said that, with gradual shift towards a technology driven environment, there is a great need for adopting advance systems and strengthening the existing one to meet the future challenges. The National Action Plan **Vision-2022** is being prepared to fill the gaps in the infrastructure required to handle the increased coverage and milk production not only to meet the demand of milk and milk products but also to fulfil the objective of doubling the farmers’ income.

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Bear-attack trends highlight need for conflict mitigation

Sloth bears can attack when tribes are collecting forest produce.

It's not wild elephants or man-eating tigers, but sloth bears that cause the most number of human deaths in central India's Kanha–Pench wildlife corridor. An analysis of bear attacks in central India, published in *PLOS ONE*, shows that there is an urgent need for conflict mitigation and improvement of compensation schemes for victims.

The sloth bear *Melursus ursinus* is endemic to the Indian subcontinent. Studies show that the largest population of sloth bears is in Central India. The species is common in the 16,000 sq. km Kanha–Pench wildlife corridor which connects the Kanha and Pench tiger reserves in Madhya Pradesh. The corridor is also home to 442 villages; many families here depend on fuelwood and forest produce such as tendu leaves used to make bidis for sustenance and livelihood. This brings them in contact with bears frequently — 255 bear attacks occurred in the area between 2004 and 2016.

Scientists at the Corbett Foundation interviewed 166 survivors of bear attacks from 120 villages in the Kanha–Pench corridor. Their results reveal that more than 80% of the attacks occurred in the forest, where the victims had gone to collect fuelwood and forest produce or graze their livestock; more than half of the victims did not see the bears before they attacked. Collectors entered forests in large numbers and engaged in the gathering activities silently and separately, increasing the chances of sudden encounters with sloth bears, write the authors.

Gathering information about the victims' socio-economic status, the team found that almost three-quarters of the victims were from the Baiga and Gond tribal communities.

While the State government provides compensation to victims of wildlife attacks, more than 80% received amounts as low as Rs.5,000 regardless of wound severity or gender; more than half the victims bore their medical expenses themselves. Victims unfamiliar with the process of applying for compensation were also at a huge disadvantage.

Apart from generating awareness of compensation schemes, ground models to improve conflict mitigation are key because sloth bears use not only forests but also human-dominated landscapes outside protected areas, write the scientists.

“We have conducted workshops in 30 villages on how best to avoid sudden confrontations,” says lead author Aniruddha Dhamorikar. The Madhya Pradesh government has also increased animal attack compensation rates since February 2016.

Energy equivalent to about one solar mass was emitted as a result.

END

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