

A water umpire

The Cauvery water dispute is eluding closure, with Tamil Nadu, Karnataka, and Kerala locked in battle in the Supreme Court over their share of water.

In its statement of objects and reasons for proposing a new inter-State river water disputes law, the Centre lists out the drawbacks in the prevalent Inter-State River Water Disputes Act of 1956. The Act provides for tribunals to be constituted for every inter-State river water dispute. The statement, however, notes the reluctance shown by States to accept the decisions of these tribunals.

“Though the [Cauvery and Ravi Beas Water Disputes Tribunals](#) have been in existence for over 26 and 30 years, respectively, they have not been able to make any successful award till date,” the statement says. There is no time cap for adjudication by these tribunals nor is there any age limit for the chairperson or members of the tribunals. These, among other deficiencies, see disputes drag on for years.

The water tribunal trap

With water becoming scarce, the Centre has proposed the Inter-State River Water Disputes (Amendment) Bill, 2017 for early and amicable resolution of disputes. The Bill proposes that the Centre notify an Inter-State River Water Disputes Tribunal with multiple benches. All existing tribunals dealing with inter-State water disputes would stand dissolved on the date of establishment of this tribunal. Chairmen and other members of the existing tribunals who are aged 70, on the date of commencement of the 2017 Amendment Act, shall cease to hold office on the expiry of three months from the date of the law coming into existence. Disputes already settled by an existing tribunal, prior to the date of commencement of the 2017 Amendment Act, shall not be re-opened.

According to the Amendment Bill, when a State government approaches the Centre with a dispute, the latter shall set up a Disputes Resolution Committee consisting of expert members from relevant fields to resolve the dispute amicably. If the dispute remains unresolved, the Centre, by notification, will refer the matter to the tribunal. The tribunal shall have a chairperson, vice-chairperson, and not more than six members to be nominated by the Chief Justice of India from judges of the Supreme Court or high courts. The term of office of the chairperson is five years or till he attains the age of 70, whichever is earlier. The tenures of the vice-chairperson and other members of the tribunal shall be co-terminus with the adjudication of the water disputes.

The Centre suggests that the total time period for adjudication of a water dispute would be a maximum of four and a half years. The decision of the Bench of the tribunal shall be final and binding.

The new U.S. Fed Chairman is unlikely to opt for policies that might upset the President's plan

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Habitat connectivity crucial for tigers

Responsibility India's place in tiger conservation is crucial as it is home to 60% of the tiger population.

It is not just tiger numbers that are important. Habitat connectivity could be crucial in maintaining genetic diversity and, thereby, the survival of India's three tiger populations, suggests a recent study published in *Scientific Reports*. The isolated tiger population in Ranthambore in Rajasthan demands urgent conservation attention, being at risk of inbreeding and lack of connectivity with other populations.

India's place in tiger conservation is crucial: 60% of the world's wild tigers are found here. Apart from poaching and habitat loss, fragmentation is one of the threats India's tigers face. Tiger populations are now cut off from each other and their genetic profiles reflect this — smaller, isolated populations are less genetically diverse (due to lesser intermixing of different populations) than larger, connected ones. Genetic variation is crucial for evolution and low genetic diversity can threaten the survival of populations.

Scientists from five institutes including the National Centre for Biological Sciences (NCBS) at Bengaluru and Wildlife Institute of India at Dehradun studied genetic variation in India's tigers. While earlier studies had examined only around 12 regions of the tiger genome, this team analysed 10,184 single nucleotide polymorphisms (SNPs), which are several minute changes in the genome, in tissues of 38 wild tigers obtained during post-mortems from across 17 protected areas in India.

Three lineages

They find that genetically, India's tigers comprise three distinct populations: the northwest cluster (consisting only of tigers from Ranthambore), southern (south India) and central (comprising tigers from the Terai, northeast and central India). While the isolated Ranthambore population had the least genetic diversity, the central cluster — which is also the most connected — harboured the highest. "We find that large seemingly more connected populations have more diversity than smaller isolated ones," says lead author Meghana Natesh at NCBS.

The study identifies new patterns that need to be studied in depth: tigers from the northeast and Simlipal (Orissa) appear to derive their ancestry from many regions. At the same time, the Ranthambore population, being cut off from other tiger populations, could be at risk in future due to inbreeding, which could decrease genetic variation in the population already at risk. This cluster needs urgent conservation action, say the scientists. "The future of tigers may depend on connected populations," they add. Tiger corridors could therefore be crucial in maintaining genetic diversity within and between these clusters and, in turn, aiding the survival of India's national animal.

A study of nearly 300 people living in different parts of India found that nine single-base variants (single-nucleotide polymorphisms or SNPs) account

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Air pollution throws shade on India's solar success

A man walks on solar panels in Coimbatore .

Air pollution is diminishing India's capacity to harness power from the sun, experts say, undermining billions being invested in renewables as the energy-hungry giant emerges as a solar superpower.

New research has found the smog and dust that sickens millions across India every year is also sapping solar power generation by more than 25 percent, far beyond levels previously thought. In the first study of its kind, U.S. and Indian scientists measured how man-made particles floating in the air and deposited as grime on solar panels combined to seriously impair sunlight from converting to energy.

This interference causes steep drops in power generation, they found. At present levels in India, it could amount to roughly 3,900 MW of lost energy — six times the capacity of its largest solar farm, a gigantic field of 2.5 million panels. “A simple calculation shows that this is a big amount of energy we are going to lose,” Professor Chinmay Ghoroi, who co-authored the paper, told AFP at the IIT-Gandhinagar. These huge losses will only compound as India realises its grand solar ambitions, experts say.

Jaggi Vasudev's Rally for Rivers claims they will, but this is not based on the most nuanced science

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Déjà vu on the highways

The recent show of aggression by road developers revives memories of what happened six to eight years ago, when wanton bidding had brought the sector to its knees. This time around, it's happening just as the sector is clawing back after years of funk, thanks to the government's ambitious road construction targets and plans to increase allocation for the development of highways. That being the case, are we staring at another potential cul-de-sac?

If so, prudence suggests this would be a good time to ring-fence, metaphorically speaking of course, to pave potential potholes with an asphalt pile of proactive steps. So how aggressive have the recent bids been? To wit: A well-established highway developer recently emerged as the lowest bidder for a very challenging project by quoting way below the reserve price. And this isn't a lone instance—several projects have been bid below their reserve price of late.

In engineering, procurement and construction, or EPC, projects, where the government foots the entire project cost, some exuberance is reasonable, even expected. However, even hybrid annuity model (HAM) projects, where the government's exposure is 40% in the first three years, have seen a confounding rush to quote below the reserve price. Indeed, as much as 40% of the HAM projects have been bid below their reserve price in the past 12 months. It is but natural that such aggressive bidding should squeeze the margins of developers. As such, operating profits are under pressure in the sector due to higher provisioning mandated by new Indian accounting standards.

Which begs the question, what are the reasons cited by developers to justify the aggression? Better control over project execution, superior sourcing strategy for raw materials, and better project management. That isn't entirely convincing, especially because HAM bidders are, by and large, medium-sized developers.

The bigger risk, however, is that competitive bidding could spill over to other public-private partnership modes of development such as build-operate-transfer (BOT). That was indeed the case in 2009-11, when developers were caught in a bidding frenzy. Eventually, there came a stage when developers were stuck with unviable projects and virtually abandoned them. The fall guys were the banks that were left holding lemons.

The ripple effects lasted years, with developers remaining extremely overgeared, while banks—mostly in the public sector—virtually shut off the funding tap. Predictably, fewer projects were awarded. This compelled the National Highways Authority of India (NHAI) to bring in a fairly de-risked model. Following this, things have changed for the better in the past three years and there is a revival of interest in this sector. So much so, even some foreign pension funds are looking at bidding for reverse BOT projects, i.e. under the toll-operate-transfer model. Further, significant improvements have been made to boost participation, including easier norms for exit, upfront payment of arbitration claims, harmonious substitution in projects, and roll-out of HAM.

The government has an ambitious road development programme, aimed at doubling the national highways network from the current 100,000km in the next five to seven years. Given this, it is time the developers did their bit too. More importantly, the NHAI should take a cue from its own experience and put in place adequate safeguards to avoid a repeat of the disastrous cycle at the turn of this decade. Specifically, it could look at six mitigating steps:

1. Provide a risk-adjusted floor and cap price for each of the bids, which would prevent sustained aggressive bidding. Even guidance on a project-to-project basis will set the tone at the time of bidding.

2. Set up an internal review committee to ensure that if deviation from the base price is significant, the developer has the wherewithal to complete the project, and that the reasons cited are appropriate.
3. Blacklist rogue developers who have abandoned projects by quoting aggressively. While this is currently in place, developers do team up as consortia and bid for new projects
4. Strengthen the project preparation process and employ technically superior consultants at the stage of preparation of detailed project reports. This becomes a prerequisite for the authority to confidently approach developers when there is a significant deviation from the base price.
5. The ability to execute in a given time frame defines the calibre of a developer. A grading mechanism can be evolved to make this one of the qualification criteria at the time of the RFQ (request for quotation) stage.
6. Track the portfolio on a rolling quarter basis and have continuous stakeholder interaction with regard to the progress of projects, and to prevent errant developers from bidding.

What such a regimen would herald is long-term sustainability and financial viability for highway projects. Indeed, this is the apposite hour to structurally ring-fence the sector. Not doing so now would bring too much risk back to the table. Neither the lenders nor the highway developers—or, crucially, the government, given the prerogatives of the social compact—can afford to err this time around.

More so since development initiatives are being undertaken despite endemic issues of wherewithal and abiding balance-sheet weakness.

Jagannarayan Padmanabhan is practice leader and director, transport and logistics, CRISIL Infrastructure Advisory.

Comments are welcome at theirview@livemint.com

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IDFs yet to make a mark even two years on: Report

Even after two years, [infra debt funds](#) (IDFs) have not been able to make a significant impact due to lack of good projects and [banks'](#) troubles on asset quality and tepid credit growth, a report said today.

IDFs, which are investment vehicles for facilitating the flow of long-term debt to the infrastructure sector, are "yet to come of age and make a significant impact in the infrastructure financing space", Icra ratings said.

They are likely to remain "[marginal players](#)" over the medium term, it said.

In the wake of stress in the infrastructure sector, there are few operational projects with track record of satisfactory performance of one year, said [Icra group](#) head for financial sector ratings Rohit Inamdar.

He also blamed banks' "reluctance" to shed operational projects for the low traction in the IDFs, saying the existing asset quality pressure amidst moderation in overall banking system credit growth have impacted IDF business volumes.

The total credit including investments in bonds for IDF-NBFCs -- where the IDF is set up as a company -- was Rs 11,200 crore in March 2017, which is just 1.2 per cent of banks' infrastructure exposure.

L&T IDF, India Infradebt and [IDFC IDF](#) have been set up under the IDF NBFC route.

The assets under management for IDF-Mutual Funds -- where the IDF takes trust route -- were Rs 2,900 crore as of June 2017, with a much slower pace of growth, it said.

IIFCL, ILFS and Srei have been set up under IDF-MF route.

The domestic rating agency welcomed IDFC-NBFCs being allowed to invest in public private partnership (PPP) projects without a project authority and non-PPP projects, but flagged a few concerns.

"Rising share of PPP projects without project authority and non-PPP project exposures can alter the credit profile of these entities and thereby portfolio vulnerability over the medium term," it said.

On the capitalisation front, it said all three IDF-NBFCs have witnessed decline, but it is still adequate given the strong institutional ownership and the lower risk weight (of 50 per cent) applicable to operational projects with tripartite agreements.

"IDF-NBFCs would need to raise capital over medium term as they scale up and portfolio mix evolves, and also to maintain prudent economic capital levels," it said.

There have not been any reported instances of asset quality troubles faced by the IDFs till now, it said. AA KRK

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'Undersea line from Iran to port cheap gas'

A 1,300-km undersea pipeline from Iran, avoiding Pakistani waters, can bring natural gas from the Persian Gulf to India at rates less than the price of LNG available in the spot market, proponents of the pipeline said on Tuesday.

Releasing a study on the Iran-India gas pipeline, former oil secretary T.N.R. Rao said natural gas imported through the more than \$4-billion line would cost \$5-5.50 per million British thermal unit at the Indian coast, cheaper than the rate at which some of the domestic fields supply gas.

Liquefied natural gas, or LNG, imported through ships costs about \$7.50 per million British thermal unit.

'Via Oman to Porbandar'

Mr. Rao, who is the chairman of the advisory board of South Asia Gas Enterprise Pvt. Ltd. (SAGE) — the firm wanting to lay the undersea line — said the pipeline can first travel to Oman, and then onwards to Porbandar in the state of Gujarat.

According to the study, "The cost of landed gas through an undersea pipeline will be at least \$2 cheaper than importing LNG, saving about \$1 billion annually." South Asia Gas Enterprise wants the Indian Government to support the pipeline and help buyers enter into contract.

The pipeline is planned to carry 31.5 million standard cubic meters gas per day and will be built in two years from the date of necessary approvals and a gas sale and purchase agreement (GSPA) being signed.

The subsea pipeline is being seen as an alternative to the on-land, Iran-Pakistan-India pipeline. New Delhi has not been participating in talks on the 1,036-km Iran-Pakistan-India gas pipeline since 2007 citing security and commercial concerns. But, it has never officially pulled out of the \$7.6 billion project.

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The next superpower in global food supply

Russia is often seen as a country that produces little that the world wants except energy commodities. The oil export dependence looks like a major time bomb under the country's future, given the current focus in the West and in China on reducing the use of hydrocarbon fuels. By an ironic quirk, however, Russia appears to be benefiting from the climate change its energy resources are helping to fuel: Its prospects as the world's biggest wheat exporter and a grain superpower are bright, not least because of the rise in global temperatures.

In the last marketing year, which ran from July 2016 through June 2017, Russia exported 27.8 million metric tons of wheat, more than the entire European Union (EU), to claim first place in the world for the first time since the EU has been counted as a unit. In the current marketing year, the US department of agriculture predicts, Russia will export 31.5 million metric tons, increasing its global lead; it's already facing infrastructure constraints because of the fast growth. It's also a leading exporter of corn, barley and oats. Along with Ukraine and Kazakhstan, it's part of the force increasingly shaping global grain markets.

Alexander Tkachev, Russia's agriculture minister, has repeatedly said that he sees grain eventually displacing oil as the country's biggest export revenue source. That's not a view the Kremlin likes to entertain—it would rather hope for a technology boom—but Tkachev's prophecy may be more realistic for a number of reasons.

The first two of these are outside of Russia's purview: The growing global population and climate change. Global grain consumption grew, on average, 2.8% a year in 2011-2016, and the International Grains Council predicts 1.4% annual increases through 2021. At the same time, climate studies show that, compared to the late 1980s, the time of the Soviet Union's demise, which depressed Eurasian agriculture for more than a decade, the temperature in Eurasia's grain-producing areas will increase by up to 1.8 degree Celsius by the 2020s and by up to 3.9 degrees Celsius by the 2050s, with the greatest increase in winter. This means a longer growing season and better crop yields. More carbon dioxide in the atmosphere is also good for crops.

Climate change means Russian farms can expand northward, to lands that were never used to grow grain. But more importantly, it will help Russia, and to a lesser extent Ukraine and Kazakhstan, reclaim cropland that has fallen into disuse in 1991 through 2000—some 140 million acres. Those lands were abandoned in the early years of post-Soviet capitalism because they required too much investment and yielded little if any profit; that's changing, both for climate-related reasons and with technological advances.

These have been relentless in Russia and the neighbouring grain-growing countries in recent years. The Russian capitalist transition and the almost-free but excessively bureaucratized trade in land have created a few dozen large agricultural conglomerates, which have adopted Western technology to increase yields and which have been receiving increased government support since 2005, when the Kremlin declared agriculture a national priority.

These vertically integrated giants are both a blessing for Russian exports—they have driven the growth—and a curse. A collection of scholarly articles on the Eurasian Wheat Belt pointed out that smaller private farms manage land more efficiently and achieve better crop yields than corporations and recommended that Russia, Ukraine and Kazakhstan reform their land regulations to make it easier for individuals to farm.

Russia has a head start in this, since it liberalized land ownership in the early 2000s. Ukraine doesn't even have a legal land market today, which should explain its slower grain production

growth in recent years. But given that much of the country's industrial base is now in a war zone, it has to rely more on agriculture; besides, it's under pressure from the International Monetary Fund to allow the free sale of land. While warmer Ukraine benefits less than Russia from climate change, it still has that huge unused resource.

Together, climate change, population growth, the remaining technological lag between Western and post-Soviet agriculture, and the opportunity to fix regulatory inefficiencies create a huge growth potential for Russia, Ukraine and Kazakhstan. Though their political paths have diverged, these three may, to a degree, share an economic future in the post-oil world.

Of course, a focus on agricultural exports still means a commodity dependence and a vulnerability to global trends in a much less concentrated market than the oil one; Russian wheat sold for more than \$350 per ton in 2012, but the price is down to \$180 now. Besides, in agriculture, growth depends on government support, unlike in the case of hydrocarbons, where the government can passively draw a rent. The export infrastructure, given the Russian state's hold on transportation, is also a bottleneck that requires taxpayers' money to remove. But the support may eventually pay a dividend if Russia succeeds in developing higher-margin agricultural production—that of meat, milk and vegetables, which the country still imports. The Russian government has been trying to stimulate that development by putting an embargo on Western products, and it has spurred growth, but Russian producers lack the expertise and resources for a real breakthrough.

Bloomberg View

Leonid Bershidsky is a Bloomberg View columnist.

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Ministry of Steel to take lead role in transforming & turning around Steel PSUs and bringing accountability and result-oriented approach in their working

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There will be zero tolerance for laxity in performance says Steel Minister Shri Birender Singh

In his weekly review meeting with senior officials of Ministry of Steel in New Delhi on 5th September, the Union Minister of Steel Shri Birender Singh, tasked the Ministry officials to play active role in transforming and turning around Steel PSUs. Senior Ministry officials will be given responsibility of monitoring the performance of individual steel plants by on-ground visits and reviews, he added. These officials will check the progress of each plant in terms of achievements of the targets set out for them. It is noteworthy that Ministry of Steel had earlier constituted an Expert Committee, which has made recommendations for improving production and productivity of these plants. While outlining the agenda for the future, the Minister remarked that no laxity will be tolerated at any level, and there has to be accountability and a result-oriented approach built into the work culture of Ministry of Steel and the PSUs. He also directed the Ministry officials to work on instituting an award of "Plant of Excellence" for the best performing Plant among Steel PSUs, so that other Plants can get inspired to excel. The steel production target of 300 million tonnes set in the National Steel Policy-2017 will have to be broken down year-wise and exponential annual increase will have to be ensured for realistic achievement, the Minister added.

He appreciated the accomplishments in the past and stated that steel sector has much more potential which needs to be harnessed for the vision of "Make in Steel for Make in India."

The Secretary Steel, Dr. Aruna Sharma, Joint Secretaries and other officials from Ministry of Steel attended the meeting.

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Centre asks States to focus on impactful and PPP based smart city projects

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Rs.32,000 cr worth PPP projects identified so far; 261 impactful projects worth another Rs.31,000 cr

Central government has asked the States to focus on early implementation of smart city projects that have a visible and transformative impact in the lives of citizens in identified smart cities. Further to review of Smart City Mission by Prime Minister Shri Narendra Modi during PRAGATI on the 30th of last month, Shri Durga Shanker Mishra, Secretary (Housing & Urban Affairs) wrote to the Chief Secretaries of all the States and Union Territories in this regard the next day.

Shri Mishra urged the States and UTs to ensure commencement of work by November this year on 261 impactful smart city projects in 60 cities that were announced during January-September, 2016. These identified projects accounts for an investment of Rs.31,112 cr . States and UTs have also been asked to speed up work on 370 PPP projects that involve an investment of 32,410 cr.

The impactful projects identified range from building 40 outdoor fitness centres in New Delhi Municipal Council area at a cost of Rs.1.31 cr to redevelopment of 340 acre area in Bhopal at a cost of Rs.3,000 cr.

An indicative list of impactful projects being taken up in the first batch of 20 smart cities and some others are:

S.No	City	Impactful projects	Investment (Rs. cr)
1	Bhubaneswar	Railway Station Multi-modal hub	845
2	Pune	River Front Development and Heritage City Museum	235
3	Jaipur	Talkatora Lake Development with high quality laser show	130
4	Surat	Logistic Park and smart redevelopment of existing creek	210
5	Kochi (Kerala)	Broadway Market and Ernakulam Market Redevelopment	110
6	Ahmedabad	Intermodal Transport Hub and Slum Rehabilitation	961
7	Jabalpur	River Front Development and Green development of Institutional Zone	310
8	Visakhapatnam(AP)	Beach Redevelopment and Shore Protection	365
9	Solapur (Maharashtra)	Rejuvenation of Siddheshwar Lake and Heritage structures	49
10	Davanagere (Karnataka)	Rejuvenation of Mandakki Bhatti	373
11	Indore	Infrastructure development and Parking	679
12	NDMC	Commercial Development of Yahswant Place	89
13	Coimbatore (Tamil Nadu)	Lake development and Non-Motorised Transport infrastructure	526

14	Kakinada (AP)	Space development along canal between Indrapalem Lock and Jagannaickpur Old Bridge and development of eateries	100
15	Belgavi (Karnataka)	Kanbargi Lake Rejuvenation and recreational spaces	10
16	Udaipur	Area development with water, sewerage and road infrastructure and underground cabling	450
17	Guwahati (Assam)	Brahmaputra River Front Development	532
18	Chennai	Pedestrian Plaza	83
19	Ludhiana	Retrofitting of Sarabha Nagar Market	10
20	Bhopal	Redevelopment of 340 acres of area	3000
	Lucknow	Heritage projects, Cultural Hub and Library	160
	Dharmashala (HP)	Redevelopment of Kacchari Adda and Kotwali Bazar	95
	Chandigarh	Affordable housing in Sector 43	321
	Faridabad (Haryana)	Badkal Lake Rejuvenation	45
	Agra	Taj Orientation Centre	232
	Varanasi	Convention Centre	211
	Rourkela	Brahmani Riverfront Development	129
	Raipur	Market development	1026
	Kalyan-Dombivilli (Maharashtra)	Kalyan Station Improvement	427

Some of the major PPP smart city projects are: Bhubaneswar (Affordable housing-Rs.840 cr), Raipur (Urban Plaza at Ganj Mandi-Rs.983 cr), Bilaspur (Markets development –Rs.1,241 cr), Amritsar (Urban space development –Rs.1,028 cr), Coimbatore (Water supply -557 cr), Warangal, Telangana (Bus stand-Rs.611 cr), Shimla (Tourism and recreation infrastructure- Rs.898 cr), Aligarh (Smart multi-level parking-Rs.289 cr), Bengaluru (Tourism and recreation infrastructure- Rs.234 cr) and Pune (Electrical buses- Rs.170 cr).

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Mountains of garbage: India's neglected waste management crisis

The [collapse of a great wall of garbage](#) in east Delhi's Ghazipur area, sweeping people and vehicles into a nearby canal, is a stark reminder that India's neglected waste management crisis can have deadly consequences. More than a year after the notification of the much-delayed Solid Waste Management Rules, cities and towns are in no position to comply with its stipulations, beginning with the segregation of different kinds of waste at source and their scientific processing. Neither are urban local governments treating the 62 million tonnes of waste generated annually in the country as a potential resource. They have left the task of value extraction mostly to the informal system of garbage collectors and recyclers. Improving on the national record of collecting only 80% of waste generated and being able to process just 28% of that quantum, requires behaviour modification among citizens and institutions. But what is more important is that the municipal bodies put in place an integrated system to transport and process what has been segregated at source. The Swachh Bharat programme of the Centre has focused too narrowly on individual action to keep streets clean, without concurrent pressure on State and municipal authorities to move closer to scientific management by the deadline of April 2018 set for most places, and arrest the spread of pollution from trash.

In the absence of stakeholders at the local body level, recoverable resources embedded in discarded materials are lost due to dumping. Organic refuse, which forms about 50% of all garbage, readily lends itself to the generation of compost or production of methane for household use or power generation. But it is a major opportunity lost. Organic waste that could help green cities and feed small and affordable household biogas plants is simply being thrown away. It is also ironic that while some countries such as Rwanda and Kenya have introduced stiff penalties for the use of flimsy plastic bags, India is doing little to prevent them from drifting into suburban garbage mountains, rivers, lakes and the sea, and being ingested by cattle feeding on dumped refuse. A new paradigm is needed, in which bulk waste generators take the lead and city managers show demonstrable change in the way it is processed. There has to be a shift away from large budgets for collection and transport by private contractors, to the processing of segregated garbage. As the nodal body for the implementation of the new rules, the Central Pollution Control Board should put out periodic assessments of the preparedness of urban local bodies in the run-up to the deadline. Without a rigorous approach, the national problem of merely shifting city trash to the suburbs, out of sight of those who generate it, will fester and choke the landscape. Considering that waste volumes are officially estimated to grow to 165 million tonnes a year by 2030, many more suburbs are bound to be threatened by collapsing or burning trash mountains.

Rajasthan's ordinance shields the corrupt, threatens the media and whistle-blowers

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Fatalities on Indian roads hit an all-time high last year

Fury road: Indian roads witness a death every 3.5 minutes, according to official data.

Indian roads became deadlier than ever in 2016, with a total of 1.51 lakh people dying in 4.81 lakh accidents, as per official data released on Wednesday. This denotes a 3% increase in fatalities over the previous year, even as the number of accidents declined by 4.1%, indicating a rise in the severity of accidents.

In 2016, 55 accidents and 17 deaths took place every hour, which works out to a death every 3.5 minutes on Indian roads, according to the report, 'Road Accidents in India 2016', released by Road Transport and Highways Minister Nitin Gadkari.

The report noted with concern that the share of fatal accidents and seriously injured accidents in total accidents rose to 28.3% and 25.1% of total road accidents during 2016, as against 26.3% and 23.9% respectively in 2015.

The accident severity, a crucial indicator defined in terms of the number of persons killed by 100 accidents, stood at an all-time high of 31.4 in 2016, compared with 29.1 in 2015, and 28.5 in 2014. The number of persons injured in road accidents declined by 1.1% and totalled 4.95 lakh in 2016.

The report also noted that 1.8% of the people killed were using their mobile phones while driving, and held this behaviour responsible for causing the accident. Two-wheeler riders were the most vulnerable road users, with their percentage share in fatalities at 34.8%, followed by car, taxi and van users at 17.9%. Out of the 52,500 two-wheeler riders killed in 2016, 19.3% were not wearing helmets.

The fault of the driver in road accidents soared to 84% in 2016, compared to 77.1% in 2015, with the main fault being over-speeding.

Among cities, Chennai had the highest number of road accidents (7,486) while Delhi had the highest fatalities (1,591) in 2016. The accident severity in 50 cities with over a million population rose sharply to 19.8 in 2016, as compared with 14.9% in 2015.

Among States, Tamil Nadu topped the total number of road accidents with a percentage share of 14.9%, followed by Madhya Pradesh (11.2 per cent), and Karnataka (9.2 per cent).

Minor drivers

The official figures revealed for the first time that drivers who were minors (younger than 18 years of age) were involved in 4% of the total accidents and 3.5% of the fatal accidents.

Drivers aged 25-35 years were involved in the most number of accidents during 2016. Around 83% of the people killed in accidents belonged to the working age group of 18-60 years.

"This is the biggest concern for us, as it signifies the loss of an earning member in a family," Road Transport and Highways Secretary Yudhvir Singh Malik said.

Concerned by the high rate of fatal accidents, Mr. Gadkari said that a district-level road safety committee will be formed to monitor the road safety record in the area. This committee would be headed by the Member of Parliament of the constituency, he added.

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Preserving our vanishing tribes, their heritage, language and wisdom

The breathtaking Nilgiris are home to a number of indigenous tribes, one of which is Toda.

Unfortunately, the once thriving tribe has fewer than 1,000 members today. Based on the yardstick set by our modern education system, these tribesmen and women are considered illiterate and backward. However, one has to visit their homes, interact with them and see their craft to truly understand the depth of their knowledge, art, traditions and sensibilities.

The Toda tribe is largely dependent on buffalo herding and embroidery for its livelihood. Its members are incredibly skilled artisans known for the red-and-black embroidery on white fabrics that has even earned them a GI (geographical indication) tag. They live sustainable lives, in harmony with nature where all their resources are available. The Toda tribals have their own language, which does not have a script.

Over the last century, their numbers have been dwindling. The sharp decline in their population is largely related to the decline in agriculture land, much of which has been lost to afforestation. With their dwindling numbers, their art, craft and traditions are facing a slow death. If not preserved, the day is not far when their unique embroidery, for instance, is lost forever.

The Todas are an extremely closed community, barely connected to the rest of the world and, thus, deprived of the opportunities connectivity offers. They are not alone in leading marginalized and excluded lives. Overall, Scheduled Tribes account for 8.6% of India's population, according to the 2011 Census.

If we focus on language alone, almost every indigenous tribe speaks its own language or dialect. In fact, according to the People's Linguistic Survey of India, as many as 780 different languages are spoken and 86 different scripts are used in the country. However, only 22 of them are recognized by the government as scheduled languages.

What is even more disappointing is that India has lost nearly 250 languages in the last half century, and 196 more have been declared endangered by UNESCO. As many as 120 of these 196 languages are spoken in the North-East. With most of these languages spoken by tribes and lacking a script, it has been particularly difficult to preserve them.

However, digital media allows for their documentation in audio-visual formats now. Simply recording audio or video of folk songs/folk tales in different languages can help preserve not just the language/dialect but also the folk culture.

In the same manner, the traditional knowledge about sustainable living, medicines, farming and architecture that tribals store in their memories can also be documented for preservation and dissemination.

This is what motivated us to work with the Sahariya tribe in Baran, Rajasthan, in 2007. Here, the Digital Empowerment Foundation (DEF) established a 200 km community network and connected it to a local server. This way, even if the Internet is down, the community can share content and access content through the local server, thus creating an intranet or community network. This has also encouraged the community over the years to create a localized database and archive its oral and traditional knowledge, art as well as culture.

Just like the Sahariyas, the Toda tribe too is a rich repository of culture, craft and heritage. So when the All India Artisans and Craftworkers Welfare Association reached out to us, seeking help

to digitally archive the Toda tribe's knowledge, we were more than happy to help. Together, we are now developing a platform that captures the history, heritage, culture, ecology, traditions, art, craft and stories of the Todas.

The idea behind setting up a digital archive in the form of a website is to not just create a repository of this information for the purpose of preservation but also allow the rest of the world to see—without compromising the uniqueness of their craft or designs—the richness of the Todas.

The Internet has a lot to offer to tribes living secluded lives in the forests. Connectivity can ensure better access to government schemes, entitlements and rights; digital market linkages can enable tribal communities to exhibit their craft and agricultural produce to the world for an improved livelihood; access to the Internet can keep them updated on government notifications and other relevant information; digital documentation can preserve and showcase their richness for posterity.

All of this, along with more, also has a direct connection with social as well as behavioural changes within a community. We envision digitally empowering as many tribes as we can.

We wish to bring the tribes of India under the umbrella of digital inclusion to expose them to the services and opportunities the internet has to offer. However, the intention is not merely to teach community members to operate a computer but to provide them contextual, relevant and timely digital literacy, so that they can access the internet to consume the information it offers and share the knowledge that they hold with the rest of the world.

Osama Manzar is founder-director of Digital Empowerment Foundation and chair of Manthan and mBillionth awards. He is member, advisory board, at Alliance for Affordable Internet and has co-authored NetCh@kra—15 Years of Internet in India and Internet Economy of India.

He tweets @osamamanzar.

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China's shift to city-led growth

China has achieved some four decades of rapid economic growth. But one powerful source of growth has yet to be fully tapped: urbanization. Now, the potential of megacities as an engine of dynamism and increased prosperity is finally getting the high-level attention it deserves.

Over the last decade, China has been working to shift from a manufacturing-led growth model fuelled by low-cost labour to an innovation-led, higher-value-added model underpinned by strong productivity gains. Urbanization will be critical to facilitate this shift, not least by enabling economies of scale. Currently, though China is the world's most populous country and its second-largest economy, only half the population lives in urbanized areas, and less than 10% reside permanently in megacities. And the country's urbanization rate remains well below the global average.

Growth in China's megacities—metropolitan areas with a population exceeding 10 million—has long been heavily constrained by rigid state administrative divisions and planning agencies. Indeed, in pursuing rapid industrialization, megacities have often been less successful than smaller cities—which have largely evaded such constraints—in accumulating productive capital, attracting foreign direct investment (FDI), and demonstrating entrepreneurial spirit.

In the 1990s, the small city of Kunshan became China's leading centre for manufacturing electronic products. By integrating themselves into global supply chains, small cities in Guangdong province—including Dongguan, Huizhou, Shunde and Zhongshan—have played a critical role in establishing China as the "Factory Of The World."

But while the success of smaller cities is to be celebrated, it is China's megacities where the greatest potential to fuel future progress in productivity—and thus GDP (gross domestic product) growth—is to be found. So far, China has just four "first-tier" cities (with populations exceeding 20 million): Beijing, Shanghai, Guangzhou and Shenzhen.

Given the size of China's population and economy, that is not a lot. And, in fact, there is no reason to believe that these megacities have reached their capacity, in terms of population or contribution to economic growth. Moreover, China has many dynamic second-tier cities—such as Chengdu, Tianjin, Hangzhou, Wuhan and Suzhou—that are capable of reaching first-tier status, if given the chance.

In order to maximize the potential of China's cities, the government will need to be much more adaptive and flexible, especially regarding its notoriously strict control of urban land-development ratios. In particular, China must abandon its land-quota system, which not only limits the amount of land cities can develop for future productivity growth, but also allocates a disproportionate share of land to factories. Otherwise, urbanization will continue pushing up already-high housing costs, but not efficiently enough to power sustained growth and development. The good news is that local governments are already working with the central government to alleviate or even eliminate existing administrative constraints.

Another strategy for advancing China's transition towards a city-led growth model is to expand the role played by urban clusters that leverage the strength of first-tier cities to boost growth in less-developed areas. From an economic standpoint, the Yangtze and Pearl River Deltas—which encompass megacities like Guangzhou, Shanghai and Shenzhen—are undoubtedly the most important such urban agglomerations, set to generate higher future productivity gains from economies of scale and complementarity.

Here, too, China's leadership has already caught on. This past March, Chinese Premier Li Keqiang announced a plan for the development of a city cluster in the Guangdong-Hong Kong-Macau Greater Bay Area which covers nine cities, including Guangzhou and Shenzhen, as well as the special administration regions of Hong Kong and Macau.

From 2010 to 2016, the annual GDP of the Greater Bay Area soared from ¥5.42 trillion (\$82 billion) to ¥9.35 trillion (\$1.42 trillion), making it the world's third-largest urban economy, after Tokyo and New York. Yet the population of the Guangdong-Hong Kong-Macau Greater Bay Area is growing fast, and its GDP per capita is less than half that of Tokyo, suggesting that its potential is nowhere near depleted.

Moreover, China's leaders seem to be eyeing a second greater bay area, centred on Hangzhou Bay, which, because it overlaps with the Yangtze River Delta, could go a long way towards integrating that already-prosperous region. Such a cluster could cover the coastal megacity of Shanghai, as well as about 10 more important cities across the Zhejiang and Jiangsu provinces. It would include world-class ports, such as the Port of Ningbo-Zhoushan (the world's busiest in terms of cargo tonnage). The result would be a bay area on the scale of San Francisco and Tokyo.

The pace of China's economic growth over the last four decades has been unprecedented. But China has yet to complete its rise to rich-country status. As it upgrades its economy to become more knowledge-based and technology-driven, it is again leveraging its strengths. There is no better example of this than the ongoing effort to tap the potential of megacities.

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Zhang Jun is professor of economics and director of the China Center for Economic Studies at Fudan University.

Comments are welcome at theirview@livemint.com

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Caution warranted for river-linking project

Is the proposed interlinking of rivers a bold and ambitious engineering project that will resolve the country's water woes or is it an ill-conceived plan built on obsolete ideas that will devastate the country's riverine ecosystems? Even as the government claims to have made significant progress with the initial clearances and negotiations so as to kick-start the project, which has been in the pipeline for several decades, expert opinion on the matter remains as sharply divided as ever.

To be fair, this is to be expected, given the sheer scale and scope of the project: 30 river linkages and more than 3,000 storage structures spread across a 15,000km canal network that will transfer 174 trillion litres of water every year, and will cost a total of Rs5.6 trillion. This puts the river-linking project on a par with some of the most daring feats of engineering attempted in the history of mankind. It is a reimagining of the entire aquatic ecosystem of a country as large and diverse as India. That said, the basic idea driving the project is actually fairly simple: Connect the Himalayan and peninsular rivers via a network of canals so that excess water from one channel can be diverted to another which has inadequate flow.

Proponents of the project, which include successive governments at the Centre, argue that river linking offers three key benefits: It will irrigate about 87 million acres of farmland, control floods, and generate 34 GW of hydroelectric power. These are tantalizing prospects: India's rain-fed farms are forever hostage to the vagaries of nature, so much so that even one bad monsoon has a direct and debilitating economic impact. At the same time, simultaneous floods and droughts in different parts of the country continue to wreak havoc, destroying the lives and livelihoods of millions. India also desperately needs clean energy to fuel its development processes, and if river water can be leveraged and redirected to serve these purposes, that's an option worth exploring.

However, river-linking critics insist that the project is built on bad science and an outdated understanding of water systems and water management. Specifically, the concept of surplus and deficit river basins—which is at the core of the river-linking project—is contested. A new study by researchers at the Indian Institutes of Technology in Mumbai and Chennai, analysing weather data over 103 years (from 1901 to 2004), has found that rainfall has decreased over the years by more than 10% even in river basins that once had a surplus, such as those of the Mahanadi and the Godavari.

Also, the project seems to view the river as a unidimensional water pipeline when it is, in fact, an entire ecosystem—and any changes to its natural course will have an impact on all the flora and fauna, the wetlands and the floodplains that are intricately linked to the river system. In fact, the long-term environmental impact of such a project is a major concern. For example, one of the reasons why the Ken-Betwa link, which is now receiving priority attention, has been stuck for several years is because it requires environmental clearance for diverting 5,500 hectares from the Panna National Park, a tiger reserve. Critics also point to the less than positive experience that other countries have had with such projects—be it the Soviet regime's decision to divert the Amu Darya and the Syr Darya, which fed the Aral Sea, to irrigate the desert, or the Australian government's experiments in its Murray Darling basin.

There are political challenges as well. Water transfer and water sharing are sensitive subjects that have already spawned century-long disputes, and few political parties today can expect to win the next election if they are seen as having signed away a scarce natural resource. Moreover, water is a state subject in India, and even though the Centre is empowered to bring an inter-state river under its control to serve the national interest, it has effectively never done so owing to enormous resistance from the states.

The resultant turf wars are already under way—with the Ken-Betwa link, for example, the governments of Uttar Pradesh and Madhya Pradesh have been unable to agree on how much water should be transferred from the Ken river. Union water resources minister Nitin Gadkari intervened a few days ago and has called for a meeting of the chief ministers concerned, but this will not be an easy political bargain—no matter that the same party leads both the state governments and at the Centre.

Given all these concerns, not to mention the massive price tag, perhaps the government would do well to consider other interventions, both on the supply side and the demand side, such as conservation of water resources and more efficient irrigation and agricultural practices, etc., to deal with India's looming water crisis.

What effect do you think the interlinking of rivers will have on the country's economy and ecology? Tell us at views@livemint.com

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Imposition of Countervailing Duty on Imports of Stainless Steel Flat Products Will Strengthen the Ongoing Efforts of Indian Industry for Moving Towards 100 % Quality Regime for Better Safety and Health of Users, Says Shri Birender Singh, Union Steel Minister

Imposition of Countervailing Duty on Imports of Stainless Steel Flat Products Will Strengthen the Ongoing Efforts of Indian Industry for Moving Towards 100 % Quality Regime for Better Safety and Health of Users, Says Shri Birender Singh, Union Steel Minister

Welcoming the imposition of Countervailing Duty on imports of Stainless Steel flat products by the Ministry of Finance, Union Steel Minister Shri Birender Singh said in New Delhi today that, "CVD on Stainless Steel will strengthen the ongoing efforts of Indian industry for moving towards 100 % quality regime for better safety and health of users. This will provide a level playing field to the industry to grow to its full potential after attaining 2nd largest rank in stainless steel production in world in 2016."

The notification issued by the Ministry of Finance, dated 7th September 2017, prescribes a total of 18.95% CVD on imports of Stainless steel flat products from China for the next five years. Reacting to the development Dr. Aruna Sharma, Secretary Steel said, "This is the first case of imposition of CVD on any steel product in India. This would provide the much needed relief to the stainless steel industry from the subsidized imports from China." Dr Sharma said that this was one among the many steps taken by the Government to help the domestic Stainless Steel Industry. Among the other steps were the imposition of the Stainless Steel Quality Control Order (QCO) and other trade remedial measures.

The CVD investigations were initiated on 12th April 2016 by the Directorate General of Anti-Dumping and Allied Duties (DGAD) in response to a surge in subsidized imports of stainless steel flat products. These imports were distorting the domestic market, which was under huge stress and was leading to financial stress in the industry. Extensive investigations were carried out by DGAD and the final findings were issued by the DGAD vide notification dated 4th July 2017.

The final findings list a possible 81 known subsidies being provided by China. They were categorized into five different heads including Grants (0.55%), Export Financing (0%), Tax & VAT incentives (2.3%), Provision of Goods & services (15.78%) and Preferential loans and lending totaling 18.95%.

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Government unveils rules to tackle on-board disruptive and unruly behaviour by passengers, paves way for No Fly List

Government unveils rules to tackle on-board disruptive and unruly behaviour by passengers, paves way for No Fly List

The Ministry of Civil Aviation today unveiled rules to tackle on-board disruptive and unruly behaviour by passengers. Briefing the media in New Delhi today, the Minister for Civil Aviation Shri P Ashok Gajapathi Raju said that the new rules will allow for the formation of a national, No Fly List of such unruly passengers. He said the promulgation of the No - Fly List in India is unique and first-of-its-kind in the world. Emphasizing the Government's commitment for ensuring safety, Shri Raju said that the concept of the No-Fly List is based on the concern for safety of passengers, crew and the aircraft, and not just on security threat.

The DGCA has revised the relevant sections of the Civil Aviation Requirement (CAR Section 3, Series M, Part VI on "Handling of Unruly Passengers) to bring in a deterrent for passengers who engage in unruly behaviour on board aircrafts. The revision has been done in accordance with the provisions of Tokyo Convention 1963.

The revised CAR deals with unruly behavior of passenger on-board aircrafts. Unruly behavior of passengers at airport premises will be dealt with by relevant security agencies under applicable penal provisions. The revised CAR will be applicable for all Indian operators engaged in scheduled and non-scheduled air transport services, both domestic and international carriage of passengers. The CAR would also be applicable to foreign carriers subject to compliance of Tokyo Convention 1963.

Also speaking on the occasion the Minister of State for Civil Aviation Shri Jayant Sinha said that the new rules have been promulgated after a lot of deliberation and consultation with all stakeholders. The focus has been on ensuring on board safety while maintaining an element of balance and safeguarding the interest of passengers, cabin crew and the airlines.

The revised CAR defines three categories of unruly behavior - Level 1 refers to behaviour that is verbally unruly, and calls for debarment upto 3 months; Level 2 indicates physical unruliness and can lead to the passenger being debarred from flying for upto 6 months and Level 3 indicates life-threatening behaviour where the debarment would be for a minimum of 2 years.

The complaint of unruly behavior would need to be filed by the pilot-in-command. These complaints will be probed by an internal committee to be set up by the airline. The internal committee will have retired District & Sessions Judge as Chairman and representatives from a different scheduled airline, passengers' association/consumer association/retired officer of Consumer Dispute Redressal Forum as Members. As per the CAR provisions, the internal committee will have to decide the matter within 30 days, and also specify the duration of ban on the unruly passenger. During the period of pendency of the enquiry the concerned airline may impose a ban on the said passenger. For every subsequent offence, the ban will be twice the period of previous ban.

The airlines will be required to share the No-Fly list, and the same will be available on DGCA website. The other airlines will not be bound by the No-Fly list of an airline. The No Fly Lists will have two components - unruly passengers banned for a certain period based on examination of the case by the internal committee; and those persons perceived to be national security risk by the Ministry of Home Affairs. The latter component will, however, not be displayed on the DGCA website.

The revised CAR also contains appeal provisions against the ban. Aggrieved persons (other than those identified as security threat by MHA) may appeal within 60 days from the date of issue of order to the Appellate Committee constituted by MoCA comprising of retired Judge of a High Court of India as Chairman and representatives of passengers association/consumer association/retired officer of Consumer Dispute Redressal Forum and airlines as Members.

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The lowdown on railway safety

A string of derailments in the last couple of weeks has put the spotlight on rail safety. On August 19, thirteen coaches of the Haridwar-bound Puri-Haridwar Utkal Express went off the tracks near the Khatauli railway station in Muzaffarnagar, Uttar Pradesh, claiming at least 21 lives and injuring more than 90. This was followed by the derailment of 10 coaches of the Kaifiyat Express in Auraiya district of Uttar Pradesh four days later, after it collided with a dumper, injuring around 100 passengers. This was followed by the collision of a train with a lorry at an unmanned level crossing in Tamil Nadu's Villupuram region on the same day.

The saga didn't end there with three trains — two carrying passengers and one goods — jumping off the tracks in Uttar Pradesh, New Delhi and Maharashtra within a span of nine hours on Thursday. Two more accidents were averted — one in Uttar Pradesh and the other in Mumbai when rail fracture was detected by the patrolling staff on Thursday.

Although the total serious train accidents declined from 135 in 2014-15 to 104 in 2016-17, the derailments went up from 63 to 78 during the same period. The share of derailments in total accidents has soared from 46.7% in 2014-15 to 75% in 2016-17. Till August 20 this year, 85% of the total rail accidents happened due to derailments, raising the alarm among authorities.

In a safety review meeting chaired by the new Railway Minister Piyush Goyal on Thursday, two major causes of accidents were identified: unmanned level crossings and derailments due to track defects. According to official figures, track defects had the highest share of around 44% in train derailments between 2012-13 and 2016-17. Derailments can also happen because of the failure of wheel and other train components. In 2016-17, 61.5% of the accidents happened because of the failure of railway staff against 37.7% in 2012-13. The Utkal Express derailment highlighted severe neglect on the part of the local authorities — both maintenance and station teams — in reacting to a broken track. While the track defect was detected early in the day, the maintenance team temporarily joined the tracks while waiting for a nod from the station authorities to get block time to fix it. Soon, the Utkal Express arrived at a speed of 105 km per hour, ran over the track and derailed.

In 2016-17, the total number of casualties in train accidents was at a two-year high of 238, mainly due to the derailment of the Indore-Rajendranagar Express near Kanpur, one of the worst accidents in over a decade, killing 152 passengers and injuring 183. In 2015-16, 122 people died in rail accidents compared with 292 in 2014-15 and 152 in 2013-14. The former Railway Minister Suresh Prabhu had announced a 'Mission Zero Accident' while presenting his last budget of 2016-17 before the rail and general budgets were merged. With a slew of accidents still taking place, it seems to be a distant goal.

The accidents last month led to a top-level rejig in the Railway Ministry, with the resignation of Railway Board Chairman A.K. Mital and Mr. Prabhu owning moral responsibility for the derailments.

For the first time in decades, a Railway Board member was sent on leave, having been held responsible for the Utkal Express accident. Former Air India chief Ashwani Lohani has taken charge as the Railway Board Chairman. Mr. Goyal has made it clear that safety will be his top priority.

On Thursday, he ordered the elimination of all unmanned level crossings within a year, advancing the deadline by two years. He told officials that the focus should be on replacing tracks prone to accidents instead of laying new lines and asked the Board to expedite the procurement of new

tracks on a large scale.

He also directed the Board to stop the production of conventional Integral Coach Factory coaches that topple over one another in case of derailments.

SOMESH JHA

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Tigers use corridors to traverse India-Nepal border

17DFR Tiger who crossed the line | Photo Credit: [17DFR Tiger who crossed the line](#)

Borders don't faze these tigers: over a decade, at least 11 tigers moved from India into Nepal's protected areas through the Terai, a landscape comprising agricultural areas and protected forest-grasslands in the Himalayan foothills. This reaffirms that tiger conservation requires not just protected areas but corridors too — especially across large landscapes — to ensure habitat connectivity and in turn, population growth.

Habitat loss

With protected areas becoming isolated due to habitat loss and conversion, large mammals including tigers have to now traverse human-dominated areas to disperse to new territories. North India's Terai Arc Landscape, which shares a 700-km border with Nepal, spreads across more than 50,000 sq. km and has one of the world's highest human population densities. Apart from agricultural fields and rural settlements, it also comprises 16 protected areas (five in Nepal and 11 in India) and six major trans-boundary corridors which connect Indian wild habitats with Nepal's.

To test how effectively these corridors aid tiger movement, scientists from WWF-India and WWF-Nepal camera-trapped tigers for 38,319 days in the protected areas, covering an area of more than 9,000 sq. km in multiple surveys between 2005 and 2016. Identifying individual tigers, they found that at least 11 tigers used these corridors to re-colonise Nepal, thus aiding the recovery of tiger populations which had declined drastically in the mid 2000s due to severe poaching pressures.

Growth rates of the tiger population in Nepal's Suklaphanta and Bardia national parks show that tiger numbers were far higher than would have been possible from just reproduction by the existing population. Connecting the locations that individual tigers were photographed from, the team found that one tiger had moved across an area of 248 sq. km, as opposed to the usual 20-sq. km-area in the Terai.

"This speaks volumes about the need to protect large landscapes, even agricultural ones which serve as crucial corridors," says Pranav Chanchani, National Coordinator for Tiger Conservation, WWF-India. "Till the 1930s and 1940s, the now-fragmented protected areas were contiguous. But with increasing human settlement large parts of the Terai were cleared and patches that would have been corridors destroyed."

Planned development near the protected areas — including two roads — could endanger the already-fragmented habitat, say the authors. They suggest that the tiger populations need to be conserved as a 'metapopulation', that is, populations that are physically separate, but interact with one another as animals migrate between them, helping populations persist over the years.

Jaggi Vasudev's Rally for Rivers claims they will, but this is not based on the most nuanced science

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U.S. environmental agency eyes limits to herbicide linked to crop damage

Collateral damage: At his farm in Arkansas, John Weiss with his crop of soybeans, which has shown signs of damage due to the drifting of Monsanto's pesticide Dicamba. | Photo Credit: [Reuters](#)

The U.S. environmental agency is considering banning spraying of the agricultural herbicide dicamba after a set deadline next year, according to state officials advising the agency on its response to crop damage linked to the weed killer.

Setting a cut-off date, possibly sometime in the first half of 2018, would aim to protect plants vulnerable to dicamba, after growers across the U.S. farm belt reported the chemical drifted from where it was sprayed this summer, damaging millions of acres of soybeans and other crops.

A ban could hurt sales by Monsanto Co. and DuPont which sell dicamba weed killers and soybean seeds with Monsanto's dicamba-tolerant Xtend trait. BASF also sells a dicamba herbicide. It is not yet known how damage attributed to the herbicides, used on Xtend soybeans and cotton, will affect yields of soybeans unable to withstand dicamba because the crops have not been harvested.

The Environmental Protection Agency discussed a deadline for next year's sprayings on a call with state officials that addressed steps the agency could take to prevent a repeat of the damage, four participants on the call told Reuters.

A cut-off date for usage in spring or early summer could protect vulnerable plants by only allowing farmers to spray fields before soybeans emerge from the ground, according to weed and pesticide specialists.

Monsanto spokeswoman Christi Dixon told Reuters that the agency had not indicated it planned to prohibit sprayings of dicamba herbicides on soybeans that had emerged. That action "would not be warranted," she said. The EPA had no immediate comment.

EPA officials made clear that it would be unacceptable to see the same extent of crop damage again next year, according to Andrew Thostenson, a pesticide specialist for North Dakota State University. who participated in the call.

State regulators and university specialists are pressuring the EPA to decide soon on rules guiding usage because farmers will make planting decisions for next spring over the next several months.

Tighter usage limits could discourage cash-strapped growers from buying Monsanto's more expensive dicamba-resistant Xtend soybean seeds. Dicamba-tolerant soybeans cost about \$64 a bag, compared with about \$28 a bag for Monsanto's Roundup Ready soybeans and about \$50 a bag for soybeans resistant to Bayer's Liberty herbicide. Already, a task force in Arkansas has advised the state to bar dicamba sprayings after April 15 next year.

"If the EPA imposed an April 15 cut-off date for dicamba spraying, that would be catastrophic for Xtend — it invalidates the entire point of planting it," said Jonas Oxgaard, analyst for investment management firm Bernstein.

Monsanto has projected its Xtend crop system would return a \$5 to \$10 premium per acre over soybeans with glyphosate resistance alone, creating a \$400-\$800 million opportunity for the company once the seeds are planted on an expected 80 million acres in the U.S., according to Mr.

Oxgaard.

By 2019, Monsanto predicts U.S. farmers will plant Xtend soybeans on 55 million acres, or more than 60% of the total planted this year. About 3.1 million acres of soybeans vulnerable to dicamba were hurt by sprayings this summer, accounting for 3.5% of U.S. plantings, according to the University of Missouri.

Chemical companies have blamed the crop damage on farmers misusing the herbicides. Specialists, though, say the weed killers are also risky because they have a tendency to vaporise and drift across fields, referred to as volatility.

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

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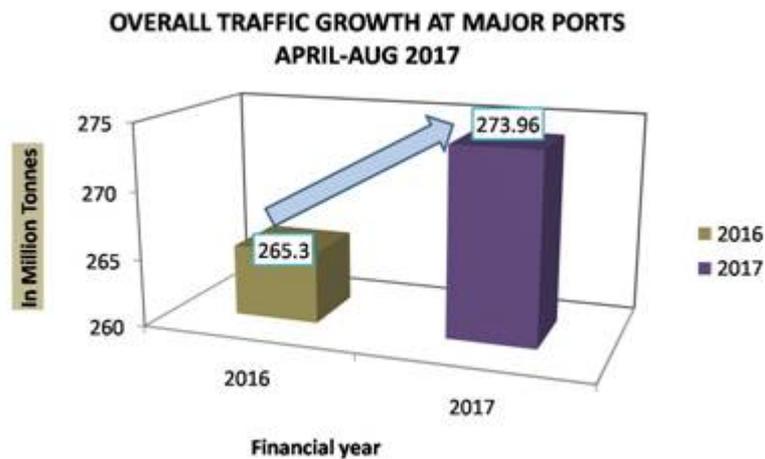
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Technology Advancement uplifts Productivity at India's Major Ports

Technology Advancement uplifts Productivity at India's Major Ports

12 Major Ports Handle 273.96 Million Tonnes Cargo from April-August,2017

Technological advancement for modernization of major ports and reforms for enhancing ease of doing business are driving and sustaining the growth trend line at India's major ports. The country's 12 major ports together handled 273.96 Million Tonnes of cargo between April to August, 2017 as against 265.31 Million Tonnes handled during the corresponding period of previous year, an overall growth of 3.26%.



Source: Indian Port Association

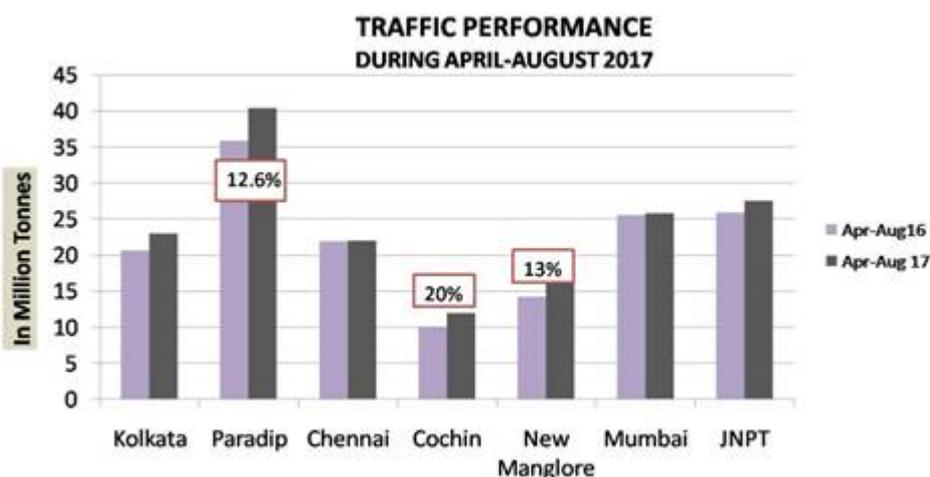
Seven Ports (Kolkata, Paradip, Chennai, Cochin, New Mangalore, Mumbai and JNPT) registered positive growth in traffic during the period April to August 2017.

Cargo traffic handled at Major Ports:

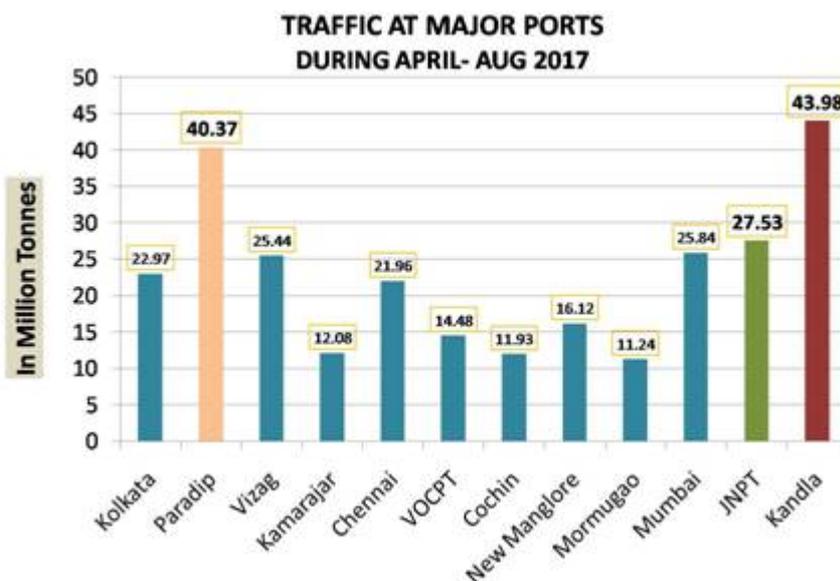
- Ø The highest growth was registered by Cochin Port (19.99%), followed by New Mangalore (13.26%), Paradip (12.57%), Kolkata [incl. Haldia] (11.45%) and JNPT(6.18%)
- Ø Cochin Port growth was mainly due to increase in traffic of POL (27.99%) and Containers (12.79%).
- Ø In Kolkata Port, overall growth was positive i.e. 11.45%. Haldia Dock Complex (HDC) registered positive growth of 19.08%, mainly due to increase in iron ore traffic.

Ø During the period April to August, 2017, Kandla Port handled the highest volume of traffic i.e. 43.99 Million tonnes (16.06% share), followed by Paradip with 40.37 Million Tonnes (14.74% share), JNPT with 27.54 Million Tonnes (10.05% share), Mumbai with 25.84 Million Tonnes (9.43% share), and Visakhapatnam with 25.45 Million Tonnes (9.29% share). Together, these five ports handled around 60% of Major Port Traffic.

Ø Commodity-wise percentage share of POL was maximum i.e. 34.00%, followed by Container (20.17%), thermal & Steam Coal (12.82%), Other Misc. Cargo (12.12%), Coking & Other Coal (7.49%), Iron Ore & Pellets (6.84%), Other Liquid (4.29%), Finished Fertilizer (1.17%) and FRM (1.10%).



Source: Indian Port Association



Source: Indian Port Association

The RFID tagging at gates has been implemented at all ports. This enables seamless entry-exist of trucks and in-port movement to optimize cargo flow, besides enhancing security. Trucks as well as drivers' entry-exist is recorded using RFID card system doing away with paperwork thus

reducing human interface. This is one of the steps taken in order to benchmark major ports with globally renowned ports.

The Ministry has also been proactively undertaking legislative reforms to weed out old obsolete laws and enhancing connectivity of ports to improve their efficiency under its Sagarmala Programme.

With India striving to improve its manufacturing competitiveness with Make in India, the Govt of India is leaving no stone unturned to make ports the drivers of socio- economic change and aid long term growth trajectory of the economy. The resounding success of IPO of Cochin Shipyard Ltd is one such example of the positive investor sentiments. The issue got oversubscribed 76 times. Recently the RBI report has also acknowledged higher growth in cargo traffic as well as efficiency gains measured in turnaround time at ports which is helping in transforming Indian economy.

NP/MS

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China looks to ban petrol, diesel cars

A BMW in Shenyang in China's northeastern Liaoning Province.AFPSTR

China is joining France and Britain in announcing plans to end sales of gasoline and diesel cars.

China's Industry Ministry is developing a timetable to end production and sale of traditional fuel cars and will promote development of electric technology, state media on Sunday cited a Cabinet official as saying.

The reports gave no possible target date, but Beijing is stepping up pressure on automakers to accelerate development of electrics.

China is the biggest auto market by number of vehicles sold, giving any policy changes outside importance for the global industry. A Deputy Industry Minister, Xin Guobin, said at an auto industry forum on Saturday that his Ministry has begun "research on formulating a timetable to stop production and sales of traditional energy vehicles", according to the Xinhua News Agency and the Communist Party newspaper *People's Daily*.

France and Britain announced in July that they will stop sales of gasoline and diesel automobiles by 2040 as part of efforts to reduce pollution and carbon emissions that contribute to global warming.

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Data base soon on Bonda migration

The Bonda Development Agency (BDA) has started an inquiry and survey in the remote Bonda-inhabited villages in Malkangiri district of Odisha following reports that these primitive tribals are migrating to other States in search of employment and that some of their women are being sexually exploited.

A minor Bonda girl recently lodged a complaint with the Mudulipada police station, alleging that a man had lured her through promises and made her pregnant. She is seven months pregnant now. According to media reports, another minor Bonda girl has also come up with a similar allegation but has not approached the police.

Dubious contractors

Both the girls had allegedly fallen prey to dubious labour contractors in adjoining Andhra Pradesh. They along with several other Bonda men and women had migrated to Andhra Pradesh in search of work. It is alleged that labour contractors take these Bondas outside the State as cheap labour.

As allegations are rife about mass migration of Bonda tribals from Odisha in search of livelihood, the administration has taken the issue seriously.

Since Wednesday, officials of the BDA have started an on-the-spot inquiry and survey relating to migration and alleged sexual harassment of Bonda women outside the State.

Proper investigation

Speaking to *The Hindu* on Thursday, BDA project leader Manga Panna accepted that some Bondas undertake seasonal migration after the end of the kharif season and return by Durga Puja to start agricultural work. Through the on-the-spot inquiry and enumeration, the BDA plans to prepare a proper data base about Bonda migration and realise the reasons behind it. Mr. Panna said the allegations of sexual harassment would be properly investigated by the police and the culprits would be punished.

Since Wednesday, Mr. Panna himself has visited two Bonda villages and within the next few weeks all the 32 Bonda villages would be covered by BDA officials.

Most primitive tribe

Bondas are considered to be one of most primitive tribes in the world.

As per an official survey in 2015, around 8,000 Bonda tribals live in 32 villages of four panchayats under Khairaput block. Their villages are located in remote and isolated hilly region north-west of the Machhkund river. Their habitat in Khairaput block is called the Bonda valley.

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A forest policy on today's terms

The Union Ministry of Environment, Forest and Climate Change as well as all State Forest Departments are guided by the National Forest Policy, 1988, which states: "The basic objectives that should govern the National Forest Policy are the following: Maintenance of environmental stability through preservation and, where necessary, restoration of the ecological balance that has been adversely disturbed by serious depletion of the forests of the country."

This laudable aim is obscured by the unfortunate fact that there is no such thing as an 'ecological balance'. The term originated as 'the balance of nature' in ancient Greece and was quoted off and on through the Middle Ages. However, with a better understanding of the functioning of natural systems, the concept was completely rejected by the beginning of the last century and does not find mention in textbooks of ecology. Similarly, the concept of 'environmental stability' is questionable because it is evident that natural processes are never stable or stagnant but are always in the process of change and succession. Therefore, environmental stability is a myth.

It is interesting that there is no official definition for the term 'forest' yet, despite ministries and government departments being named after it. In order to couch the laudable goals of the 1988 National Forest Policy, in valid terms, we would first need to define the term 'forest'. This is not a difficult task, since a forest is a self-sown and self-regenerating community of plants that supports a community of creatures dependent on those plants, and on each other, for food and shelter.

The 'self-sown' bit is important in the Indian context, since vast amounts of public money have been spent on 'planting forests', which is an oxymoron. Naturally there are no results to show for these 'planted forests', and Haryana has recently shown the way by practically stopping 'forest plantation' in favour of protecting and permitting existing vegetation to grow.

Having defined a forest, we can now state the primary aim of the 1988 National Forest Policy in the following valid terms: "Maintenance of a healthy natural environment through preservation and, where necessary, restoration of the original natural ecosystems that have been adversely affected by over-exploitation of the forests and other natural resources of the country."

It may be noted that the term 'original natural ecosystems' refers to the state of affairs prior to their exploitation by humans.

The second point of the policy states: "Conserving the natural heritage of the country by preserving the remaining natural forests with the vast variety of flora and fauna, which represent the remarkable biological diversity and genetic resources of the country."

Perhaps this should include grasslands, wetlands, and other ecosystems, and could therefore be stated as follows: "Conserving the natural heritage of the country by preserving natural forest and other ecosystems with their vast variety of flora and fauna, and encouraging such ecosystems to expand into areas they had formerly colonised, but from where they have been extirpated." This would suggest that degraded lands be protected so that original ecosystems can re-establish themselves on those lands. When land has been thoroughly degraded, the usual succession is grasses, shrubs, bushes and, finally, trees. By planting trees directly in such areas, we try to jump the gun, but the build-up of top soil and soil microorganisms that proceeds from a succession is missing, hence the large-scale failure of such plantations.

The third point needs some modification, too. It states: "Checking soil erosion and denudation in the catchment areas of rivers, lakes, reservoirs in the interest of soil and water conservation, for mitigating floods and droughts and for the retardation of siltation of reservoirs."

It does not suggest how this is to be done and why this point fits in, in the policy. Perhaps if it were stated in this way: "Protecting the catchment areas of rivers, lakes, reservoirs to enable natural vegetation to grow back unhindered to conserve soil, help groundwater recharge, for mitigating floods and droughts and for retardation of siltation of reservoirs." The justification for this wording is that the natural vegetation of an area has evolved over millennia to adjust to the rainfall regime, soil conditions, and the subsurface water systems of an area. In places where catchment areas have untouched natural vegetation, rainfall percolates into the soil and is released over a period of months, resulting in perennial streams and rivers. Where this has been damaged, the streams, rivulets and rivers have become seasonal, as in peninsular India.

The final point that needs modification is 2.2 of 'basic objectives': "The principal aim of Forest Policy must be to ensure environmental stability and maintenance of ecological balance including atmospheric equilibrium which are vital for sustenance of all lifeforms, human, animal and plant. The derivation of direct economic benefit must be subordinated to this principal aim."

This is a laudable point, but the terms of reference are not valid. Therefore, it might be better to state this in the following terms, so that the spirit of what is being stated is not lost: "The principal aim of Forest Policy must be to ensure a healthy natural environment and the maintenance and healthy functioning of life-support systems, including the water cycle and nutrient cycle, by protecting natural forest and other ecosystems native to the area. The derivation of direct economic benefit must be subordinated to this principal aim since the indirect economic benefit of healthy life-support systems is incalculable."

The remainder of the Forest Policy document is stated in valid language and needs no modification.

Couched in these terms, the Forest Policy document develops an overarching responsibility for the Ministry of Environment, Forest and Climate Change towards restoring and maintaining the health of India's surface and sub-surface water systems, since both are largely governed by forests and other natural ecosystems. The protection of healthy natural ecosystems in catchment areas should be a vital national goal, given the challenges of failing freshwater systems facing the nation at present. The State Forest Departments are the entities that can do the most in this context, by stopping invalid practices like planting forests and instead use that money in sensible ways to directly and indirectly protect natural ecosystems in sensitive areas like watersheds, catchment areas, and coasts, as has already been envisaged in the National Forest Policy, 1988.

What is worrisome, however, is that in the 30 years since it was formulated, no officer of the Indian Forest Service has pointed out these shortcomings. There is clearly an urgent need to review the curriculum of the Indian Forest Service since it seems to rely on concepts that have been discarded more than a century ago.

Peter Smetacek runs the Butterfly Research Centre in Bhimtal, Uttarakhand

The new U.S. Fed Chairman is unlikely to opt for policies that might upset the President's plan

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Airports Authority of India undertakes construction of Integrated Cargo Terminal at Imphal airport

Airports Authority of India will undertake construction of Integrated Cargo Terminal at Imphal Airport after obtaining grant-in-aid under Trade Infrastructure for Export Scheme (TIES) of Ministry of Commerce & Industry, Govt. of India. The Government of Manipur had planned to establish an Export Import Cargo Terminal (EICT) at Tulihal, Imphal Airport under ASIDE Scheme of the Ministry of Commerce & Industry.

The proposed Integrated Cargo Terminal is expected to give a boost to the export of handicrafts items and perishable cargo. This will also help generate employment opportunities in the North Eastern region of the country, thereby fostering economic development of the region. In addition to this, the EICT will help establish better connectivity with South & Southeast Asia and give a boost to trade between India and the ASEAN countries.

The estimated cost construction of the cargo terminal is Rs.16.20 crores. Out of this, the Ministry of Commerce & Industry has sanctioned a grant of Rs.12.96 crores under TIES. The balance amount to construct will be met out of internal sources of AAI.

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Another way climate change might worsen megastorms

In a recent talk about his new book, *Scale*, physicist Geoffrey West described climate change as a form of entropy—disorder that's created as the price of all the order and creative energy pent up in cities. In this view, climate change is not, as some argue, just a euphemism for global warming. It's a broader term that reflects the unpredictable, disorderly way global warming will affect the planet's oceans and atmosphere.

In other words, we won't be so lucky as to see a regular, incremental increase in the earth's average temperature. Instead, we're seeing rapid, erratic changes in weather patterns that people have counted on for centuries.

Consider one of the more interesting hypotheses about global warming: that it will cause the wind patterns that normally keep storms moving from place to place to slow down, causing prolonged downpours as well as droughts. It's an idea that's been cited in the peer-reviewed literature and featured in *Scientific American*, but like many exciting ideas in science, it's still not universally accepted. Some are waiting for more evidence.

For people who've looked into the slowing of wind circulation, however, Hurricane Harvey was a case in point. Part of the reason it was so destructive was because it got slowed down over Houston. The storm was caught between two high-pressure blocking systems shortly after it made landfall in Texas, so instead of rolling over the region, it got stuck for several days, dumping 50 inches of rain over an enormous area—a total of 19 trillion gallons. The longer it lingered, the more rain fell; ultimately, some parts of the state saw a year's worth of rainfall in less than a week.

Charles Greene, an atmospheric scientist at Cornell University, believes that warming in the Arctic led to a slowing down of a high-altitude, circulating wind known as the jet stream, which he argues contributed to Harvey's lingering destruction. If that turns out to be the case, it portends more such events to come. He suspects recent droughts in the western United States may have been exacerbated by the same phenomenon, as a more sluggish jet stream allowed masses of dry air to get locked into place.

Why would global warming affect winds and storms? As Greene explains, warming isn't happening in a uniform way. The Arctic is warming faster than the earth's temperate zones, and so there's less of a difference than there used to be between Arctic and mid-latitude temperatures. "These temperature differences are what drive atmospheric winds," he said, which include the jet stream and a more northerly circulation pattern called the polar vortex. The polar vortex normally confines frigid air to the Arctic, and when it weakens, Arctic air can swing south and create unusually cold weather at lower latitudes.

The Arctic is warming faster than the rest of the planet because there's a positive feedback loop at work. As reflective sea ice melts, it exposes dark ocean underneath, he said. That means more of the sun's energy gets absorbed into the oceans, driving yet more warming in a positive feedback system. In the fall, some of the ocean's heat is released back into the atmosphere. That change in Arctic temperature alters the polar vortex, slowing and weakening it. That has coincided with an increase in the number of tropical cyclones and nor'easters.

In his view, the warming Arctic is also causing the jet stream to slow, and thereby allowing the formation of more "blocks" of high pressure to lock storms such as Harvey in place. He acknowledges, however that there isn't enough evidence yet to link cause and effect, or rule out natural variability.

Kevin Trenberth, climate scientist at the National Center for Atmospheric Research in Boulder, Colorado, says Greene and his colleagues have more work to do to demonstrate the links between Arctic melting, wind patterns and extreme weather. But there are already well-established links between global warming and storms.

Trenberth's work focuses on the oceans, which are heating up along with the atmosphere. While the surface of the ocean has been slowly warming since the mid-20th century, the 1990s brought something new: Water started to warm up 700 to 2,000 metres below the surface. The increase is small, he said, but the total energy pent up under the surface is enormous. Normally, big storms churn up cold water from the depths, and this allows their energy to peter out. Now that there's warmer water below the surface, there's extra heat available, he said, and that can cause a storm to intensify and last longer.

And that's not the only way global warming can lead to more destructive storms. It's well understood that warmer air holds more moisture, which allows Harvey and other storms to pack more precipitation. Warmer oceans also likely added fuel to this storm, and will continue to do so over the course of the century. The water in the Gulf of Mexico is 2 to 4 degrees warmer than it has been historically this time of year, said Greene. Warmer water allows storms to intensify fast, as Harvey did by going from Category 2 to Category 4 within hours. Now, Hurricane Irma seems to be doing the same thing as it heads toward Florida.

The arguments among scientists are for the most part not about whether global warming is contributing to extreme weather, but which consequences of global warming will wreak the most havoc. In his talk, physicist Geoffrey West explained that the kind of disorder associated with global warming is the price we pay for our ordered civilization. There's no reason to be ashamed that it's happened—or to deny it. Better to look forward and realize it's still possible to mitigate the damage, and to adapt. **Bloomberg View**

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The track to success: on the bullet train project

Since they were commissioned more than five decades ago, bullet trains have been the symbol of Japan's engineering prowess. This ambitious project demonstrated Japan's significant engineering skill and expertise, and its success transformed the way Japan was viewed by the rest of the world. Similarly, China has focussed on the development of its high-speed rail network as a symbol of its engineering capabilities.

Japanese Prime Minister Shinz Abe will arrive in Gujarat later this week [to lay the foundation stone for the Mumbai-Ahmedabad High Speed Rail](#) (MAHSR) project — also known as the Ahmedabad-Mumbai bullet train. There is an expectation that similar to the experience for Japan and China, this project could be one of the catalysts in transforming India. India has already experienced success in major projects in the past, which includes building the Golden Quadrilateral and upgrading its national highways, which has added to GDP, created efficiencies in transportation, provided jobs and improved rural development through enhanced connectivity.

This discussion is timely, given the challenges experienced by the Indian Railways due to recent accidents and talk of much-needed upgrades to safety and other infrastructure. This has caused some to question whether the MAHSR is an effective use of resources. However, resourcing is only one of the issues being faced by the Railways. We heard a similar debate about the Indian space programme, which has seen some remarkable achievements.

There are three advantages from the MAHSR project: economic benefits, including infrastructure development and job creation; technological development, in which Indian companies imbibe the new technologies and potentially also become suppliers to HSR contracts worldwide; and cultural transformation through a demonstrated ability to implement large projects and improve safety.

High speed railways in India: success will ride on the details

Investment in infrastructure development has always acted as a catalyst in the economic growth of India. This project could provide an important boost to public investment. The soft funding of the project by the Japanese government is an additional advantage, which brings the two countries together and provides significant economic benefits. In addition to creating demand for local industry, the project would also generate significant employment for a large number of skilled and unskilled workers. The HSR system is more energy- and fuel-efficient. Studies show that HSR systems are around three times more fuel-efficient than aeroplanes and five times more fuel-efficient than cars. Given the traffic density in this corridor, this project could lead to a significant reduction in India's carbon footprint.

A large part of this project will be focussed on bringing new technology to Indian companies. Most of these technologies are not currently available in India and introducing new technology often provides spin-off benefits to other areas of the economy. A dedicated High Speed Rail training institute is being developed at Vadodra. This institute will be fully equipped with technologies such as simulators and will be functional by the end of 2020. It will be used to train about 4,000 staff in the next three years, who will then be responsible for the operations and maintenance of MAHSR, and also provide a foundation for the future development of other high-speed corridors in India.

The success of this project, however, will lie in its execution. Its successful and timely completion could act as a powerful catalyst to create a culture of efficient project implementation in India. Similarly, there should be a focus on leveraging the post-implementation synergies, which could make this a transformational project for India.

Suresh Goyal is Executive Director & India Country Head, Macquarie Group. The views expressed are personal

The new U.S. Fed Chairman is unlikely to opt for policies that might upset the President's plan

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In the air: on the no-fly list

The Centre's decision to put unruly air passengers on a [no-fly list ranging from three months to a lifetime](#), depending upon the gravity of the offence, is stringent but welcome. The list will be maintained by the Directorate General of Civil Aviation, and be put in the public domain. The quantum of punishment is to be decided by an internal committee of the airline in question based on evidence produced by both the airline and the passenger within 30 days, during which time the passenger would not be allowed to fly. No compensation will be offered to the passenger in case the allegations of the airline are proven wrong. Aggrieved passengers can appeal within 60 days to an appellate committee. Other airlines will not, however, be bound by one airline's no-fly ban. The no-fly list provisions look stringent, empowering airlines to impose strict penalties in case of alleged misbehaviour or graver offences by passengers. But in the case of India, these appear necessary in particular because of a widespread culture of entitlement, especially among 'VIPs', and growing incidents of air rage. The new rules are, specifically, a response to the recent case of unruly and [violent behaviour by Shiv Sena MP Ravindra Gaikwad](#) on board an Air India plane six months ago. There have been other recent incidents of 'VIP' misbehaviour with airline staff — both in the air and on the ground. In Mr. Gaikwad's case, Air India had imposed a temporary no-fly ban, which was [subsequently withdrawn](#) after a grudging apology from him. Existing guidelines and rules on unruly behaviour did not have provisions for a no-fly ban, necessitating these rules.

Defusing air rage: Airlines should take a tough line against unruly VIP behaviour

The no-fly list system, which has been adopted by other countries too, is a relatively new development in civil aviation. Care must be taken by the airlines to ensure that the imposition of the no-fly ban is used as the last resort; ideally, it should remain in the books as a deterrent. While incidents of egregious behaviour by VIPs and unruly passengers have not been isolated events, passenger anger has also been a consequence of airline inefficiencies. The record of some airlines in ensuring service on time and avoiding over-booking of tickets that result in last-minute cancellation of tickets is not satisfactory. Airlines must be careful not to hold out the threat of the no-fly list to keep passenger frustration in check, and thereby evade giving a full explanation for their mistakes. Thanks to lower fuel prices and profitability, the civil aviation industry in India is in a phase of recovery and stability following a shakeout. This is a good time for airlines to enhance their reach and service and keep prices competitive as more Indians take to air travel. While this is a guaranteed way to keep both passenger angst and air rage in check, preventive measures such as a no-fly list should be enforced only for the most egregious of cases.

Rajasthan's ordinance shields the corrupt, threatens the media and whistle-blowers

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Say goodbye to gasoline: China's going electric

Sydney: Say goodbye to gasoline. The world's slow drift toward electric cars is about to enter full flood.

China, one-third of the world's car market, is working on a timetable to end sales of fossil-fuel-based vehicles, the country's vice-minister of industry and information technology, Xin Guobin, told an industry forum in Tianjin on Saturday. That would probably see the country join Norway, France and the UK in switching to a wholly electric fleet within the lifetime of most current drivers. The announcement is important because the most influential players in the global auto market have always been not companies, but governments.

Diesel cars make up about half of the market in the European Union (EU) and less than a percentage point in the US, largely because of different fuel-taxation and emissions regimes. Carburetors have been regulated out of most developed markets as fuel injection—originally a more costly technology—results in less tailpipe pollution.

Moves toward electrification of the world's cars have been tentative. Just 695,000 electric vehicles were sold in 2016, according to Bloomberg New Energy Finance (BNEF), equivalent to about three days of sales in an 84 million-strong market. Including those already on the roads, the global car fleet is roughly a billion-strong.

At the same time, the direction of travel is unambiguous. China's auto industry plan released in April envisages new energy vehicles—including electric and hybrids—making up all the future sales growth in the country.

With conventional cars plateauing at current levels, new-energy vehicle sales will reach 7 million annually in 2025.

As many as 800,000 charging stations will be built this year alone, according to the official China Daily.

Government mandates will require manufacturers to sell 8% of their vehicles with electric or hybrid power trains from next year, or purchase credits to make up the difference, rising to 20% by 2025.

India, due to overtake Germany and then Japan as the world's third-biggest auto market by 2020, is on a similar path. Prime Minister Narendra Modi's think-tank Niti Aayog aims to get electric vehicles to 44% of the fleet by 2030, and is aggressively favouring them with tax rates 31 percentage points below those on hybrids and internal-combustion-engine cars under its new harmonized GST.

France and the UK, the world's sixth- and seventh-biggest markets, are planning to phase out sales of non-electric cars by 2040, while Norway aims to reach that line 10 years earlier.

Neither of those targets looks especially ambitious, given the rapid drop in battery costs—in the US and EU, electric cars will reach price parity with conventional vehicles in terms of purchase and running costs around the mid-2020s, according to BNEF.

The International Energy Agency believes the use of oil in passenger cars has already more or less peaked, with just 7% of demand growth by 2040 set to come from the sector.

The pattern will accelerate as major automakers dedicate more of their research and development

budgets—and, subsequently, lobbying funds—to the EV transition.

Until the first Tesla Inc. Roadster went on sale just nine years ago, Mitsubishi Motors Corp. was the only major car company to take the prospect of fully electric vehicles seriously. Now, every large automaker is working on battery-powered cars, with even longstanding skeptics like Fiat Chrysler Automobiles NV's Sergio Marchionne and Maruti Suzuki India Ltd.'s R.C. Bhargava announcing plans in recent weeks.

For all the eye-catching symbolism of a ban, it's unlikely that fossil fuel will soon be illegal on the roads.

Gasoline and diesel cars will still be sold in 2040, and probably 2050 and 2100 as well.

But with an increasing cost disadvantage and growing infrastructure issues, as gas stations close or go electric, internal-combustion engines will be sold only to enthusiasts—like high-performance sports cars, kit cars and vintage cars are, today.

The conventional car isn't quite dead yet—but its years are numbered. **Bloomberg Gadfly**

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NHAI issues Appeal for Removal of Encroachment and Illegal Access on NHs**NHAI issues Appeal for Removal of Encroachment and Illegal Access on NHs**

Various establishments like dhabas, buildings, factories, restaurants, hoardings and advertisements have come up along National Highways illegally. These establishments are safety hazards for traffic plying on National Highways as they allow illegal access and parking of vehicles on the highways. Further, unauthorized hoardings and advertisements are safety hazards as these distract drivers.

Setting up of these illegal establishments is a punishable offense under Control of National Highways (Land and Traffic) Act, 2002 (Chapter 3 & 4). The NHAI has issued an Appeal to all such establishments to close the illegal access activities at their level and apply for legal access to their establishments under the policy. They have also been asked to remove all the hoardings and advertisements distracting the attention of drivers for safety of the road users. Failing this, Field Officers have been directed to start a special drive to terminate these illegal access, remove hoardings/ advertisements from the ROW of National Highways and take action against illegal parking of vehicles on National Highways with the help of local police and district administration, including lodging of police complaint against such defaulters.

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Cabinet approves implementation of the scheme “Dairy Processing & Infrastructure Development Fund”

Cabinet approves implementation of the scheme “Dairy Processing & Infrastructure Development Fund”

The Cabinet Committee on Economic Affairs, chaired by Prime Minister Shri Narendra Modi has approved a Dairy Processing & Infrastructure Development Fund” (DIDF) with an outlay of Rs 10,881 crore during the period from 2017-18 to 2028-29.

Consequent to the Union Budget 2017-18 announcement, Dairy Processing & Infrastructure Development Fund will be set up as a corpus of Rs 8004 crore with National Bank for Agriculture and Rural Development (NABARD), the Expenditure Finance Committee has given approval for;

Initiation and setting up of Dairy Processing and Infrastructure Development Fund (DIDF) at a total scheme outlay of Rs 10881 crore. Out of Rs 10881 crore of financial outlay for project components of DIDF, Rs 8004 crore shall be loan from NABARD to National Dairy Development Board (NDDB) and National Dairy Development Cooperation (NCDC), Rs 2001 crore shall be end borrowers contribution, Rs 12 crore would be NDDB/NCDC's share and Rs 864 crore shall be contributed by DADF towards interest subvention. NABARD shall disburse Rs 2004 Cr, Rs 3006 Cr and Rs 2994 Cr during the year 2017-18, 2018-19 and 2019-20 respectively.

Allocation of Rs 864 Crore for meeting interest subvention will be released to NABARD over a period of 12 years covering the entire loan repayment period from 2017-18 to 2028-29.

The major activities of DIDF:

The project will focus on building an efficient milk procurement system by setting up of chilling infrastructure & installation of electronic milk adulteration testing equipment, creation/modernization/expansion of processing infrastructure and manufacturing faculties for Value Added Products for the Milk Unions/ Milk Producer Companies.

Management of DIDF:

The project will be implemented by National Dairy Development Board (NDDB) and National Dairy Development Cooperation (NCDC) directly through the End Borrowers such

as Milk Unions, State Dairy Federations, Multi-state Milk Cooperatives, Milk Producer Companies and NDDB subsidiaries meeting the eligibility criteria under the project. An Implementation and Monitoring Cell (IMC) located at NDDB, Anand, will manage the implementation and monitoring of day-to-day project activities.

The end borrowers will get the loan @ 6.5% per annum. The period of repayment will be 10 years with initial two years moratorium.

The respective State Government will be the guarantor of loan repayment. Also for the project sanctioned if the end user is not able to contribute its share; State Government will contribute the same.

Rs 8004 crore shall be loan from NABARD to NDDB/NCDC, Rs 2001 crore shall be end borrowers contribution, Rs 12 crore would be jointly contributed by NDDB/NCDC and Rs 864 crore shall be contributed by DADF towards interest subvention.

Benefits from DIDF:

With this investment, 95,00,000 farmers in about 50,000 villages would be benefitted. Additional Milk processing capacity of 126 lakh litre per day, milk drying capacity of 210 MT per day, milk chilling capacity of 140 lakh litre per day, installation of 28000 Bulk Milk Coolers (BMCs) along with electronic milk adulteration testing equipment and value added products manufacturing capacity of 59.78 lakh litre per day of milk equivalent shall be created.

Initially 39 MUs the Department will start the project with 39 profit making milk unions of 12 States, other Milk Cooperatives which become eligible on the basis of their net worth and profit levels, in subsequent years, to apply for loan under DIDF.

Employment Generation Potential:

The implementation of DIDF scheme will generate direct and indirect employment opportunities for skilled, semi-skilled and unskilled manpower. Direct employment opportunities for about 40,000 people will be created under the scheme through project activities like expansion & modernisation of existing milk processing facilities, setting up of new processing plants, establishment of manufacturing facilities for value added products and setting up of Bulk Milk Coolers (BMCs) at village level.

About 2 lakh indirect employment opportunities will be created on account of expansion of milk and milk product marketing operations from existing Tier I, II & III to Tier IV, V & VI cities/towns etc. This will lead to deployment of more marketing staff by Milk Cooperatives, appointment of distributors and opening of additional milk booths/retail outlets in urban/rural locations.

With the increase in milk procurement operations of the Milk Cooperatives, there would be generation of additional manpower employment for supervision of increased milk procurement operations, transportation of milk from villages to processing units, and increased input delivery services like Artificial Insemination (AI) services, Veterinary Services, etc.

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Cabinet approves survey of Un-appraised Areas of Sedimentary Basins of India**Cabinet approves survey of Un-appraised Areas of Sedimentary Basins of India**

The Cabinet Committee on Economic Affairs chaired by the Prime Minister, Shri Narendra Modi, today gave its approval for a significant project to acquire 48,243 Line Kilometer (LKM) 2D seismic data for appraisal of Indian sedimentary basins where limited data is available.

The project will help in increasing the investments in domestic production of oil and gas. The project will be implemented by NOCs, i.e. Oil India Limited (OIL) and Oil and Natural Gas Corporation (ONGC). OIL will conduct survey in North - Eastern States while remaining area will be covered by ONGC. Survey work will be carried out in 24 States.

Total estimated cost of the entire project is Rs. 2932.99 crore spread over five years. Initially National Oil Companies (NOCs) are meeting the fund requirement from their own sources, which will be reimbursed by the Government.

Entire project is likely to be completed by 2019-20. Directorate General of Hydrocarbons is monitoring the project and reviewing the progress on monthly basis.

Project involves engagement of large number of workers at local level where work is to be executed. This is likely to generate direct as well as indirect employment for about 11,000 people in the form of skilled and unskilled workers and suppliers for support services. After the appraisal of these basins, and based on the prospectivity of the area, blocks will be offered for further exploration & production activities which will further generate employment.

Background:

India has 26 sedimentary basins covering an area of 3.14 Million Sq Km spread over onland, shallow water and deep water. An area of about 1.502 Million Sq. Km i.e. 48% of total sedimentary basin area does not have adequate geo-scientific data. As a base to launch future Exploration and Production (E&P) activities, appraisal of all unappraised areas has been considered an important task. The preparatory work started in 2015-16 and actual survey work started in 2016-17 and more than 9100 LKM 2D seismic data has been acquired till July, 2017.

Data acquisition is important as it helps in giving the initial insight into the basins and helps in planning the future E&P activities. It will be useful in deciding the focus areas of the exploration activities in the country and on the basis of this primary data, E&P companies would take up further exploration activities in the acreages allocated to them.

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Cabinet apprised of MoU between India and Japan for collaborative research in the field of silkworm and silk industries

Cabinet apprised of MoU between India and Japan for collaborative research in the field of silkworm and silk industries

The Union Cabinet chaired by the Prime Minister Shri Narendra Modi has been apprised of a Memorandum of Understanding (MoU) between Central Silk Board (CSB), India and National Institute of Agrobiological Sciences (NIAS), Japan for collaborative research in the field of silkworm and silk industries.

The MoU was signed on 11.11.2016 between CSB and NIAS for initiating a Collaborative Research for developing prolific bivoltine hybrids of silkworm suitable for the Indian tropical conditions. The MoU is of scientific and technological nature. It would help in developing prolific hybrid silkworms, which would improve the manufacturing capacity and the quality standards of the Indian sericulture industry and thereby enhance exports of silk and silk products.

It is expected that subsequent to the MoU, the Indian Textiles & Apparel Industry would be able to produce world class silk and silk products. The improvement of quality and productivity would ultimately increase export of silk products.

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Shri Nitin Gadkari says work on Three River Interlinking projects to begin within three months

31st Annual general meeting of The National Water Development Agency Society held today

The Minister for Water Resources, River Development and Ganga Rejuvenation, Road Transport & Highways and Shipping Shri Nitin Gadkari has said that his Ministry will start work on three river interlinking projects within the next three months. These include the Ken-Betwa Linking Project, Damanganga- Pinjal Link Project and the Par-Tapi-Narmada Link projects. Shri Gadkari said that the three projects are ready with all necessary approvals, and he will hold meetings with the concerned Chief Ministers soon to sort out inter-state issues so that the three projects can take off within the next three months.

Shri Gadkari was speaking at the 31st Annual General Meeting of the National Water Development Agency Society in New Delhi today. Ministers of State for Water Resources, River Development and Ganga Rejuvenation Shri Arjun Ram Meghwal and Shri Satya Pal Singh were also present on the occasion. The AGM was also attended by Water Resources/ Irrigation Ministers from the states of Andhra Pradesh, Telangana, Kerala, Uttar Pradesh, Uttarakhand, Jharkhand and Rajasthan.

Expressing his concern about the plight of people in the thirteen drought prone and seven flood prone regions of the country, Shri Gadkari stressed upon the need to develop effective means for conserving the available water and sharing what is surplus. In this context he said there is a need to evolve ways to conserve the nearly 60-70 percent of water that runs-off into the oceans.

Shri Gadkari also said that socio- economic cost of water projects should be taken into account while preparing DPR. He also underscored the need for developing innovative funding models for water projects, and accessing loans at very low rates of interest. He assured that he would also take up this issue with the Central Government.

The Minister of State Shri Satya Pal Singh said that successful models of water conservation and water management from different parts of the country should be documented and circulated by the Ministry so that regions can benefit from each others' experience.

The State Water Resources Ministers drew attention to the specific water related issues in their respective states and how they were dealing with these issues.

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A fragile ark that shelters 2,626 creatures

In a first, the Zoological Survey of India (ZSI) has published a compendium of animal species in the Indian Sundarbans, estimating that there are 2,626 of them in the fragile island ecosystem. The listing includes a diverse 25 phyla, as they are biologically classified.

The Indian segment of the Sundarbans, part of a UNESCO World Heritage site, forms part of the Ganga-Brahmaputra delta across 9,630 sq. km, distributed among 104 islands.

The region hosts 2,487 species that come under the zoological kingdom of Animalia, and 140 under the more primitive Protista.

“The publication titled *Fauna of Sundarban Biosphere Reserve* is the first consolidated and updated information of the faunal diversity of the Sundarbans. It lists over 2,600 species, including the new species described from the mangrove ecosystem as well as threats faced by them due to climate change,” ZSI Director Kailash Chandra told *The Hindu*.

Biswajit Roy Chowdhury, secretary of Nature Environment and Wildlife Society, a non-governmental organisation and one of the authors of the publication, says it is encyclopedic in its scope.

“When we talk about Sundarbans we refer to only a few major species in the reserve forest area in about 4,260 sq. km. The publication catalogues the entire faunal diversity of Sundarban Biosphere Reserve covering 9,630 sq. km spread over 19 blocks in South 24 Parganas and North 24 Parganas of West Bengal,” Mr. Roy Chowdhury said.

Gone missing

The researchers document the famous tigers of these islands, which have adapted to aquatic conditions around, the human-tiger conflict, and behaviour of the big cat. The fortunes of 50 mammalian species including the Asian small-clawed Otter, Gangetic Dolphin, Grey and Marsh Mongoose and the wild Rhesus Monkey, the only primate here, are also documented.

“Due to pressure on habitat from people and natural threats that have shrunk the mangrove swamp habitat, mammal numbers are declining,” the authors say. Two Rhinos, Swamp deer, Barking deer and Hog deer and Asiatic Wild Water Buffalo are not found in Sundarbans anymore, they say.

There are 356 species of birds, the most spectacular being raptors, or birds of prey, that occupy the highest canopies of the forest. Osprey, Brahminy Kite and White-Bellied Sea Eagle are dominant, while Rose-ringed parakeets, flycatchers and warblers are also found in the middle tier, while in the lower tier, kingfishers abound — and the Sundarbans has nine of them.

There are 11 turtles, including the famous Olive Ridley and Hawksbill sea turtles and the most threatened freshwater species, the River Terrapin.

A crocodile, 13 lizards including three species of Monitor Lizards and five Geckos are found here. The rivers, creeks channels and the islands together harbour about 30 snake species, led by the King Cobra, considered vulnerable by IUCN.

Others documented are the Monocellate or monocled cobra, Russell's viper, common and banded kraits. Besides, ten species of frogs and toads are found.

Cartilaginous fish

The mangrove ecosystem covers about 350 species of fish. Cartilaginous fish, which have skeletons of cartilage rather than bone, make up 10.3%. The IUCN conservation status shows 6.3% fish are near-threatened and 4.85% are threatened. Also, there are 173 molluscs.

In another indication of its richness, 753 insect species are encountered in the Sundarban Biosphere Reserve. Of these, 210 are butterflies and moths. Moreover, Crustaceans — crabs, shrimp and prawns — constitute 334 species.

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An alliance on track: on the bullet train project

When Japanese Prime Minister Shinz Abe meets Prime Minister Narendra Modi in Ahmedabad this week, [the bilateral agenda](#) will range from issues of maritime security to nuclear energy and trade. But at the centrepiece of their summitry will be the [inauguration of India's first high-speed rail corridor](#) from Mumbai to Ahmedabad, to be developed using Japanese technology and financing.

The image of the platypus-snouted blue and white Shinkansen streaking past a snow-topped Mount Fuji has become as synonymous with Japan as sushi. Since October 1964, when the first bullet trains collapsed the time it took to cover the 552 km between Tokyo and the commercial centre of Osaka to four hours (today it is down to 2 hours, 22 minutes), the Shinkansen has emerged as the symbol of Japan's post-World War II ascent to economic superpowerdom. It encapsulates the archipelago's engineering might and almost preternatural standards of safety and punctuality. Japan's Shinkansen have carried over 10 billion passengers to date, without a single accident or casualty and an average delay of less than one minute.

Also read

The track to success: on the bullet train project

Yet, despite this admirable track record, Japan has struggled to export its bullet train know-how, even as Mr. Abe has made selling the technology abroad a cornerstone of his game plan to revitalise the stagnant Japanese economy. Before signing on India, Taiwan had been Japan's only successful sale. But Taiwan is hardly a poster child for the system, given that its high-speed line has suffered heavy losses since opening in 2007.

Profitability is a notoriously hard ask for high-speed train networks. Most lines across Europe, for example, are in the red. In Japan, some routes, notably Tokyo-Osaka, are profitable, but to achieve this requires high volumes of passengers and highly priced tickets. It costs around \$130 for a one-way Shinkansen ticket from Tokyo to Osaka. And over 350 trains operate on this line daily, ferrying about 163 million passengers a year. The region served is demographically dense, home to over half of Japan's population. These conditions are not easy to replicate and other high-speed lines in Japan have struggled.

The latest challenge to Japan's ambitions is the emergence of China as the new emperor of the superfast train. Over the last decade China has developed a 22,000 km high-speed rail network. It boasts the [world's fastest train](#), the Shanghai Maglev that hits speeds of 430 km. Its technology is also cheaper, making it an attractive proposition for the cost-conscious developing and middle-income countries of Asia.

In 2015, China pipped Japan to the post at the last minute by securing a [high-speed rail project in Indonesia](#) that had been considered by Tokyo to be in the bag. One reason Beijing unexpectedly won out was because China offered to finance the line without any recourse to Indonesia's government coffers. In the years since, the project has stalled following land acquisition problems. Nonetheless, China has also beaten Tokyo to becoming Thailand's partner of choice for its first high-speed rail line, permissions for which were finally granted after a two-year delay.

The battle to export bullet trains is clearly reflective of the broader rivalry between China and Japan for influence in Asia. Consequently, the India deal is not only a business coup for Japan but also a geostrategic one. Former Ambassador of Japan to India and President of the Japan-India

Association, Hiroshi Hirabayashi, acknowledged as much. “India is not Indonesia or Thailand. It is a great nation, totally autonomous. And it’s not as likely to submit to Chinese pressure,” he said of India’s decision to go with Tokyo.

For Japan, the Mumbai-Ahmedabad contract has been hard-won. It entails a loan worth \$12 billion, at 0.1% interest, to be paid back over 50 years, taking care of over 80% of the project’s estimated costs. Japan will also supplement the financing with a generous package of technical assistance and training.

Yet in India, concerns related to costs, safety and misplaced priorities persist. Tomoyuki Nakano, the Director for International Engineering Affairs of Japan’s Railway Bureau, remained confident of ironing these out with some tweaks to the Japanese technology taking into account climatic differences, the possibility of electrical blackouts, as well as dust and other environmental conditions in India. He also pointed out that when Japan developed its first Shinkansen lines in the 1960s, it was a poor country as well that had required loans from the World Bank.

But what about the enormous software or cultural differences between Japan and India? Mr. Nakano was sanguine. “When we had Indians coming here (to Tokyo) for training, I noticed some of them were quite late. But after two weeks in Japan they became very punctual,” he concluded.

Pallavi Aiyar has reported from China, Europe, Indonesia and Japan. She is a Young Global Leader with the World Economic Forum

The new U.S. Fed Chairman is unlikely to opt for policies that might upset the President’s plan

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Five challenges in the Ahmedabad-Mumbai bullet train project

It is indeed a great beginning for India that the ground-breaking for the construction of the first bullet train between Ahmedabad and Mumbai is happening on 14 September at a function attended by Narendra Modi and Shinzo Abe, prime ministers of India and Japan respectively. Apart from being a major leap in infrastructure development in India, this project signifies the friendship and collaboration between the two countries.

The 534-km Rs1 trillion high-speed rail project that will operate trains with average speeds of 200-250kmph will be a game-changer in terms of inter-urban connectivity and establish India as a market for such technologies. Japan, which has matured in evolving such technologies and is seeking opportunities for investments, is providing a loan that would cover 80% of the estimated project cost at 0.5% interest, with a 15-year moratorium followed by a 35-year payback period. While it is of great value that we have both financial and technological support from Japan for building this line, there are multiple challenges that need to be overcome. I speak of at least five:

Route design which would include questions like:

- a) Detailed alignment choice, especially when it is over ground, keeping in view land acquisition challenges versus providing access to the population along the corridor. If the alignment goes closer to urban growth areas to provide access, there would be issues of land acquisition, pulling down buildings, possibility of destroying heritage structures etc.
- b) Location of stations: whether they should be the city centre connecting existing railway stations, or in an adjacent station, or periphery of an urban node. The trade-offs are providing better access and connectivity versus costs due to land and structures.

From a long-term point of view, being in the periphery of an urban node, apart from reducing costs, could help generate urban growth around the station, and even in shifting the centre of gravity of the urban area. In the short run, however, traffic ramp-up will take time. This needs to be mitigated through excellent feeder services. The specific location of the terminal station in Mumbai is still courting controversies. The Maharashtra government does not seem to be willing to give land in a major commercial growth node, as has been requested. Instead, it is suggesting that the station could be located in the land that belongs to the railways. This could have implications on the catchment at the Mumbai end.

- c) Number of stations: In general, there would be a demand for more stations. While this will increase the catchment, it could reduce the average speed due to higher number of stops. One way around this would be to have different service categories like fast (stopping at all stations) and super-fast (only at major cities).

It should be noted that the bigger catchment will be from the smaller cities that may not have access to airports. For example, while an Ahmedabad-Mumbai passenger may still consider air as a viable option, for the Anand-Mumbai or Ahmedabad-Vapi passenger, the high-speed train is a great boon. Having stations with connectivity to airports like at Ahmedabad, Vadodara and Mumbai will increase catchment of long distance air passengers who could then connect to the cities in this corridor and vice-versa.

Evacuation facilitation: At each station, it would be important to have fast and multiple means of evacuation, to increase the catchment and propensity to travel.

- a) To begin with, efficient bus services as well as accessible parking lots for private vehicles

should be provided.

b) In Mumbai and Ahmedabad, where metros are under construction, it would be important to provide seamless metro connectivity.

c) At major stations, where passengers could move to other trains, the transfer must be seamless.

Land acquisition: This will be a critical issue, especially where the alignment would veer off from existing railway lands. The challenges would be best addressed by the line going over ground, where the actual acquisition would be limited to the footprint of the pillars. Designs would have to be developed in such a way that the footprint is minimized. Experience from land acquisition for transmission lines and metro corridors would come in handy.

Human resource development: It would be important to train a large number of Indian engineers and managers for design, construction and operations at standards that would be essential for high speed rail, including for stringent safety standards. It would also be important to train Japanese senior management, who need to spend considerable time in India to train and oversee the required activity. The Japanese managers would need to be oriented towards Indian conditions and the prevalent professional culture. In recognition of this, as part of the project, a large training centre is being put up. Along the same lines, IIM Bangalore is setting up an India-Japan Study Center with the mission of improving India-Japan mutual understanding and complementary skill building in the domain of management including for infrastructure.

Future expansion: It would be useful to have a perspective on how the expansion of this line would happen. Once the proof of concept of High Speed Rail is established, there would be demands for expansion. In an earlier proposal, the line was actually to go beyond Mumbai to Pune, but was not found to be viable initially. Such visioning would be useful in bringing greater support from the government of Maharashtra.

G. Raghuram is director of Indian Institute of Management Bangalore.

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Subnationalism not a threat

Along with the rhetoric of nationalism, India is also witnessing the re-emergence of subnationalism as a political idea. Interestingly, this is emerging most strongly from Karnataka, which is neither ruled by a regional party nor has shown any significant separatist or secessionist tendencies in the past. The key issue of contention is regarding a [separate State flag for Karnataka](#). While Karnataka has had an unofficial yellow-and-red flag for almost 50 years, the government is now considering adopting an official State flag. The other issue is the protest against the imposition of Hindi, most notably on the signboards of Namma Metro stations in Bengaluru. Karnataka Chief Minister Siddaramaiah has strongly come out in support of the State flag and [against the use of Hindi signboards in the Metro](#).

Even if the narrative around Kannadiga pride is impelled by the government with an eye on the upcoming Assembly polls, the larger questions around identity it raises cannot be ignored. Given the multiple identity markers, the key challenge is to foster a shared political community that also accommodates the multiple aspirations of a diverse population. This is important as an aggressive nationalism seeks to engulf any alternative ideas of self-identification. The counter-narrative hence brings into question the place of linguistic and cultural rights in a plural society with a federal Constitution.

Historically, the nationalist movement had furthered a pluralistic idea of India. While the Indian National Congress had demanded language-based provinces during the freedom movement, the experience of religion-based Partition made the Nehru government wary of adopting linguistic States in the early years after Independence. But with the enactment of the States Reorganisation Act, 1956, linguistic States became a reality. Further, the Official Languages Act of 1963 prevented the planned transition of India's official language from English to Hindi. These key legislative moves ensured that Indian national identity is not homogeneous.

The Kannada flag, et cetera

India also does not follow a classical majoritarian form of democracy. While the first-past-the-post electoral system tends to favour ethnocultural majorities, there are also certain group-based fundamental rights provided in the Constitution, such as in Articles 29 and 30. Part XXI of the Constitution has a set of special provisions for certain States and sub-State regions, while the Fifth and Sixth Schedules give special institutional measures for the administration of areas with high Scheduled Tribe populations.

While India does not neatly fit within political scientist Arend Lijphart's framework of a consociational system (providing for formal power-sharing arrangements between different social groups), it possesses a flexible constitutional order that enables creative solutions to subnational aspirations. The creation of new States based on varied grounds has not been too arduous in independent India. Hence, Alfred Stepan, Juan Linz and Yogendra Yadav argue that India may be classified as a "state-nation" which respects "multiple but complementary" sociocultural identities and provides constitutional mechanisms to accommodate political claims arising out of these identities. Such a constitutional order has been central to our endurance as a nation state for 70 years.

The accommodation of linguistic and cultural diversities does not merely help maintain the integrity of India's national boundaries, but also promotes positive social outcomes. In *How Solidarity Works for Welfare*, Prerna Singh has argued that subnationalism is positively linked to social development. Using multiple research methods, she demonstrates that greater the level of subnational solidarity, higher will be the State's commitment to social welfare. Kerala's success is

the most striking example. She contrasts Kerala and Tamil Nadu with Uttar Pradesh, a development laggard with little subnational solidarity, to argue her point.

With hyper-nationalism on the rise, it is important to reassert the pluralistic character of the Indian nation state. While nationalism conventionally privileges one sociocultural identity over others, India's pluralistic nationalism celebrates the coexistence of multiple identities. The assertion of subnational pride in States like Karnataka counters attempts at advancing the homogenising narrative of Hindi-Hindu-Hindustan. As long as subnationalism is not secessionist, or aimed at othering sections of the population, it should not be viewed as a threat, but rather as a constitutive element of India's plural democracy.

Mathew Idiculla is a research consultant at the Centre for Law and Policy Research, Bengaluru

The new U.S. Fed Chairman is unlikely to opt for policies that might upset the President's plan

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We need to talk about rural distress

A century ago, farmers in Bihar's Champaran district were forced to set aside 15% of their land to cultivate indigo under the *Tinkathia* system. Once planted, the farmers were still subjected to a variety of extortionist cesses, or *abwabs*. They rose in revolt but were crushed by the East India Company until the arrival of a barrister from South Africa. Yet, a century after [Mahatma Gandhi fought against the exploitation of farmers](#), India's agrarian community still remains under siege.

At a granular level, marginal farming in India is a highly complex and decision-intensive process. Farmers have to make a variety of decisions starting with the choice of crops (annual or short term) and their time of tillage. Then there are rising prices of agricultural inputs, availability of water, soil suitability and pest management. All these factors create a narrow window of economic benefit for the marginal farmer. A wrong decision can wreak havoc.

This uncertainty is reflected in rural debt levels. A Panjab University study showed that in Punjab, large farmers with holdings greater than 10 hectares typically had a debt-to-income ratio of 0.26, while for medium farmers, 4-10 ha, and semi-medium farmers, 2-4 ha, it was 0.34 — all seemingly affordable. However, small, 1-2 ha, and marginal farmers, less than a hectare, faced a greater burden of debt, with a debt-to-income ratio of 0.94 and 1.42, respectively; over 50% of their loans are from non-banking sources.

With average landholding size decreasing from 2.3 ha in 1971 to 1.16 ha in 2011, and average input prices rising, cultivation costs have also increased. A farmer now typically earns 2,400 a month per hectare of paddy and about 2,600 a month per hectare of wheat, while farm labourers earn less than 5,000 a month. Real farm wages have grown at an average annual growth rate of 2.9% between 1991 and 2012, with farm wages declining between 2002 and 2007. Effectively, about 30.5 million left farming between 2004-05 and 2010-11, seeking employment in the secondary and tertiary sectors. In 2011, the Planning Commission estimated that the size of this agricultural workforce would shrink to less than 200 million by 2020.

Farm suicides get attention of Supreme Court

The consequence is farmers committing suicides. Farmer suicides have also grown primarily in States with limited irrigation and variable rainfall, comprising 87.5% of all farmer suicides in 2015. Over 3,21,428 farmers committed suicide in the last 20 years.

Large farmers in Maharashtra typically have access to modern pumps, consuming huge amounts of water and leaving hardly anything for small and marginal farmers. Fertilizer and pesticide prices have also risen, causing marginal farmers to adopt organic means. The limited availability and high cost of high-yielding seed varieties also hampers agricultural productivity. Given such constraints, farmers have limited scope for crop diversification, choosing to focus primarily on staple crops such as wheat and rice, where the government offers a price guarantee for produce and the availability of post-harvest infrastructure.

Institutional support has been provided in various forms since Independence. Established in 1982, the National Bank for Agriculture and Rural Development has sought to provide financing support for tube-well irrigation, farm mechanisation and other ancillary activities. The introduction of a nationwide agriculture loan waiver in 1990 had a deleterious impact on the provision of rural credit, providing a short-term palliative while breeding credit indiscipline among farmers and leading to a shortfall in rural credit growth.

Why can't the government provide a higher income for farmers, asks M.S. Swaminathan

The 2004-05 Union Budget sought to double agricultural credit, while a 2% interest subvention was provided in 2006, allowing farmers to avail of kisan credit card (KCC) loans at 7% per annum (up to 3 lakh). Another agricultural loan waiver was sanctioned in 2009, just before the Lok Sabha election. In 2011, the government provided a further 3% interest subvention for farmers making immediate payments on their KCC loans. More recently, the [Uttar Pradesh government's farm loan waiver scheme](#) has been replicated in Maharashtra, Punjab and Karnataka and estimated to total up to 0.5% of India's GDP. Similar demands are growing in Madhya Pradesh, Rajasthan and Haryana. Small and marginal farmers certainly deserve greater support from the government. However, India's agricultural policy has historically disincentivised the creation of a formal credit culture among farmers. When the next election is likely to bring about another farm loan waiver, why would any farmer seek to pay off his loans early? Such schemes can also prompt farmers to take on risky ventures that are beyond their capacity.

Ideally, India ought not to have rural distress. We have the second largest amount of arable land in the world. Yet, less than 35% of this land is irrigated, with the remainder subject to fluctuations in rainfall.

The writing is on the wall. India's small and marginal farmers will need another agricultural loan waiver. However, this cannot continue in the future. There are other ways to mitigate their plight. Greater subsidies could be extended for the purchase of agricultural equipment, fertilizers and pesticides, while the medical insurance coverage could be expanded through the Rashtriya Swasthya Bima Yojna. In addition, the scope of the Mahatma Gandhi National Rural Employment Guarantee Act could be increased. Allowing marginal farmers to be paid for tilling their own fields could reduce their input costs. Such measures could also increase their net income.

Finally, we need a national conversation on rural distress. Unlike the Champaran Satyagraha, national attention has been curiously lacking. We ought to discuss the [Swaminathan Commission's report](#) in a full week's sitting of Parliament and decide which direction India's agriculture goes. With empathy for India's farmers and a truthful assessment of on-the-ground farming reality, we must make the right choices for Indian agriculture.

Feroze Varun Gandhi is a Member of Parliament representing the Sultanpur constituency for the BJP

The new U.S. Fed Chairman is unlikely to opt for policies that might upset the President's plan

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Building a new India: Pledge to Double Farmers Income by 2022**Building a new India: Pledge to Double Farmers Income by 2022**

In order to improve the economic condition of the farmers, Prime Minister, Shri Narendra Modi has set up an ambitious target in front of the nation. The goal is to double the income of the farmers by 2022. It has been for the first time, a Prime Minister has put such a target in front of the compatriots for the welfare of the farmers. Under the able guidance of Prime Minister, Shri Narendra Modi, the Agriculture and Farmers Welfare Ministry has to achieve this target by 2022. The Ministry is committed to making his dreams come true. Farmers and officers are implementing schemes to increase the income of the farmers. Krishi Vigyan Kendras (KVKs) organised pledge taking ceremonies in 562 districts of the country between August 19 to September 11, 2017, as a clarion call to farmers to double their income by 2022 and a total of 47,08,47 farmers and agricultural workers participated in it.

- KVKs organised this program in the 562 districts of the country. The program saw the participation of the State Government and the Central Government officers, Agricultural Officers, Students and a large number of farmers in each district.
- Speaker Smt. Sumitra Mahajan attended one of the events.
- In two places, the Governor of the respective states participated.
- Chief Ministers of three states attended four pledge-taking ceremonies.
- Union Agriculture and Farmers Welfare Minister, Shri Radha Mohan Singh attended five ceremonies.
- 49 Central Ministers participated in pledge taking ceremonies at 79 locations (Districts).
- In 284 places (Districts), Members of Parliament attended the program.
- In 111 locations (Districts), State Ministers attended the program.
- In 350 locations (Districts), the MLAs attended the program.
- In 398 places (Districts), Chairman of District Panchayat attended the program.

[Kindly click here for State wise details.](#)

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Creating corridors of certainty: on India's tiger population

Ranthambore in Rajasthan is arguably India's most well-known tiger reserve, aglow with bold tigers posing for the camera. It has a fierce conservation ethic, a success story with few parallels. It is estimated that there are over 60 tigers in this relatively small tiger reserve. But what about the future? A genetic study suggests that Ranthambore's tigers suffer from low genetic diversity and isolation.

While the reserve itself is doing well in terms of tiger numbers, it is cut off from other forests. This is a microcosm for many other tiger reserves in India. Several are admirably run with healthy tiger numbers, but simultaneously they are also witness to fast-paced disturbance in the landscape around them. While numbers of tigers are stable inside reserves, connectivity between them is getting cut off.

Ranthambore now home to 62 tigers

Based on a study of samples from tiger post-mortems and collection from live tigers, a new study, which had inputs from laboratories at the Wildlife Institute of India, the Centre for Cellular and Molecular Biology, Kerala Veterinary and Animal Sciences University, and Aaranyak has found that India has three distinct and genetically connected tiger populations. These are in: south India; central India, the Terai and north-east India; and in Ranthambore. The Ranthambore population has the least genetic diversity and may suffer from isolation. There are two issues here: populations require genetic flow to remain robust; securing healthy tiger numbers are not enough for tiger health. Second, we are in an age of active management. When tigers go extinct in an area, they are flown in or carried in from other areas — as was done in the case of Panna (Madhya Pradesh) and Sariska (Rajasthan). It appears, *prima facie*, that the problem is solved. But are these management devices a suitable proxy for genetic flow through actual habitat corridors?

India has more than 60% of the global wild tiger population. Thus, the question is not just of today but also of tomorrow.

Several studies suggest that tigers do well in remote and dense forest. But tigers also need new forest to colonise, dispersing from their natal areas as they reach adulthood. Natural history has viewed the tiger to be the epitome of the 'wild' animal — doing well in areas with less human disturbance, taking down large prey, keeping a distance from people, and being fiercely territorial of space. Modern surveillance proves this theory demonstrating that tigers will traverse long, difficult distances to establish territories. As examples, we have had tigers moving from Ranthambore to Bharatpur (Rajasthan), from Pilibhit to Lucknow (both Uttar Pradesh), and from Pench (Madhya Pradesh) to Umred (Maharashtra).

The Ranthambore story

Genetically isolated or stranded populations can suffer from genetic depression, and subsequently, mutations and ailments. This has already happened to species which have had stranded populations such as the Florida panther and possibly the Great Indian Bustard. While the tiger is undoubtedly the epitome of wildness, its wildness is not restricted to being a fierce obligate carnivore which hunts to survive, dying when weakened. Wildness and wildlife conservation also include preserving ecological processes which hold their own evolutionary potential. A robust forest or habitat corridor between tiger reserves is an important means of maintaining these ecological processes and may hold the key to the survival and adaptation of the species.

Yet today there is a hard disregard for conservation outside protected areas. Even the cores of reserves are on the chopping block. Is this because there is contentment that tiger numbers are stable overall? In Madhya Pradesh, the Ken-Betwa river interlinking project will submerge a large part of the Panna tiger reserve and landscape. A new proposed irrigation project will submerge more than three lakh trees in the Palamau tiger reserve (Jharkhand). New highway proposals which will make wider cuts through Sariska, Kaziranga (Assam) and between the Kanha and Pench reserves are being considered or implemented. Clearly, a wildlife corridor or habitat is a bad word in the lexicon of planning and development.

The tiger story is built around a narrative of numbers. Undoubtedly, numbers are important. They indicate a continuous protection effort and that the habitat is doing well. But numbers are the beginning of the tiger story, and not the end.

K. Ullas Karanth: 'We are slow to adopt science for conservation'

The fact that the forest department carries out conservation but does not own land outside of the forest is an important factor. Thus an effort to link reserves would need many more stakeholders and political will. This is not easily done, but needs to be attempted as a conservation priority. Rajasthan recently created the Mukundra tiger reserve for Ranthambore's 'spillover' tigers. Apart from moving tigers with human intervention, the corridor between the two reserves should be strengthened too. Other States need to start restoring corridors or stepping stones between forests.

With mounting human pressure, to ask for more acres of protected forests may be utopian. But conserving workable corridors is doable — and as science shows us, also necessary.

Neha Sinha is a wildlife conservationist

The new U.S. Fed Chairman is unlikely to opt for policies that might upset the President's plan

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The new highways: on developing national waterways

As acquisition of land for national and State highways becomes scarce and the cost of construction of roads, flyovers and bridges goes up, the government is now exploring using water as a means of public transportation.

With the enactment of the National Waterways Act, 2016, the total number of national waterways is now 111. But providing infrastructure such as jetties, terminals, and navigational channels continues to pose a challenge.

Hence, the government has proposed an amendment to the Central Road Fund Act, 2000. The Central Road Fund (Amendment) Bill, 2017 implants 'national waterways' into the 2000 Act.

The Bill proposes using a part of the cess collected on high-speed diesel and petrol for the upkeep of the national and State highways for maintaining the infrastructure of the national waterways.

The Ministry of Road Transport and Highways, which tabled the Bill in July 2017 in the Lok Sabha, said national waterways provide a cost-effective, logistically efficient and environment-friendly mode of transport, whose development as a supplementary mode would enable diversion of traffic from over-congested roads and railways. It is argued that the waterways project deserves better regulation and development across the country.

In order to suitably develop national waterways, sustainable source of funding is imperative as budgetary support and funds from multilateral institutions are inadequate.

In a statement on objectives and reasons for the amendment, the Ministry said that "one of the sustainable sources of funding for the development of waterways is to earmark certain per cent of cess levied and collected on high speed diesel and petrol under the Central Road Fund Act of 2000". It has proposed to provide 2.5% of the cess on high-speed diesel and petrol for the development and maintenance of national waterways. This would accelerate the development of national waterways by utilising the funds generated by way of cess. It also offers incentives and certainty for the private sector to invest in the inland waterways transport sector.

At the current rates of levy of cess, about 2,000 crore per annum is estimated to be available for the development and maintenance of national waterways. The administration of the cess collected will also involve some expenditure. It is not possible to indicate the quantum of expenditure involved at this stage. However, the expenditure involved for this purpose would be met out of the budgetary provision of each year by the Ministry of Shipping, as approved by Parliament.

The new U.S. Fed Chairman is unlikely to opt for policies that might upset the President's plan

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India Signs 76 Million US Dollar Loan Deal with Japan International Cooperation Limited (JICA) to Upgrade Alang-Sosiya Shipyards

India Signs 76 Million US Dollar Loan Deal with Japan International Cooperation Limited (JICA) to Upgrade Alang-Sosiya Shipyards

The Government of India signed a loan deal worth \$76 million with Japan International Cooperation Agency (JICA) today, for a project to upgrade the environment management plan at Alang-Sosiya ship recycling yards. The total cost of the project will be \$ 111 million, out of which \$76 million will be provided as soft loan from JICA. Out of the remaining amount, \$25 million as taxes and fees will be borne by Government of Gujarat and the balance \$10 million will be shared by Ministry of Shipping & Government of Gujarat. The project will be executed by Gujarat Maritime Board (GMB) and is likely to be completed by 2022.

This project will help the Alang-Sosia ship-recycling yards to comply with international safety & environmental regulations. This will attract more business at the recycling facilities at Alang, thereby further consolidating India's share in the global ship-recycling industry.

This project will also help in safeguarding the marine and coastal environment. The use of advanced decontamination technology will rule out the possibility of fire accidents in oil and chemical tankers, thereby ensuring workers safety.

The project is expected to result in increase in direct employment from 50,000 to 92,000 people and in-direct employment from 1.5 lakhs to 3 lakh people.

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Government for market borrowing to incentivize speedy execution of new urban missions**Government for market borrowing to incentivize speedy execution of new urban missions****Minister of Housing & Urban Affairs says SPV to tap market****Minister asserts urban missions doing well and targets will be achieved****Comprehensive review of JNNURM to further improve urban planning, execution****National Conclave of States for mid-term review and road ahead**

Ministry of Housing & Urban Affairs is considering market borrowings to incentivize speedy execution of urban infrastructure projects under various new urban missions launched over the last two years. This was stated by the Minister of Housing & Urban Affairs Shri Hardeep Singh Puri while addressing 'Public Affairs Forum of India' on challenges and opportunities of rapid urbanization here today.

Shri Puri said "To overcome the severe infrastructure deficit accumulated over long years, huge order of investments is required. To meet various contingencies and to ensure fund availability to meet the targets under new urban missions, we are thinking of mobilizing resources from the market. We have undertaken an assessment of requirement of funds till 2022 and likely flow of funds. To ensure assured fund flow, setting up of a Special Purpose Vehicle to tap the market is under examination. Once this idea is firmed up, we will take it forward in an appropriate manner".

The Minister assured that the Government led by Prime Minister Shri Narendra Modi will spare no efforts to realize a new Urban India and will work shoulder to shoulder with State and city governments in the true spirit of Team India. He further noted "These are happening times in India and Urban India is an integral part of this exciting and challenging journey. I am confident that success will be with the people of India".

Elaborating on the ongoing efforts to further improve urban governance, planning and execution, Shri Puri announced that a comprehensive evaluation of implementation and outcomes of Jawaharlal Nehru National Urban Renewal Mission (JNNURM) will be undertaken which will serve several purposes, it being the first concerted effort to make a difference in urban sector. He said "The terms of evaluation will cover the extent of realization of stated goals of JNNURM, an assessment of improvement in urban governance further to implementation of reforms, identification of lacunae and reasons for shortfall in physical and financial progress. This evaluation will provide useful guidance to

city and State Governments in the context of current thrust on urban rejuvenation”.

JNNURM was implemented during the period 2005-14, before it was wound up by the previous government. This government, however, continued to finance some of the incomplete projects based on certain criteria, to enable their completion.

Referring to the impact on the ground of new urban missions, Shri Puri said that though the new Missions like Smart City Mission, AMRUT and Pradhan Mantri Awas Yojana (Urban) were launched only a little over two years back, substantial work is being executed on the ground with hundreds of projects under implementation. He asserted that visible impact will be visible in the next few months and expressed confidence that targeted outcomes will be achieved within given time frames. To prove his point, the Minister gave an account of performance during 2014-17 and the earlier ten years.

Elaborating on the paradigm shift in urban development approach of this Government, the Minister said “The city level action plans for improving urban infrastructure under different new missions have not been drafted in Delhi. They all emanated from the ground level and are collective expression of the aspirations of the citizens and city governments. Ownership of these plans is with them and not with Delhi. So, they have the obligation of ensuring their timely implementation”.

Shri Puri announced that a National Conclave of States and Union Territories will be organized for a high level mid-tem review with Ministers of the progress of various urban missions, for sharing of experiences for mutual benefit and a structured discussion on speeding up of implementation to meet time bound targets.

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India's leap to High-Speed Corridor for Holistic Progress



*G.Srinivasan

As India will commemorate its diamond jubilee in 2022 to mark its 75 years of Independence, the NDA government has pulled up the socks to ensure that a decade-long dream of having the first bullet train in India realized. The first step in this direction is taken on September 14 in Gandhinagar, Gujarat when the visiting Japanese Prime Minister Mr. Shinzo Abe and India's Prime Minister Mr. Narendra Modi laid the foundation stone for the maiden 508 km long high-speed rail project between Mumbai, the commercial capital and Ahmedabad, the iconic city of the country.

Mr.Modi succinctly underscored the importance and significance of the rail project, the first of its growth-propelling genre, by remarking that "more productivity with high-speed connectivity" is what the nation would gain from the bullet train. He rightly stated that the prestigious bullet train will be a game-changer, besides being 'a symbol of New India' that his government seeks to build by 2022.

A little background is in order to render the euphoria generated by this project across the country a bit enduring and to highlight the huge challenges and humongous opportunities ahead once the project is commissioned. Mumbai-Ahmedabad High Speed Rail (MAHSR) project has been sanctioned for implementation with technical and financial underpinnings from the Government of Japan. National High Speed Rail Corporation Limited (NHRCL) has been incorporated as a Special Purpose Vehicle (SPV) to undertake the implementation of this project with a joint feasibility report contending that the project is targeted for commissioning in 2022-2023. With the Prime Minister Mr. Modi keen on commissioning the project on the 75th year of the country's independence in 2022, the project deadline is advanced by a year.

For people inured to hearing and witnessing the wonders wrought by high-speed trains in the continental European countries, Japan and China, the image of a similar modern train criss-crossing the country's major cities is a dream come true. Many an analyst of global geopolitical trends say the picture of the platypus-snouted blue and white Shinkansen (the name of the Japanese bullet train) speeding past a snow-capped Mount Fuji has become a part and parcel of Japan as its popular sushi. Since October 1964, when the first bullet train broke the time it took to cover the 582 km between Tokyo and the commercial hub of Osaka to four hours(now it is down

to two hours, 22 minutes), the Shinkansen has emerged as the iconic image of Japan's post-war pinnacle to economic supremacy in the globe. The Japanese bullet train exemplifies the archipelago's engineering efficiency and incredible standards of safety and punctuality. So far, the Japanese bullet trains had carried ten billion passengers sans a single accident or casualty with an average enviable delay of less than one minute!

It is small wonder that the Prime Minister Mr. Modi is fully convinced of the worth and wealth it would bring forth to the economy through efficiency gains of unquantifiable amounts. That is why in his foundation-stone laying ceremony Mr. Modi said the high-speed corridor should be seen in the context of overall economic development. He contended that considering the time it takes to reach the airport and then take a flight and eventually reach the destination in the city, the bullet train would take half the time for people to reach their destinations, unhampered by any intervening and common obstacles such as traffic snarls, pollution and road rage. This would also spawn a lot of savings by consumption of fossil fuels.

For Japan, the prestigious project in India has been hard-won as it deems friendship with India a strategic gain and geopolitical victory of sort when it outsmarted China by offering a loan worth 12 billion US dollars at 0.1 per cent interest to be disbursed by India over 50 years. This duly takes care of over 80 per cent of the project's estimated cost. Japan would also supplement the financing with the largesse of technical assistance and training package.

The bullet train project in India must perforce have to be viewed from a new perspective. India's first train way back in 1853 between Bombay-Thane covered the 34 km distance in about an hour. More than several decades later and a century, the average speed of the Indian Railways is among the slowest in the world at 60 kms per hour. Even the country's fastest train Gatiman attains a top speed of 160 kms per hour. But, if things swing according to the authorities' calculations, the high-speed rail at its acme would operate at more than twice this celerity to win credibility and concurrence of many an Indian wishing to see a modern nation relishing panoply of comforts and convenience.

For critics bashing the bullet train project as baloney, it needs to be dinned that over and above pulling traffic from air, rail and road, high-speed rail also generates new traffic with people weighing the comfortable and convenient mode of expeditious travelling as a new experience. In an economy plagued with low and slow investment from private sector with the government doing the heavy-lifting of public investment, this is a viable way of making exemplary use of low-cost surplus capital sloshing in abundance globally to build modern infrastructure in India. In fine, the high-speed rail project is bound to bring immeasurable benefits to the Indian economy if the teething troubles and managerial snafus get overcome through well-laid advance plans and rigorous executing standards and sticking to deadline milestones with metronomic precision.

**The author is formerly Deputy Editor The Hindu Group and is currently freelance commentator on*

economic issues.

Views expressed in the article are author's personal.

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The Ghazipur landfill collapses, another catches fire, and no one wants a dumpsite in the backyard. Where must our solid waste go?

On September 2, an avalanche of garbage at Ghazipur keeled over killing two people | Photo Credit: [Shanker Chakravarty](#)

A defiant mound — lush with grass as on a golf course — rises amidst 150-foot-high mountains of rotting garbage that constitute Delhi's most infamous landfill, in Ghazipur. At the foot of the mound is a stout, rectangular transformer — a 'demonstration project' — meant to show that landfill gas (a mix of methane and carbon dioxide) can be squeezed out of the garbage and be used to produce electricity.

For decades now, commuters on the highway connecting Delhi to Meerut would have been forgiven for mistaking the giant brown heaps for a mountain range. But locals know that it is a hulk of trash that grew at an average of about 3,000 tonnes a day every year — until this month, that is.

On September 2, an avalanche of garbage keeled over onto a road and with its momentum broke through a boundary wall pushing cars and motorcycles into an adjoining drain. Two people died and at least seven were injured in this accident.

"It was a massive sound, like an explosion," said Ram Manohar, who works at one of the effluent treatment plants built to convert some of the waste into biogas, "I ran to see what happened and the next thing I saw was a car floating in the drain."

To Shanta Kumari, who lives in the nearby slum, the disaster was imminent. She and her three sons have lived in one of the slums surrounding the landfill for several years. They have now got used to the stench, says Shanta, although it can get particularly overwhelming during the rains. "The stench apart there have been several fires that billow out during the summer. We've lodged several complaints but nothing has happened and we now accept it as a part of our life."

The bulk of the waste in the landfill being organic means that it's a potent source of methane and is inflammable, a fact that's well known to everyone — from government authorities to activists.

Delhi has other landfill sites at Bhaswal, northwest of the city, and it's so prone to fires that the Delhi Fire Services has engines on standby and positioned close enough to quickly douse it. Delhi isn't the only city that hosts deadly landfills.

Deonar, Mumbai's largest and oldest dumpyard, caught fire multiple times last year and required firemen for weeks; it spiked pollution levels to nearly twice that of Delhi. The Central Pollution Control Board has reported that waste from India's cities has crossed 1,42,870 (1.43 lakh) tonnes per day, of which a substantial 12,858 tonnes is not even collected. Of the 91% (1.3 lakh tonnes) collected, around 65,000 tonnes is dumped or disposed off in the most unscientific and unhygienic manner. Only 23% is being treated while 27% is dumped in landfills.

Energy from waste

A waste-to-energy plant commissioned in Ghazipur works sub-optimally because it requires that there be no solid waste in the refuse before treatment.

In an earlier interview, Ravi Agarwal, Director, Toxics Link, an organisation that works on waste management problems, had said that unless basic steps such as segregating waste at source were undertaken, it would be impossible to deal with Delhi's garbage woes. Professor Manoj Datta

of the Department of Civil Engineering, IIT-Delhi, in the aftermath of the recent disaster said that the 'stability of the landfill' could be increased by flattening the slopes, strengthening the top and removing leachate and gas.

Thirty-five years ago, this 80-acre shrine to garbage was an empty, featureless outback of Delhi. A fish and poultry market, a slaughterhouse, a vegetable and flower market predate the dumpsite and in the eyes of the municipal corporations, was a logical dumping ground for a rapidly-consumerising Delhi. In the late 1980s, as the trucks started to stream in — with piles of refuse from the markets as well as residential colonies of east Delhi — Mohammed Nazir and his schoolmates discovered that it became increasingly hard to host a decent game of cricket here.

"The ball would always get stuck in the trash and after a while it became impossible to ignore the stench," said Nazir, who's now a 45-year-old fish retailer at Murga Mandi, the generic name for the assortment of sprawling retailers that dominate the area.

As Nazir grew, so did the line up of trucks and eventually the landfill, which was stipulated to grow no more than 70 feet, but breached the limit in 2004. There's also an informal economy that subsists around the landfill: waste collectors, operators of trash-skimming equipments, truck drivers who ferry the trash.

For Kumari, living near a dumpsite that receives nearly a third of the city's garbage is a small price to pay because it pays her bills. Her sons climb the mounds of trash everyday for the slightest object of value — iron parts, electronic scrap, plastic — that are then sold for recycling. "Were this to go away, how will we eat?" she asks.

Foiled plan

After the accident, Anil Baijal, Delhi's Lieutenant Governor decreed that no more fresh garbage was to be dumped at the Ghazipur landfill; the convoy of trucks has slowed down to a trickle. Mirza, who works as a watchman at the Ghazipur dump, says that a handful of trucks continue to come in because the government's plans to have garbage dumped in an alternate location has run into stiff opposition from locals.

When disaster strikes

A waste-to-energy plant by the Jindal group in south-east Delhi's Okhla belt was stalled for years because residents in the vicinity complained that it wasn't using proper incineration technology and that the fumes were triggering illnesses.

Even as Delhi's waste management problems balloon, Delhi denizens' protests against any waste-to-energy plant or landfill coming within sniffing distance of their homes, has meant that authorities only firefight when a disaster strikes rather than implement long-term garbage-management plans.

The government amended solid waste management rules last year, mandating that all establishments take charge of ensuring that waste is segregated and waste collectors be absorbed into formal networks. "This requires a concerted government effort but given that different political parties control different wings of government, and Delhi's unique statehood means that it's extremely hard to work on long-term solutions," said a top official at the CPCB, who didn't want to be named.

The green mound was also once part of the dump that has now been flattened out and has its waste dredged to make landfill gas and run a micro power plant. In November, the government will begin an attempt to use the solid waste from the landfill as filler in the construction of a highway

connecting Delhi and Meerut, a plan that was made public in the aftermath of the accident. But “it’s too expensive and I doubt that this mountain heap will go away,” said Anoop Kumar, an engineer who works at the treatment plants.

Jaggi Vasudev’s Rally for Rivers claims they will, but this is not based on the most nuanced science

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Land use conversion and climate change can make a deadly combination for Mumbai

The coastal landscape of Mumbai has changed drastically in the last few years | Photo Credit:

[AP](#)

For the second time in a little more than a decade, rain and floods brought Mumbai, India's commercial capital, to a grinding halt. The city recorded nearly 300 mm of rain on August 29, one of the heaviest spells in the city's history. It was much lower than the all time single-day record of 944 mm of July 2005, but it was enough to bring the city to its knees.

The media reported on the impact on citizens, the failure of the local administration to first anticipate and then deal with the situation. While this remained focused primarily on the causes of flooding, there was another series of reports on larger phenomenon at play: Global warming and changing land use in the city. This makes a deadly combination indeed.

The coastal landscape of Mumbai has changed drastically in the last few years — satellite imagery following the August deluge shows, for instance, how mangrove forests in areas like Thane, Malad, and the Manori creek, have been lost or encroached upon. The new airport that was approved in Navi Mumbai a few years ago will destroy nearly 160 hectares of mangroves. The initial proposals by the Mumbai Metropolitan Region Development Authority had suggested the reclamation of more than 20 sq.km. of the city's salt pans for housing and other projects. The desire for more land is clearly jettisoning the security of the city and this is only expected to grow more pronounced as weather patterns become more extreme and also more uncertain with climate change.

Capacity to cope

There are two threads of discussion that are relevant here. On the positive side is the realisation, at least to an extent, of the importance of ecosystems like the mangrove. This is reflected in the creation in Maharashtra of a mangrove cell to protect and regenerate mangroves. Mumbai has some very good patches of mangroves, two of which (in Vikhroli and Airoli in Navi Mumbai) were included in a list of 12 important mangrove systems in India recently released by the Mangrove Society of India. While protection of the mangroves is unlikely to completely prevent the kind of events Mumbai has seen recently, the move will certainly help ensure a better capacity to cope. A 2009 study by scientists at the University of Delhi and Duke University in the United States showed, for instance, that villages with wider mangrove belts suffered relatively lesser damage during the 1999 'super cyclone' that ravaged the Odisha coast and killed an estimated 10,000 people.

A study published in May 2017 in the journal *Hydrobiologia*, pointed out that in the U.S., wetland coastal protection services provide an estimated \$23.2 billion per year against economic losses as well as deaths associated with major storm events.

Huge challenges

The bigger challenge in India comes however from the overarching thrust given to industrial expansion and infrastructure development.

This is starkly visible in the NITI Aayog's recently-released 'Three year action agenda 2017-18 to 2019-20'. While the action agenda for coastal regions does list issues surrounding coastal zone management and regions vulnerable to cyclones, flooding, earthquakes and tsunamis, these are included only as broad generalities. The major thrust, clearly, is on exploiting the land and the

resources along the coasts for aggressive economic growth, suggesting as it does port development as part of the Sagarmala programme, easing of sea-river movement, a massive thrust to tourism development, creation of a 2500 km long East Coast Economic corridor running from Visakhapatnam to Chennai, and the creation of 14 Coastal Employment zones based on the Chinese model of Special Economic Zones.

Conservation and protection are clearly not a priority — and this is a matter of serious concern, not just for Mumbai but for regions all along India's coastline. The NITI Aayog report itself notes that nearly 250 million people in the country live within 50 km of the coastline. And no amount of infrastructure development or economic growth will ensure their protection as the case of Mumbai has shown not once, but twice in little more than a decade.

The writer researches issues at the intersection of environment, science, society, and technology.

Jaggi Vasudev's Rally for Rivers claims they will, but this is not based on the most nuanced science

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Indus water talks make no headway

The latest round of talks between India and Pakistan on the Indus Waters Treaty has ended without any agreement, the World Bank has said, while asserting that it will continue to work with complete impartiality to resolve the issues in an amicable manner.

Islamabad's objection

Amid a chill in bilateral ties, the second round of discussions between India and Pakistan on the Ratle and Kishanganga hydroelectric projects, over which Islamabad has raised objections, took place at the World Bank headquarters here on September 14 and 15 under the aegis of the World Bank.

"While an agreement has not been reached at the conclusion of the meetings, the World Bank will continue to work with both countries to resolve the issues in an amicable manner and in line with the Treaty provisions," the World Bank said in a statement.

"Both countries and the World Bank appreciated the discussions and reconfirmed their commitment to the preservation of the Treaty," it said after the conclusion of the Secretary-level discussions between the two countries on the technical issues of the Kishenganga and Ratle hydroelectric power plants within the framework of the Indus Waters Treaty.

The World Bank remains committed to act in good faith and with "complete impartiality and transparency" in fulfilling its responsibilities under the Treaty, while continuing to assist the countries, it said in its statement.

The Indus Waters Treaty was signed in 1960 after nine years of negotiations between India and Pakistan with the help of the World Bank, which is also a signatory.

World Bank's role

The World Bank's role in relation to the "differences" and "disputes" is limited to the designation of people to fulfil certain roles when requested by either or both of the parties.

The Indian delegation was led by the Union Water Resources Secretary Amarjit Singh.

It also included India's Indus Water Commissioner and representatives from the ministry of external affairs, power, and Central Water Commission.

The Pakistani delegation was led by Secretary, Water Resources Division, Arif Ahmed Khan along with Secretary of Water and Power Yousuf Naseem Khokhar, High Commissioner of Indus Waters Treaty Mirza Asif Baig and Joint Secretary of Water Syed Mehar Ali Shah.

The last round of talks were held on August 1, which the World bank said were held in a spirit of goodwill and cooperation.

World Bank says it will work with both countries to resolve the issues amicably

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Why does World Bank want to broker Indus water talks between India and Pakistan

Written by Bimal N Patel

The implementation of the Indus Water Treaty (IWT) has acquired new momentum owing to political, legal and economic developments in India and Pakistan. Two influential issues govern the future of this Treaty in ensuring its sustainable implementation and a role for the World Bank.

First, let us see World Bank's role. David E Lilienthal, the head of the Tennessee Valley Authority visited the Indus region on an invitation by Prime Minister [Jawaharlal Nehru](#) in August 1951. He recommended the World Bank to facilitate negotiation of the Indus Water Basin to which both countries agreed.

The World Bank offered its good offices and mediation in 1952. Collective efforts on the part of India and Pakistan led to the IWT in 1960. The Permanent Indus Commission (PIC) was established the same year. During the 1960s, although the World Bank participation continued, it was the Commission which dealt with differences between the two parties. The Bank was signatory to several provisions, responsible for the operation of the Indus Basin Development Fund, including the sharing of canal waters during the transition period under Annex H as well as its role of conflict resolution under Annex F and G. Commission meetings between 1960 to 1966 did not mention the Bank even once; the Commission implemented the Treaty and managed the Indus River. Subsequently, the Bank effectively withdrew in 1970 leaving both parties to rely on the Commission for smooth Treaty implementation.

The IWT has been in force for decades without any provision for suspension or termination, nor withdrawal. It is silent on denunciation — meaning, it cannot be unilaterally denounced, except if India and Pakistan intend to admit such a suggestion—as well as withdrawal, and in fact aims at establishing a perpetual water-sharing regime. Because it deals with sharing international river waters, it is expected to indefinitely remain in force.

India's usage of the assigned rivers are one-fifth of the total flow of the Indus Basin, while Pakistan's usage is four-fifths.

The implementation history of the Treaty shows that Pakistan has been using the argument that because it is a downstream riparian state, it must have unrestricted access to water by the upstream riparian state, that is India. This means that India can be asked to explain its actions, thereby putting her in a defensive position. The water discourse in Pakistan is increasingly projected as a flashpoint, where the political-military class successfully employs its resources. The people are increasingly beginning to believe that Pakistan is being deprived of its legitimate right to water.

But this does not take into account, India's legitimate rights, or the expectations of the people of Jammu & Kashmir to rightfully use its resources.

The IWT envisages a specific and limited role for the World Bank. The Treaty allows for the provision of a Neutral Expert to deal with differences in case of disagreement between India and Pakistan, which means that there is no place for the Bank's interventionist or self-assumed mediatory role. In fact, the Bank's role is immaterial or ceremonial in any potential arbitration.

The Treaty Annex says that the Bank's President can nominate a person to draw lots to facilitate arbitration umpires when India or Pakistan fail to agree.

That is why, in the present context, the Bank's attempt to both appoint a Neutral Expert (on India's request to arbitrate differences with Pakistan), as well as a Court of Arbitration (on Pakistan's request to arbitrate differences with India), can certainly attract a certain abuse of its role.

A quick reading of Article IX in the Treaty makes it amply clear that parallel and simultaneous processes of jurisdiction for settlement of differences and disputes between parties is legally untenable.

I believe that the World Bank's decision to "pause", in December 2016, or "lift the pause" of its earlier decision is a clear indication that the Bank wants to get actively involved in implementing the Treaty. This uncalled-for role of the World Bank cannot serve the long-term interest of both parties, except vested interests emanating from constituencies in both nations as well as the World Bank.

This uncalled-for notification of the World Bank is against the spirit of international law, principles, general and specific treaty interpretations, principles of customary international law and settled understanding of State practices in international law.

The Bank had a role before 1970 during the transition period of operations. Even during the 1960s, differences were effectively and amicably dealt by the Indus Waters Commission. Only the wise leadership of both countries can properly settle differences bilaterally without giving the World Bank any leeway in the implementation process.

Secondly, can and should the Indus Waters Treaty be denounced, terminated, or its implementation suspended or renegotiated? These options are available under international law and even specifically mentioned in the IWT itself.

Both countries can withdraw from the IWT any time and cease to abide by its terms, on the grounds of fundamental change of circumstance. Now, it is clear that these fundamental changes have, indeed, taken place, but the truth is that it is almost impossible to exercise such an option.

A third option is to suspend the fulfilment of obligations. However, this would deprive another's right to equitable share and may even lead to the labelling of a State intentionally committing a wrongful act. It may create further problems, and even prevent Treaty resumption. On the other hand, both parties may continue their Treaty relationship even when it is suspended, allowing them both to renegotiate it.

Can India or Pakistan invoke the principle of "impossibility of performance" under IWT? Certainly, this is a principle that is admissible in international law, but on the ground there seems to be limited scope that is established and uncontested. Indian courts as well as courts in other countries will probably not be inclined in favour. It is also likely that states will take counter-measures in this situation.

The point is that the fate of the Indus Waters Treaty cannot be secured if cross-border terrorism continues or one party takes more than its share of the waters or threatens for uncalled-for dispute mechanisms or denies the legitimate expectations of people of Jammu and Kashmir in asking for its share of water. All this under the garb of moral righteousness and preservation of the Treaty's mere sanctity.

Article 12(3) expressly provides the possibility for the Treaty to be modified from time to time. Hence, the time has come for both parties to initiate a modification of the Treaty's articles and ensure only bilateral processes without third party intervention.

The revision of the Treaty in good faith will usher in a new era of bilateral relations and take into account changes in fundamental circumstances. The competition for water in the Indus Waters Basin is much more today than in the 1950s. Therefore, claims and counterclaims only magnify tension on both sides. The dependency of both parties has increased, so even on technical, resource-allocation and utilisation grounds, the time is now ripe for Treaty renegotiation. Despite the disinclination to do so in certain sections in India and Pakistan to do so, the renegotiation of the political, economic and social interests of the Indus Water Regime must begin soon.

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PM dedicates Sardar Sarovar Dam to the nation; attends closing ceremony of Narmada Mahotsav at Dabhoi**PM dedicates Sardar Sarovar Dam to the nation; attends closing ceremony of Narmada Mahotsav at Dabhoi**

The Prime Minister, Shri Narendra Modi, today dedicated the Sardar Sarovar Dam to the nation. The occasion was marked by prayers and chanting of hymns at the Dam at Kevadia. The Prime Minister unveiled a plaque to mark the occasion.

Later, the Prime Minister visited the construction site of the Statue of Unity, an iconic structure dedicated to Sardar Vallabhbhai Patel, at Sadhu Bet, a short distance from the Sardar Sarovar Dam. He was given an overview of the progress of work at the site.

At a large public meeting in Dabhoi, the Prime Minister unveiled a plaque to mark the laying of foundation stone of the National Tribal Freedom Fighters' Museum. The occasion also marked the closing ceremony of the Narmada Mahotsav, which generated awareness about the River Narmada, in various districts of Gujarat.

Speaking on the occasion, he said the huge gathering shows the respect that people have for Maa Narmada. On the occasion of Vishwakarma Jayanti, he said that he salutes all those who are working to build the nation. Let us leave no stone unturned to build a New India by 2022, the Prime Minister exhorted.

The Prime Minister recalled Sardar Patel's vision of the dam. He said that both Sardar Patel and Dr. Babasaheb Ambedkar gave a lot of emphasis to irrigation and waterways.

The Prime Minister said lack of water resources has been a major impediment to development. He recalled visiting the border areas in the past, when BSF jawans did not have enough water. We brought Narmada waters to the border areas for the jawans, he said.

The saints and seers of Gujarat have played a very big role in the making of the Sardar Sarovar Dam, he said. The waters of the River Narmada will help citizens and transform lives, he added.

The Prime Minister said that in the western part of the country, there is water shortage, and in the eastern part, there is power and gas shortage. He said the Government is working to overcome these shortages, so that India scales new heights of development.

The Prime Minister said the Statue of Unity would be a fitting tribute to Sardar Patel, and would draw tourists from all over. He recalled freedom fighters from tribal communities, who fought against colonialism.

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Odisha govt rapped for delay in notifying elephant corridors

Rise in numbers:As per the latest census figure, Odisha had 1,976 elephants in 2017, 22 more than that in 2015.File photo: Lingaraj Panda

The National Green Tribunal has expressed extreme disappointment over the lethargic pace of notifying elephant corridors — fixed paths which connect traditional elephant habitats — in Odisha.

Adjudicating the case filed by the Wildlife Society of Orissa, Justice S. P. Wangdi, judicial member, and P. C. Mishra, expert member, of the NGT, Eastern Zone Bench, directed the Odisha government to give a specific timeframe for completion of processes before publication of the notification in respect of the elephant corridors.

Legal sanctity

In 2010, the State government had identified 14 corridors, which would not only have helped the elephants move without any disturbances, but also increased chances of exchange of genetic diversity interchange. Later, another nine corridors were identified. However, the government has been dilly-dallying in notifying the corridors that would have given legal sanctity for their preservation.

“The State government on January 13, 2017, had categorically stated that the work of assessing habitat viability and ground-truthing of the already identified elephant corridors had been handed over to the Asian Nature Conservation Foundation (ANCF). The report in respect of which was expected to be received by early 2017. This has been repeated by the government in the subsequent affidavit filed on February 20,” the order says.

“Today being September 12, which falls in the later part of 2017, it was expected that the work would be completed by this time. On being questioned as to whether the report has been filed or not, the government submits that it has not yet been submitted but, as per instructions, it is expected within the first week of October,” says NGT’s last Tuesday’s order.

Further complications

“Every day’s delay in doing so, would give rise to further complications and a situation may so arise when traditional elephant corridors would be non-existent leading to their gradual extinction. We may remind ourselves that this earth is not for the survival of human race alone,” said the NGT.

“We expect the Odisha government, one of the States where the elephants survive as their traditional abode, shall take immediate steps for protection of this gentle giant,” emphasises the tribunal in its order.

Shankar Pani, counsel for Wildlife Society of Orissa, said the NGT also came down heavily on the State government for its inaction over illegal commercial operations in two identified elephant corridors.

As per the latest census figure, Odisha had 1976 elephants in 2017, 22 more elephants compared to 2015. During the past five years (since 2013-14), elephants have come out of forests regularly in 26 of the 30 districts.

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PDS digitisation moving at snail's pace

Going nowhere: The project's aim is to help the government ensure that foodgrains reach the right beneficiaries. File Photo

The Narendra Modi government's claim to ensure end-to-end digitisation of the Public Distribution System (PDS) is coming to naught even after three years of being in mission mode. At least 11 States have not taken the elementary step of digitising fair price shops and nine other States, including Uttar Pradesh, have hardly made any progress.

The project was launched in 2012 at a cost of Rs. 884 crore to ensure that, at every step from field to fork, the government would be able to track the movement of foodgrains so that they reached the right beneficiaries. As part of the effort, all fair price or ration shops were to be digitised. But out of 5.26 lakh ration shops, only 51% have been digitised in three years, it was found at a review meeting chaired by the Minister of Consumer Affairs, Food and Public Distribution Ram Vilas Paswan, on Friday.

"When we took over in 2014, fewer than 10,000 fair price shops had been digitised even after two years of launch. In the last three years, we have made significant progress," a senior Ministry official said.

Connectivity issues

The numbers are most stark in the northeast. Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram and Nagaland have cited connectivity issues for their inability to commence the process of digitisation.

Jammu & Kashmir, Kerala, Punjab and West Bengal fall in this category of non-starters, too.

Another nine States have made meagre progress. In Bihar, less than 1% of ration shops are digitised; the figure is 1% for Tripura, Delhi and Uttarakhand. Uttar Pradesh fares better with 16% shops digitised. The project also calls for automation of the supply chain — online monitoring of stock positions in godowns, tracking the movement of the food grains from the godowns to the fair price shops, SMS alerts to beneficiaries, etc. Thirteen States are yet to take the first step in this direction.

The Centre, meanwhile, has sought to present the digitisation of 23.11 crore ration cards as a great success, in the process uncovering 2.48 crore bogus cards, which have been deleted to save the nation a subsidy of Rs. 15,000 crore per annum.

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A powerful move

The government's decision to offer 10 coal mines for auction could be the first step in meeting a long-standing requirement of the country's energy sector. The opening up of the coal sector to new players will break the 41-year old stranglehold of the state-owned Coal India Limited (CIL) over commercial mining. The current regulation that restricts such operations to CIL - and Singareni Collieries Limited, a comparatively minor player - is among the major reasons for the energy-strapped country not being able to tap the full potential of its coal reserves. India is the third largest coal producer in the world. But it is also its third largest importer.

In March, the Competition Commission of India (CCI) described the near monopoly exercised by CIL as "patently unfair". The fair trade regulator found CIL and its subsidiaries to be "in contravention of the provisions of Section 4(2)(a)(i) of the Competition Act, 2002, for imposing unfair/discriminatory conditions in fuel supply agreements with power producers". It slapped a fine of Rs 591 crore on CIL. The public sector outfit's stranglehold over commercial mining has also had a bearing on the quality of coal in the Indian market.

Indian coal, on average, has about 45 per cent ash, much higher than the 25-30 per cent ideally required for the efficient burning of the fuel in thermal power stations. While geological factors are the primary reason for this lacuna, CIL's overwhelming dominance of commercial mining has made the outfit stingy in investing in technology - coal washing, for example - that increase the efficiency of coal. Less than 20 per cent of the coal produced by CIL undergoes coal washing. Thermal power plants also have to reckon with stones in the coal they procure, which adds to their production costs and contributes to the wear and tear of their equipment. In April, the Coal Controller's Organisation - the national watchdog of coal quality - downgraded 177 CIL mines because of quality concerns.

Introduction of competition in coal mining could address such concerns. To begin with, four mines each in Odisha and Chhattisgarh and one mine each in Madhya Pradesh and Jharkhand will be opened up for auction. The royalty earnings from these auctions will boost the revenues of these states. A caveat, though: The downturn in the economy means that demand for coal is likely to remain tepid in the near future. In July, the India Ratings Report noted that the coal consumption growth is likely to remain low "on account of subdued demand from thermal power plants, with an expectation of power plant capacity utilisation remaining sub-65 per cent in the medium term". However, this should not deter reform. In the long-run, competitive fuel supply arrangements and improvement in coal quality will benefit power suppliers, enhancing the country's energy security.

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A case for continued support for green energy

Going by recent reports, it appears that the Union government is contemplating withdrawing all kind of incentives that are being provided to renewables-based electricity by 2022. It is said that there will not be any targeting of renewable energy after 2020 (presumably no renewable purchase obligations, or RPOs, after 2022). Moreover, the draft National Energy Policy 2017 proposes gradual withdrawal of the provision of “must run” status and other support such as non-levy of interstate transmission charges. The sharp reduction in bids for solar and wind power forms the basis of the argument that now these technologies are ready to face markets.

If this is really the direction being pursued, there is an urgent need to view things in the right perspective. While the record low prices of solar power in the recent past have been on account of very low global prices of solar photovoltaic modules and accessories, there have been other underlying reasons as well. For instance, in the case of the Rewa solar park, the fact is that a payment security mechanism was put in place along with provisions for guaranteed uptake of electricity from the solar park. These critical aspects in turn helped bring down the cost of capital that constitutes about 70% of renewable electricity prices. Or the fact that the Solar Energy Corp. of India wind power auction contained three very crucial elements: (i) power purchase agreement with PTC (India) Ltd (and not the distribution utility, thereby providing security of payment against the sale of electricity as well as assured offtake of electricity); (ii) waiver of inter-state transmission charges; and (iii) compensation for system losses till the interconnection point by allowing for construction of 5% additional capacity. The point, therefore, is that these low prices are the result of several facilitating measures. Of course, one has still to see how sustainable these tariffs are insofar as businesses are concerned.

Even with the provision of “must run” under the regulation and with RPO in place, there have been several cases of curtailment in off-take of renewable energy in states like Tamil Nadu and Rajasthan. So under the circumstances, the proposition of doing away with such provisions appears to be totally counter-productive to India’s ambitions in this field. Or it may be the case that the outcomes of recent solar and wind auctions have lulled officials to complacency, a classic malady of taking success for granted—of assuming that things will continue to move in a certain way but ignoring the key parameters that helped chart out that direction in the first place. Undoubtedly, a good policy framework has to have sunset clauses for incentives but withdrawals must also be nuanced and gradual, arrived at after taking into account their long-term implications on the sector.

If these were not enough to send mixed signals to the clean energy community, we have the Economic Survey 2016-17, volume II, that was released by the ministry of finance recently. The survey talks about the “social cost” of renewable energy in comparison to that of coal-based power generation. Besides other cost parameters, including health and environmental costs, the survey includes “the opportunity cost of stranded conventional power assets” as one of the components of the social cost. Thus, the losses incurred by investors and lenders due to the underutilization of coal power plants becomes the most significant contributor to renewable energy’s social cost, making it three time more expensive than conventional power. At best, this is strange logic. According to Central Electricity Authority figures, the share of renewable electricity in India’s total electricity generation was around 7.6% between April 2016 and March 2017. Surely this cannot be the reason for below-par plant load factors of coal power plants.

Second, by the same logic, no disruptive transition to better and more efficient technologies would ever be possible because during the transition stage, the older assets are bound to be underutilized or in a sense, financially stranded. Let us take, for instance, the UJALA, or Unnat Jyoti by Affordable Lighting for All, scheme that aims to promote efficient use of energy. This

whole UJALA campaign must also be rendering manufacturers of incandescent lamps in a state of financial stress, so is that being factored in while estimating the social cost of LED lamps? And what about the present thrust on electrical vehicles that surely would result in the supply chain of conventional automobile components becoming stranded assets? And how transparently does this “social cost” dispensation take into account the cost of longer term impacts of different alternatives? How accurate are the cost-components and how close are the assumptions to Indian realities? Public health in any case is always heavily discounted in all such calculations.

A good policy regime tries to balance these seemingly divergent viewpoints and provides direction for long-term and sustainable solutions for larger public good. This is particularly critical when the decisions made today could have far-reaching implications for generations to come. Besides, basing such decisions on anecdotal premise rather than on sound analytical evidence could very well jeopardize the momentum that renewable energy sector in the country has gained. What message are we trying to give investors and developers with such pronouncements? It appears as if there is a lack of cohesion within different arms of the government, leading to conflicting signals. This, however, needs to be managed quickly to avoid the serious implications such mixed signals could have on our commitment to achieve about 40% of installed power capacity from non-fossil fuels by 2030.

Amit Kumar is senior director, The Energy and Resources Institute (Teri).

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High-speed rail and modernization of Indian Railways

On 14 September, the foundation stone was laid for the first high-speed rail (HSR) project between Ahmedabad and Mumbai. This is in continuation of the financial support pledged by Japan on 12 December 2015, committing about 85% of the total cost of the project as loan with an interest rate of 0.1% and a moratorium of 15 years and repayment period of 50 years. In this backdrop, the question of the tax payers' money wasted for the bullet train project does not hold water.

Given the track record of accidents in Indian Railways (IR), a pertinent question is whether IR will be able to operate HSR at a maximum speed of 320 kilometres per hour (kmph) without accidents, whereas our conventional trains operate at a maximum speed of 160 kmph or less. First, the guided transportation systems such as air and rail are generally safer than the unguided transportation system like road. A guided transport system is assigned a clear right of way, unlike the unguided transportation system, and thereby provide safer transport. The guided transport system is steered and controlled by very few who are well-trained in operating these modes and when they make mistakes do accidents usually occur. That is why in India and all over the world, air and rail have remained safer transport modes compared to road.

The important question then is if rail is a guided transport system, why are accidents happening regularly. Although rail carries about 10% of the passenger traffic against about 88% by road and 35% of freight traffic against about 65% by road, even after taking these frequent rail accidents into consideration, the number of accidents by rail is relatively low compared to road. However, it was reported that between 2011-12 and 2016-17, 50% of the accidents occurred due to derailments and 40% occurred due to collisions at level crossings and 10% due to other reasons. It is now well established that the conventional rail system suffers from overloading of tracks and the maintenance staff do not even get 2-3 hours of uninterrupted time for the upkeep of rail infrastructure. The non-availability of time to maintain tracks has been resulting in derailments in IR. In the case of HSR, the trains normally run between 06.00 hours and 23.30 hours and the time window between 00.00 hours and 05.00 hours is exclusively allotted to maintenance work. With no seclusion for railway lines and thousands of manned and unmanned level crossings at road junctions, the right of way of conventional rail network is very much restricted in practice. The HSR between Ahmedabad and Mumbai is to be constructed on an elevated corridor for the most part and underground in some urban areas. So, the right of way for HSR will be absolute and leave no scope for collision with any other transport mode; hence HSR will be much safer.

IR inherited the archaic railway system of the 19th century. Its efforts in the upgrade of conventional rail have just been incremental as all the changes had to be carried out in the rail system which is under operations. Although IR has improved its signalling system enormously, it still uses a spatial signalling system, whereas developed countries have adopted in-cab signalling and automatic train stop systems. The spatial signalling system is prone to human error and reduces the throughput of the rail network as only one train in one direction can run in a block (of, say, 15km). The in-cab signalling and automatic train stop systems which are employed in HSR are relatively insulated from human errors. Further trains can also run even with a headway of 3-4 minutes with no scope for collision. As a result, HSR provides at least five times the running capacity as that of conventional rail. HSR is a two-line system (one for each direction) with no crossings or minimal crossings between the lines. Hence the question of collision of trains coming in the opposite directions also does not arise in HSR.

When most of the developed countries moved towards train sets, due to legacy issues, IR has been manufacturing ICF (at the Integral Coach Factory, Chennai) coaches. Although ICF coaches kill and maim passengers enormously when accidents occur compared to the German technology-

based LHB (Linke Hofmann Busch) coaches, IR did not stop manufacturing ICF coaches till Suresh Prabhu, the then railway minister, passed an order in November 2016. Prabhu's order to stop manufacturing ICF coaches and retrofit the safety features of LHB coaches in ICF coaches was aimed at ensuring reduced fatalities and injuries in accidents. In HSR, train sets are used, which are much safer than LHB coaches.

Even if conventional rail is given a perfect right of way by fencing and removing all the level crossings with ROB/RUB (road over-bridges/under-bridges), to acquire speeds like that of HSR, the conventional rail lines should be aligned in straight line. To achieve this, the entire anatomy of the rail network would have to be changed. Upgrading tracks, signalling system or coaches of conventional rail to the level of HSR is akin to replacing every module of a personal computer from the 1980s with the latest modules of a laptop. Apart from serious compatibility issues, the upgraded PC will never be as compact, sleek, portable or give the same quality of service as a latest laptop. HSR is a wonderful opportunity for IR to move multiple levels in technology in one go and thereby bring a sea change in the speed and safety of rail travel and create a new benchmark for quality of service.

It costs about Rs1 trillion for constructing 500km of HSR system, averaging to Rs2 billion per kilometre. Even Metro rail systems cost about Rs3-4 billion per kilometre. Any modern rail system with state-of-the-art features would cost much more than the archaic conventional rail system. The cost of HSR is not just for the construction of tracks but for building HSR stations, high-end rolling stock and signalling system, maintenance depots and workshops, training of personnel, etc. Peevish remarks questioning the wisdom of India going for HSR when we are unable to run conventional train services properly are detrimental to efforts to modernize rail transport, which is long overdue.

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It is time to rethink the 'big dams' model of development

The scientific imagination that put big dams at the centre of a national development paradigm belongs to a century long gone. The prevalent ideology around the world at the time when dams such as the Sardar Sarovar were envisioned have undergone a sea change in the decades it has taken to bring it to conclusion.

The original thought behind building dams to harness the power of rivers was the promise of clean, pollution-free, hydropower that would bring electricity to many districts in India. But this outlook was changing even in the 1950s. Nehru himself, who famously called dams 'temples of modern India' in 1954 while inaugurating the Bhakra Nangal had changed his mind by 1958, observing that we in India might be suffering from "the disease of gigantism" and rooted for smaller irrigation projects. In a letter to chief ministers in 1957, Nehru had pointed out the need to balance development projects with the need to protect the environment.

Internationally too, there have now been many attempts to do away with large projects that disrupt not just the lives and livelihoods of the people who live in these areas, but also aid the destruction of the ecosystem of the region. According to the non-profit organisation American Rivers, over a thousand dams have been removed till date in the USA alone. An article published in the Scientific American outlined the problems of water quality and ecosystems that came in the wake of building even modest sized dams. The near extinction of the fish such as the Atlantic salmon and sturgeons has been directly linked to the presence of dams on their migration routes. In fact several studies have recognised the building of dams as having the most substantial impact on the destruction of riverine ecosystems. The building of the Aswan Dam in Egypt has been blamed for the erosion of the Nile River delta, deterioration of agriculture in the area, and the increased incidents of parasitic diseases such as schistosomiasis.

The other major problem with such large projects is the problem of rehabilitation of displaced people. This is, of course, not counting the fact that the land that tribal communities and others have occupied for centuries is not just something that can be measured in acres and rupees. The cost of history and memory that lies in land and ancestral property can never be reimbursed.

India's record of adequately rehabilitating people displaced by such projects is abysmal. Around 50 million people have been displaced due to development projects in India. In spite of this massive number of affected people, there is a glaring lack of a formal policy of rehabilitation and resettlement for displaced people. Given the terrible status of records of land titles, and the worse records of those who don't own land such as landless labourers, it is almost always the case that many displaced people are never considered for rehabilitation. According to the South Asia Network on Dams, Rivers and People (SANDRP), many people displaced by the Bhakra project are yet to be rehabilitated at all.

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Government has accorded top priority to the agriculture sector and Finance Ministry has announced Rs. 62,376 crore fund allocation for the sector in 2017-18: Shri Radha Mohan Singh

Government has accorded top priority to the agriculture sector and Finance Ministry has announced Rs. 62,376 crore fund allocation for the sector in 2017-18: Shri Radha Mohan Singh

Government's aim is to increase the productivity and ensure farmers can get the remunerative price of their produce: Shri Singh

It is our responsibility to make special efforts to improve the agrarian sector so that agriculture provides strong trade opportunities: Union Agriculture Minister

Prime Minister has a dream of doubling farmers' income by 2022 and to make his dream come true, we have launched several schemes: Shri Radha Mohan Singh

Shri Radha Mohan Singh addresses a gathering at the Two-Day Rabi Conference – 2017-18 at Vigyan Bhawan, New Delhi

Union Agriculture and Farmers Welfare Minister, Shri Radha Mohan Singh said that considering its importance, the Government has accorded top priority to the agriculture sector and Finance Ministry announced Rs.62,376 crore fund allocation for the sector in 2017-18. The government's aim is to increase the productivity and ensure farmers can get the remunerative price of their produce. The Government is also ensuring that along with special focus on dairy/animal husbandry/fishery, the agriculture education, research, and expansion system is further extended. Shri Radha Mohan Singh said that it is our responsibility to make special efforts to improve the agricultural sector so that it provides strong trade opportunities. Shri Singh said this today at the Two-Day Rabi Conference – 2017-18 organized at Vigyan Bhawan, New Delhi.

Shri Radha Mohan Singh said at the Rabi Conference, crop wise target is fixed and arrangement of supplies to different states is decided in consultation with the officials of various state governments. The use of recent technologies and new practices in the agriculture sector is also reviewed. At the conference, strategy for the upcoming Rabi season is discussed, ideas and experiences are exchanged and a roadmap is prepared.

Shri Singh said that Prime Minister, Shri Narendra Modi has a dream of doubling farmers' income by 2022 and to make his dream come true, we have launched several schemes. Pradhan Mantri Gram Sadak Yojana, Pradhan Mantri Krishi Sinchai Yojana, Pradhan Mantri Fasal Bima Yojana, Paramparagat Krishi Vikas Yojana, Soil Health Card scheme, Neem Coated Urea and e-NAM are some of the major schemes which have been launched to increase production and farmers' income.

On the occasion, Union Agriculture Minister said that he has written to the State Governments to devise a strategy and focus on production to post-production activities while strategizing. Shri Singh said that to improve crop production, the Ministry has started the National

Food Security Mission (NSFM), National Horticulture Mission (NHM), Rashtriya Krishi Vikas Yojana (RKVY), National Mission on Agricultural Extension and Technology and Direct Benefit Transfer (DBT).

Shri Radha Mohan Singh said that there is a special emphasis is to increase the production and productivity of oilseed crops. For this, the National Mission on Oilseeds and Oil Palm (NMOOP) has been started in 2014-15, which has three Mini Missions (MM) namely – MM on Oilseeds, MM on Oil Palm and MM on tree-borne oilseeds.

Expressing his happiness, Shri Singh said that various schemes of the Ministry have been converted into special missions, schemes, and programs to achieve of 4% targeted annual development in agriculture and allied sectors. The joint efforts of stakeholders resulted in a record food grain production in the country estimated to be 275.68 million tonnes in 2016-17. The production of the current year is 18.67 million tonnes, which is more than the average production of food grains in the last five years (2011-12 to 2015-16). The production is 24.11 million tonnes more than the production of food grains in 2015-16.

The total production of rice in the country is estimated at 110.15 million tonnes in 2016-17. This is 4.73 million tonnes more than the average rice output of 105.42 million tonnes in the last five years. During the year 2016-17, the production of rice has increased substantially to 5.74 million tonnes compared to 104.41 million tonnes in the year 2015-16.

Production of wheat is also estimated at 98.38 million tonnes, a record. Wheat production in 2016-17 is 6.09 million tonnes more than 92.29 million tonnes during 2016. Union Agriculture Minister said that the government is also protecting the interests of farmers by announcing the minimum support price for major agricultural commodities.

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Do we really need interlinking of rivers?

Interlinking of rivers is a very expensive proposal. It has huge adverse environmental impacts on land, forests, biodiversity, rivers and the livelihood of millions of people. It is a socially disruptive proposition. It will not only add to climate change impact (destruction of forests means destruction of carbon sinks, and reservoirs in tropical climate are known sources of methane and carbon dioxide), but will also reduce our capacity to adapt to climate change.

Take, for example, the Ken-Betwa link which is the government's top priority. The link will facilitate export of water from drought-prone Bundelkhand to the upper Betwa basin, as the detailed project report (DPR) makes clear. The Ken-Betwa link's hydrology is effectively a state secret, so there is no way to check if the claim of Ken river being surplus is valid. There has been no credible environmental impact assessment of the link and no public hearings in canal and downstream affected areas. The link's environmental management plan is still being prepared.

The Ken-Betwa link threatens about 200 sq. km of the Panna tiger reserve, and with it the Ken river and large parts of Bundelkhand. Yet, it does not have an environment clearance, a final forest clearance, and its wildlife clearance is being scrutinized by the Central-empowered committee appointed by the Supreme Court. In fact, both forest and wildlife clearance recommendations are under the condition that the power project will be taken out of the forest/protected area, but the environment clearance recommendation assumes the project will be inside the forest/protected area. So even that is invalid.

The government justifies the Ken-Betwa link, and indeed the river interlinking project as a whole, by saying that it will provide irrigation, water supply, hydropower and flood control. But we need to understand that most of India's water benefits, including irrigation, come from groundwater. In fact, in the past two-and-a-half decades, the net national irrigated area from big dams has decreased by about 1.5 million hectares from a peak of 17.79 million ha in 1991-92, according to government data. But in the same period, India's total irrigated area has gone up—primarily due to groundwater. Groundwater is our water lifeline and whether we like it or not, whether we want it or not, groundwater is going to remain our water lifeline for decades to come.

However, our current use of groundwater is not sustainable. The focus of our water resources development should be on how the groundwater lifeline can be sustained. Will Interlinking of rivers help in this? No, since Interlinking of rivers entails a large number of dams that will lead to destruction of rivers, forests, wetlands and local water bodies, which are major groundwater recharge mechanisms.

So as far as irrigation is concerned, it seems the river interlinking project is likely to create more problems than benefits. The same is true for water supply.

As far as hydropower is concerned, it is clear that large hydropower projects are no longer a viable option in India. The power minister has repeatedly said in Parliament over the last two years that hydropower projects of over 11,000MW are stuck due to lack of finances and questions over viability. The chief minister of Himachal Pradesh has stated that private developers are exiting the sector as they consider the projects to be non-viable. The situation in Sikkim and Arunachal Pradesh is similar.

It costs over Rs10 crore to produce one megawatt of hydropower, which in turn produces less than four million units of electricity. This means the per unit cost of power from such projects is in excess of Rs8 per unit, when there are no takers for power that costs even Rs3 per unit. In any case, Interlinking of rivers will be needing more power to lift the water than what it is likely to

produce.

Can the river interlinking project flood-proof the flood-prone river basins? While theoretically, a large reservoir can help moderate floods in the downstream areas, our experience on the ground doesn't inspire as much confidence. For example, heads of government, state officials, and the Comptroller and Auditor General have on numerous occasions pointed out that big dams such as the Ranganadi dam, the Damodar dams, the Farakka and Bansagar dams, and the Hirakud dam have brought avoidable flood disasters to Assam, West Bengal, Bihar and Odisha, respectively.

The other problem with the river interlinking project is that of storing large quantities of waters. Most of the sites suitable for the big reservoirs are in Nepal, Bhutan and in the North-East—and each one has made clear their opposition to big storage reservoirs.

If the water cannot be stored in big reservoirs during the monsoon, which is when some rivers are flooded, then the other option is to transfer the water to deficit basins during this time. But when the Brahmaputra is in floods, so is the Ganga and all the rivers through which the water needs to be transferred, including the Subarnarekha, the Mahanadi, the Godavari, the Krishna, the Pennar, and so on. Why should these rivers, that are already facing floods, receive more water?

There is no doubt that if we can store water during the monsoon, we can make it available in the post monsoon months. But the water resources establishment sees big dams as the only storage option. Yet, the biggest, cheapest, most benign, possibly fastest and most decentralized storage option for India is the groundwater aquifer.

In other words, what India needs is not interlinking of rivers but something else to achieve water, agriculture and livelihood security.

Himanshu Thakkar is coordinator of South Asia Network on Dams, Rivers and People.

Comments are welcome at theirview@livemint.com

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Ministry of Railways decides to post young Station Directors at A1 Category Stations.**Ministry of Railways decides to post young Station Directors at A1 Category Stations.**

Under the direction of the Minister of Railways, Shri Piyush Goyal, Railway administration has decided to post young brilliant & dynamic officers to man the post of Station Directors at major Railway Stations. The officers will be chosen from across different operational services of Railways after due screening & scrutiny. They will be imparted special orientation training focussing on coordination and public dealing. Ministry has earlier created the post of Station Directors at A1 Category stations numbering 75.

Station Directors will ensure that the stations function as excellence centers for the customers with the additional objective to ensure vigilant and sensitive customer service and also superior commercial sense. The functions of the Station Directors and their teams will be as follows : -

- Prompt, courteous and hassle-free service to customers.
- Proper cleanliness and hygiene at the station and stationary trains
- Efficient working of booking and reservation office
- Punctuality of trains at the station, timely placement and withdrawal of rakes at platforms of the station
- Proper functioning, upkeep/repairs of all passenger amenities at the station.
- Upkeep of passenger enquiry system, display board etc.
- Ensuring efficient, transparent and customer oriented working of Parcel Office
- Monitoring the service of catering/vending stall at the station
- Prompt grievance redressal
- Security of passengers
- Any other items identified for making station an excellent center for customer

The Station Directors shall be supported by cross functional team in suitable manner to undertake these functions effectively. Station Directors shall also be associated in the decision making process related to proposals and execution of 'traffic facility' and passenger amenities' works at that particular stations. They will also be actively involved in the process of raising revenue from 'non fare box' like commercial advertisement, etc. at that station. For all this, the Station Directors will seek the assistance of officers/superiors of the respective Departments, as the case may be.

Some of the A1 Category Stations are New Delhi, Dehradun, Howrah, CST Mumbai, Visakhapatnam, Mughalsarai Jn, Agra Cantt, New Jalpaiguri, Jodhpur, Kharagpur, Thiruvananthapuram, Chennai central, Bangalore City, Hyderabad and others.

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ONGC discovers oil in Arabian sea

State-owned Oil and Natural Gas Corp. (ONGC) has made a significant oil discovery to the west of its prime Mumbai High fields in the Arabian sea, a senior official said on Wednesday.

The discovery in the well WO-24-3 is estimated to hold an in-place reserve of about 20 million tonnes, he said. Mumbai High, India's biggest oil field, currently produces 205,000 barrels of oil per day (just over 10 million tonnes per annum) and the new find would add to that production in less than two years time.

"In all, nine objects or zones were tested and all of them were found to be hydrocarbon bearing. The last object tested flowed 3,300 barrels of oil," he said.

Further appraisal

ONGC is carrying out a further appraisal of the discovery and has intimated upstream regulator Directorate General of Hydrocarbons.

"This is a mid-sized discovery but a significant one," the official said.

The new find, which comes almost 50 years after ONGC began production in Mumbai High, will help the company maintain production levels from the basin for a longer time than currently estimated.

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GM mustard in for a long wait

Many activist groups are against GM Mustard.

Union Environment Minister Harsh Vardhan has indicated that a decision on releasing genetically modified (GM) mustard commercially was unlikely any time soon.

“There are compelling arguments from those who support it and those against it,” he said responding to a query from *The Hindu*. “The government however will only take a decision based on common good.”

Dr. Harsh Vardhan, who holds the Science portfolio, took over the Environment Ministry after the death of Anil Dave. That makes him the final government arbiter on allowing GM mustard to be made available commercially. GM mustard was developed by scientists at Delhi University and the project was part-funded by the Department of Biotechnology, a division of the Science Ministry.

‘No conflict’

Dr. Harsh Vardhan said there was “no conflict” in his position as a Science and Environment Minister.

In June, he said he would have a fresh consultation with environmental groups, scientists and farmers’ bodies before taking a call on the release of GM mustard. Multiple officials have since confirmed to *The Hindu* that this has not happened.

The Genetic Engineering Appraisal Committee (GEAC), India’s regulator for genetically modified seeds, had on May 12 this year cleared GM mustard for environmental release and use in fields. Though it was cleared by scientists, the Environment Minister’s approval is required.

The Centre told the Supreme Court last week that it was considering various aspects and was still to take a final call on the commercial release of GM mustard. “We are looking into all reports by experts including that of the Rajya Sabha sub-committee before a final decision is taken,” said Additional Solicitor-General P.S. Narasimha, representing the Centre.

A Parliamentary Standing Committee, headed by Renuka Chowdhary of the Congress, last month said that there was a paucity of studies on the impact of GM crops on human health. Should the Minister’s consent be obtained, GM mustard would be the first transgenic food crop to be allowed for commercial cultivation in India. It could pave the way for several other GM food crops in the country. Dhara Mustard Hybrid (DMH -11), the transgenic mustard in question, has been developed by a team of scientists at Delhi University under a government-funded project.

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Narmada dam: Public finance, public play

Optics is as air for politicians. It is no different for Prime Minister Narendra Modi and what is commonly known as the Narmada Dam. But even air can sometimes get dense with rhetoric.

On 17 September, Modi inaugurated the Sardar Sarovar Dam, the largest project of the Narmada, or Sardar Sarovar Project, near Gujarat's border with Maharashtra. It was Modi's birthday.

It also provided a perfect gift to Gujarat ahead of elections to its assembly that must be conducted before its term ends next January.

"We faced every opposition for this project," an article in *Mint* quoted Modi as saying at a public meeting after the event. "The World Bank decided not to fund Sardar Sarovar Dam Project after some activists propagated that the project flouted some environmental rules. World Bank or no World Bank, the people of this country had faith in us and it is due to their determination that this project has been completed."

It is correct that activists complained to the bank about matters of shabby resettlement and rehabilitation practices and environmental degradation. Indeed, activists are still complaining. But the fact is that the World Bank conducted its own survey before it stopped payment of the remainder of its commitment for the \$300 million that, with other lenders, it had allocated for the Sardar Sarovar Dam.

In the 1995 report, *Learning from Narmada*, it highlighted the project's stated design to irrigate nearly 2 million hectares of arid land, and the "promise" of drinking water for 30 million people in drought-prone areas, besides electricity for agriculture, urban areas and industry. "But they threaten the livelihoods of more than 140,000 people in the areas to be flooded by the Sardar Sarovar Dam and to be affected by the building of canals. And they may have negative environmental consequences," the report stated.

The bank's independent review was completed in June 1992. The review "found that the resettlement and environmental aspects of the projects were not being handled in accordance with bank policies". Thereafter the bank "made its continuing support for the dam contingent on the borrower's achievement of performance standards for resettlement and economic rehabilitation of displaced people, and for environmental protection. But in March 1993, the bank cancelled the remainder of its loan for the project at the request of the Indian authorities". The project continued mainly with government funds.

Displacement, resettlement and rehabilitation issues continue to dog the project. Gujarat remains the greatest intended beneficiary of the multi-state Narmada project after Madhya Pradesh in terms of increased irrigation; and after Madhya Pradesh and Maharashtra in hydroelectricity. However, the bulk of the displaced along the Narmada river are in Madhya Pradesh, with the overall project's ambit of 30 dams.

Activists, especially of the Narmada Bachao Andolan, have maintained that raising the Narmada Dam to its current height of 138.7 metres from its mid-2000s height of 121.92 metres would affect 200,000 people in Madhya Pradesh as more areas were submerged (The decision to raise the height was taken by the apex Narmada Control Authority on 12 June 2014, after Modi became Prime Minister). Indeed, as recently as February, the Supreme Court proposed setting up a three-member committee to review compensation and rehabilitation and resettlement issues for the project-displaced in Madhya Pradesh, Maharashtra and Gujarat.

As for the people of India and their “faith” in the project, it’s really a matter of public finance. In 2012, when Modi was the Bharatiya Janata Party (BJP) chief minister of Gujarat, there was even some celebration in the state over a high-level committee of the central finance ministry—a Congress-led one—recommending increased outlay in the 2012-17 Five-Year Plan to boost Gujarat’s Narmada-related canal-building in Kutch, Saurashtra and northern Gujarat.

In March 2015, the BJP government admitted in Gujarat’s assembly that the extent and speed of the construction of canals was wholly inadequate, but that’s another story inundated by the dam’s inauguration. As is the fact that the 2012-2017 Plan document, ‘Faster, More Inclusive and Sustainable Growth’ actually contains sharp criticism of big dams.

There are numerous instances of official misdirection to celebrate harnessing Narmada’s bounty. But meanwhile, there’s another celebration. The BJP government of Madhya Pradesh has planned a Jal Mahotsav—grand festival of water—to run from October to January along the Narmada in the Hanumantiya area. Visitors will be able to partake in luxury camping activities, yoga, and water sports on a part of the Narmada, the Indira Sagar reservoir, that contains numerous submerged villages and (once) vast forests.

Sudeep Chakravarti’s books include Clear.Hold.Build: Hard Lessons of Business and Human Rights in India, Red Sun: Travels in Naxalite Country and Highway 39: Journeys through a Fractured Land. This column, which focuses on conflict situations and the convergence of businesses and human rights, runs on Thursdays.

Respond to this column at rootcause@livemint.com

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Beyond social media

On September 4, the Cell for IPR Promotion and Management (CIPAM) under the aegis of the Department of Industrial Policy and Promotion (DIPP), Ministry of Commerce and Industry, launched a social media campaign to promote Geographical Indications (GIs) with the hashtag #LetsTalkIP.

The press release says that GIs are of utmost importance to the country as they are an integral part of India's rich culture and collective intellectual heritage and that their promotion is in line with the Government's 'Make in India' campaign. It adds that it is an area of strength and optimism for India as the "GI tag" has accorded protection to several handmade and manufactured products, especially in the informal sector. CIPAM proposes to talk about interesting facts and stories on GIs using social media.

With legislation enacted in 2003 — the Geographical Indications of Goods (Registration & Protection) Act, 1999 (the GI Act) — for their protection and 295 names registered with the Geographical Indications Registry, GIs today need no introduction.

The proposed campaign is certainly heartening because goods branded as GIs can be made indigenously by local communities independently and in a self-sustaining manner. And India, with its rich cultural heritage and diversity, has GIs. It is an added advantage that if protected the correct way, GIs can promote rural development in a significant manner and could be fitted in as the most ideal intellectual property right to bolster a programme such as 'Make in India'.

But there is a catch. A GI is supposed to convey to a consumer the assurance of a certain quality, reputation or other characteristics of the goods on which it is applied, which are essentially attributable to its geographical origin. For example, when you see the name Scotch for whisky, a registered GI under the GI Act, on a bottle of whisky, you expect it to originate from Scotland and possess certain qualities that you would not associate with other whiskies. Does the GI Act ensure that all the GIs registered thereunder meet such expectations?

The keywords here are "quality control". This is the sine qua non of any GI protection. In fact, the European Community Regulation 1151/2012 for the protection of GIs is titled as a regulation "on quality schemes for agricultural products and foodstuffs". The emphasis laid on quality must be underscored here. Recital 46 of this regulation states that the added value of GIs is based on consumer trust and that it is only credible if accompanied by effective verification and controls. Further, the quality schemes should be subject to a monitoring system of official controls to ensure verification of compliance with the law and rules relating thereto, and should include a system of checks at all stages of production, processing and distribution.

In the Indian scenario, the question arises whether the GI Act provides for quality control measures and verification of compliance. The word 'quality' itself appears in the GI Act only in two instances, first in Section 2(1)(e) which defines a GI, and second, in connection with Section 11(2) that stipulates that the application should state as to how the GI serves to designate the goods in respect of, *inter alia*, quality. Unlike the European Regulation, the GI Act does not provide for monitoring mechanisms at multiple levels. In fact, there is no single reference to an inspection or monitoring structure in the Act. Though there is a mention of it in Rule 32(1)(6)(g) which lists what should be the content of the statement of case, it is quite perfunctory in that it states, "particulars of the inspection structure, if any, to regulate the use of the geographical indication". In contrast, the European Regulation stipulates multiple monitoring measures, both within the GI-controlling body and outside it.

Currently, there is a proliferation of GI registrations in India without any legal provisions stipulating post-registration quality control measures that are to be employed in the production of goods branded as GIs. This is detrimental not only to the protection process of GIs in India but also to the very existence of these GIs, because prolonged failure to meet consumer expectations would dilute the premium and credibility of GI-branded goods. Why would a customer pay a premium to a GI branded product if there is no difference in quality as compared to similarly placed goods?

While the campaign is a wonderful idea to promote awareness, there is more work that is required at the legislative level to ensure credibility of the GI protection process in India. To make such efforts more meaningful and worth the passion put in by bodies such as CIPAM, we need to first fill the legislative gap in ensuring quality control through monitoring mechanisms.

Latha R. Nair is a partner with the IP law firm K&S Partners. E-mail: latha@knspartners.com

The new U.S. Fed Chairman is unlikely to opt for policies that might upset the President's plan

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PM to lay foundation stone of STP to be built at Varanasi under Namami Gange Programme**PM to lay foundation stone of STP to be built at Varanasi under Namami Gange Programme**

Prime Minister Shri Narendra Modi will lay the foundation stone of a 50 MLD Sewage Treatment Plant (STP) based on Hybrid Annuity-PPP model in Ramana in Varanasi on September 22, 2017. This is the first time ever that Hybrid Annuity-PPP model is adopted in sewage sector. It is a major step forward in realising the dream of Nirmal Ganga under Namami Gange programme.

The work to construct, operate and maintain the 50 MLD STP in Varanasi has been awarded to a consortium led by Essel Infra Projects Limited at an estimated cost of Rs 153.16 crore.

The Government of India had accorded Cabinet approval to implement the Hybrid Annuity based PPP model with 100% central sector funding. Under this model, the development, operation and maintenance of the STP will be undertaken by a Special Purpose Vehicle (SPV) at the local level. As per this model, 40% of the Capital cost would be paid during construction while the remaining 60% of the cost will be paid over the life of the project as annuities along with operation and maintenance cost (O&M) expenses for the next 15 years.

One of the most important features of this model is that both the Annuity and O&M payments are linked to the performance of the STP. This will ensure continued performance of the assets created due to better accountability, ownership and optimal performance.

Samir/jk

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Is the Sardar Sarovar Dam boon or bane?

LEFT

There is as yet no credible assessment of the costs, benefits and impact of the project

Himanshu Thakkar

To assess whether the Sardar Sarovar Project (SSP) is a boon or bane, we need to have a credible assessment of all the costs, benefits and impacts once the project is completed.

First, the project is still incomplete (even after downscaling the canal network by about 18,000 km), as per Gujarat government figures, with over 30,000 km of canals yet to be completed; the Garudeshwar Dam downstream from the SSP is still under construction (without any social and environment impact assessment). Second, there is as yet no credible assessment of the costs, benefits and impacts of the project. But let us take an overview of the key issues.

Not going to plan

The basic justification offered for the SSP by the Gujarat government from the time of the Narmada Water Disputes Tribunal in the 1970s was that there is no alternative to SSP waters for the drought-prone areas of Kutch, Saurashtra and north Gujarat. Funnily, all the incomplete canal network of the project is in these very regions, while in the water-rich and politically-socially-economically powerful central Gujarat region (excluding the eastern tribal belt) the canal network was completed long ago and the people have been enjoying full use of the water, way beyond their share in the original SSP plans. So, the SSP's basic objective is far from achieved.

Social and environmental impacts have gone far beyond what was estimated at the outset when the project was cleared in the late 1980s. Rehabilitation of even the submergence-affected population is about 80% incomplete, but the Prime Minister, on September 17, 2017, his birthday, declared the project complete! One of the most glaring aspects of this episode is that even the highest judiciary of the country could not assure that the displaced population got a just rehabilitation as required by law.

There are many other dimensions of the impacts of the project. For example, the 150-km stretch of the Narmada downstream from the dam is now dry most of the year and the claim of 600 cusecs (cubic feet per second) being released not immediately downstream but several kilometres from the dam is not supported by any clinching evidence. In any case, that quantum was not the result of any participatory assessment, and is not sufficient to stop even salinity ingress, as was seen in the last several years. The livelihood of at least 10,000 families depending on the Narmada estuary stands destroyed, without any one talking about any rehabilitation or compensation. Similarly, there is no rehabilitation for all the other categories of people displaced by the dam.

Independent review a must

Incidentally, the Sardar Sarovar reservoir could not be filled, and even the extent to which it was filled (up to a maximum of 129.68 m against the full reservoir level of 138.68 m) was possible only by stopping all power generation at the River Bed Power House for almost two monsoon months, and by reducing power generation at the upstream Indira Sagar and Omkareshwar dams by over 95% and depleting the meagre water storage.

The best way to know if the project is a boon or bane would be through an independent review of

the project. Such reviews happened at least twice, one set up by the World Bank, another by the Government of India. In both cases, the outcome was the same: the project in its current form should not go ahead. That answer was available about 25 years ago.

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RIGHT

The project is a lifeline for drought-prone areas of Gujarat and a must for national water security

S. Masood Husain

The Sardar Sarovar Project was taken up after the Narmada Water Disputes Tribunal gave its final award vis-à-vis Gujarat-Madhya Pradesh in 1979.

Benefits aplenty

The benefits from the project are immense. Nearly 18.45 lakh hectares of land are projected to be irrigated in Gujarat — a very large area by any standards. Besides, 2.46 lakh hectares in Rajasthan will be also irrigated. This will increase agricultural production to the tune of about 87 lakh tonnes per annum. Then, there is an installed hydropower capacity of 1,450 MW, which would be generating about 100 crore units of electricity per year. Drinking water will be provided to 9,500 villages, 173 towns of Gujarat and 124 villages of Rajasthan.

The project will provide flood protection to an area of about 30,000 hectares which is prone to the fury of floods. And about a million jobs will be created mostly in rural areas as a result of the project. Most of the areas covered are drought-prone and parched areas. A certain portion of the water will also be used for industrial purposes. In addition, there are benefits to the environment. The Shoolpaneshwar Wildlife Sanctuary area is going to increase from 150 square kilometres to 607 square kilometres.

Environment safeguards have been put in place. Trees are being planted. A total of 76.1 million tree saplings have been planted; for every tree submerged, 92 are being planted. About 4,650 hectares are marked for compulsory afforestation.

The list of benefits shows how the SSP is a lifeline for the drought-prone and parched areas of Gujarat. The project was being conceptualised since the early 1940s but the dam construction could not be planned properly for a long time as there was no agreement on the sharing of waters. After the Narmada tribunal was instituted in 1969, and with the award announced in 1979, the project was operationalised in full swing. And it is only after assessing all the alternatives that the project was considered. In my opinion, there was no other alternative.

After completion, the project will affect 230 villages in Gujarat, Maharashtra and Madhya Pradesh; of this, four will be completely submerged. The rest will be submerged only when the water reaches the full reservoir level. About 32,600 families would be affected on account of submergence. Relief and rehabilitation is being undertaken by the Narmada Control Authority. Its relief package is considered to be the best so far.

Intrinsic to water security

We have to keep in mind that the water security of the country depends on water storage. Our water storage is low when compared to Russia (per capita storage of 6,100 cubic metres), the U.S. (1,960 cubic metres), China (1,100 cubic metres); in India, it is only about 200 cubic metres.

Unless we have water storage, we cannot have water security. As per the National Commission report of 1999, we should have storage of about 450 billion cubic metres; we have so far only developed 253 billion cubic metres of storage — dams and reservoirs taken together. About 50 billion cubic metres of storage is under development.

Our food security and energy security are also dependent on water security. Lastly, inter-linking of rivers is essential to addressing the problem of floods and droughts in the country because water from the basins of water-surplus Brahmaputra, Ganga and Mahanadi rivers can be channelised to deficit areas. This would require storage, hence the case for large dams.

S. Masood Husain is member, water planning and projects, Central Water Commission and Director General, National Water Development Agency

As told to Anuradha Raman

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CENTRE

The distribution system needs to be reimagined to carry dam water to every home and field

Tushaar Shah

After 35 years in the works, 48,000 crore in capex, 45,000 ousted families, 245 submerged villages and 250,000 hectares of land acquired, for Gujarat, the Sardar Sarovar Dam project still remains just that, a promise.

Little gain so far

Gujarat's major attraction from the SSP was 11 billion cubic meters (BCM) of water to irrigate 1.8 million hectares of its parched land. Sadly, the SSP irrigates less than a quarter of this area, benefitting little more land than was acquired to construct it. Is this benefit worth the costs?

Not yet. Since 1990, Gujarat has gained more from 800 crore invested in constructing half a million check dams and desilting old tanks and reservoirs. According to Central Ground Water Board data, Gujarat is the only State that has improved its groundwater levels since 2000. Many give credit for this to the SSP. But waters from the SSP circulate on less than 3,00,000 hectares of Gujarat's 19.6-million-hectare landscape and cannot possibly have improved groundwater recharge all over the State. It is the check dams and desilted tanks all over the landscape that did the job. If Gujarat's agriculture grew at 9% every year since 2000, it was largely because of groundwater recharge.

Aquifers are omnipresent. Farmers access them through wells and tube wells. Increased storage in aquifers directly and immediately translates into benefits for the user. Not so with dams like the SSP. Their benefits depend on an effective distribution system. The SSP has been let down by the failure of its distribution system.

Back in the 1980s, SSP planners had proposed that beneficiary farmers would volunteer land and labour to build last-mile water courses to their fields. This was realistic in 1980 but not so today. Between then and now, Gujarat and its agriculture have morphed. Tube-well irrigation with subsidised electricity has emerged as the backbone of agriculture. Even in canal commands, farmers prefer tube-well irrigation-on-demand than waiting for occasional canal water release.

No wonder farmers have refused land for last-mile canal connectivity. Instead, farmers invested their own funds to install close to 1,00,000 pumps and millions of meters of over-ground and underground pipelines to lift SSP water and take it to their fields.

This surfeit of private pipelines was a godsend for SSP managers to innovate a farmer participatory regime for water distribution. Instead, Gujarat treated entrepreneurial pipeline irrigators as 'water thieves', unleashing police on them. It was only after a decade of failure in building water courses that Gujarat finally settled for underground piped distribution. But even then, instead of letting farmers do this in a regulated and planned manner, it gave the job to contractors unaware of the local dynamics. It is early days, but the results do not look promising.

Reimagining the project

The Sardar Sarovar Project needs to be reimagined in today's context. Gujarat's irrigation challenge is the annual 10,000 crore subsidy bill for farm power supply. Spreading SSP water on depleted aquifers can cut this bill down to a quarter, bolster the finances of distribution companies and cut power cost for the industry. Fluoride in groundwater that most Gujaratis use for drinking is a public health time bomb. Bringing SSP water to every home can defuse this.

With 11 BCM in live storage, Gujarat can ensure water for people and livestock for two successive droughts. But all these can happen only if it creates and masters a distribution system that carries dam water to every home and every field.

Tushaar Shah is a senior fellow at the International Water Management Institute

The new U.S. Fed Chairman is unlikely to opt for policies that might upset the President's plan

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NITI Aayog and IRF Geneva signs Statement of Intent (Sol) to cooperate in the field of Intelligent Transportation Systems (ITS)

NITI Aayog and IRF Geneva signs Statement of Intent (Sol) to cooperate in the field of Intelligent Transportation Systems (ITS)

The National Institution for Transforming India (NITI Aayog) and the International Road Federation, Geneva (IRF Geneva) have, today, signed a Statement of Intent (Sol) to cooperate in the field of Intelligent Transportation Systems (ITS).

The objective of the Sol is to create a national platform, involving all relevant Government of India stakeholders, Indian and foreign companies active in the sector, and relevant technical experts for the purpose of developing a National ITS Policy covering:

- 1) Traffic Management,
- 2) Parking Management,
- 3) Electronic Enforcement of Traffic Rules and Regulations,
- 4) Fleet Management and Monitoring,
- 5) Innovation in the field of ITS, and
- 6) Education in the field of ITS.

The objectives of this national ITS Policy will be to contribute to reducing urban traffic congestion, improving the situation around parking of vehicles in cities, improving road safety, and improving the security of passenger and goods traffic. The work of this National Platform will provide a coherent and consistent National ITS Policy covering domains such as traffic and parking management, enforcement, and security.

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On GM crops, a failure to heed scientific evidence

Last week, the Centre told the Supreme Court that it was yet to make up its mind on the commercial release of genetically modified (GM) mustard (*Brassica juncea*) and was still studying the matter. This week, Union environment minister Harsh Vardhan reiterated the point, underlining that there were “compelling arguments” both for and against GM crops. Vardhan, who also serves as science minister, proffered that the government’s decision will be “based on common good”. If that is indeed to be the case, then this government’s continued dithering on GM crops simply does not add up.

Yes, this has been a controversial issue with the green lobby raising a litany of complaints but the fact of the matter is that a large and growing body of evidence indicates in no uncertain terms that GM crops are indeed safe and economically beneficial.

The Indian state, however, has seemingly always been in two minds about GM crops. During the UPA era, Prime Minister Manmohan Singh and agriculture minister Sharad Pawar favoured GM crops while two successive environment ministers, Jairam Ramesh and Jayanthi Natarajan, stood in opposition. Natarajan’s successor Veerappa Moily, however, was in the pro-GM camp and reversed a moratorium on field trials, which were then re-started in some BJP-ruled states after the NDA came to power at the Centre in 2014. Prime Minister Narendra Modi was considered to be in favour of GM crops, and his environment ministry reported in 2016 that there were no safety concerns regarding the use of GM mustard. In May this year, the Genetic Engineering Appraisal Committee (GEAC), the apex regulatory body for GM seeds, cleared the Dhara Mustard Hybrid-11 (DMH-11) for commercial field use.

But by then the Supreme Court had put a spanner in the works—it was hearing anti-GM campaigner Aruna Rodrigues’ demand for an “independent evaluation” of DMH-11. That case is scheduled for a final hearing in November; meanwhile, a parliamentary standing committee, headed by the Congress party’s Renuka Chowdhury, has advised the government to go slow because it believes that there isn’t enough evidence to decide either way.

This is decidedly odd, for research done by at least six different institutes under the Indian Council of Agricultural Research has found GM crops to be safe for animal health. The Central Avian Research Institute in Bareilly gave genetically modified cottonseed meal to broiler chickens over a period of nine years and found no difference with those that consumed non-GM feed. The Central Sheep and Wool Research Institute at Malpura, in collaboration with the Central Institute of Cotton Research, Nagpur, did similar tests on lambs, and again found no adverse impact. The Indian Veterinary Research Institute, in Bareilly, came up with similar results for goats, the National Dairy Research Institute at Karnal for cows, and the Central Institute of Fisheries Education, Mumbai for fish.

Additionally, the National Institute of Nutrition in Hyderabad conducted tests for toxicity and allergenicity and found no adverse effects. And if all this wasn’t enough, sample this: a 2014 meta-study by Wilhelm Klumper and Matin Qaim of the University of Gottingen, Germany, analysing 147 other studies of GM crops from around the world, found that GM technology helped increase crop yields by 22%, reduced the use of chemical pesticides by 37%, and increased farmer profits by 68%.

Today, GM crops are cultivated over 185 million hectares of land, by more than 18 million farmers across 26 countries, marking a 110-fold increase since GM crops were first commercialized, according to data from the International Service for the Acquisition of Agri-biotech Applications. At least 30 other countries import GM produce, which means about nearly 68% of the world’s

population is already consuming GM products.

In fact, India too has been importing GM products—specifically, GM soybean oil and GM canola oil (which is a sister crop of mustard)—for nearly two decades now. These imports cost about Rs80,000 crore annually and are needed to cover nearly half of India's edible oil demand. Now, if GM mustard, which has a much higher yield than traditional varieties, can be cultivated domestically, it can not only reduce the import bill significantly but also increase the income of about six million mustard farmers.

One only needs to look at the enormous success of BT cotton, the only GM crop that is allowed to be cultivated in the country, to gauge the potential here. In fact, while BT cotton was developed by a foreign company, thus fuelling concerns about vested interests and corporate control among environmental activists, GM mustard has been developed at the publicly funded Centre for Genetic Manipulation of Crop Plants at the University of Delhi after 20 years of research.

Simply put, GM crops make for good science and good economics, and India needs to embrace both. If it doesn't, it will fall behind.

Do you think India should begin cultivating GM mustard? Tell us at views@livemint.com

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Co-ops. should help farmers double their income: Modi

Agri push: Prime Minister Narendra Modi speaking at the birth centenary celebration of cooperative leader Laxman Rao Inamdar. R.V. Moorthy

Prime Minister Narendra Modi has asked cooperatives to come up with innovative business ideas to help farmers double their income by 2022, emphasising that the “cooperative spirit” should be kept alive and strengthened. He was addressing cooperatives in New Delhi at a function marking the the birth centenary of Maharashtra-based cooperative leader Laxman Madhav Rao Inamdar.

“It is natural for the cooperative sector to grow and shine in India. There are several sectors where the cooperative sector can help make a positive difference. See what best practices to adopt and give up the old ones and move ahead,” he said.

Boost economy

He asked cooperatives to venture into new business areas like beekeeping and seaweed farming to help farmers double their income by 2022 and boost the rural economy. Stating that farmers are facing many problems, Mr. Modi said there was a need to establish a system to ensure farmers buy and sell at wholesale rates.

Observing that cooperatives were mainly present in sugar and dairy sectors, the Prime Minister said the cooperative system suited to India and there was a need to foray into new areas.

He said sectors like neem oil production and beekeeping are fertile grounds for cooperatives to step in. Even in fishery sector, additional work can be provided to fishermen during off-season by encouraging them to go in for seaweed farming, he said, adding that seaweed was in great demand in the pharmaceutical sector.

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Smarts cities acquiring censor based 'eyes' and 'ears' connected to Command and Control Centres

Smarts cities acquiring censor based 'eyes' and 'ears' connected to Command and Control Centres

Digital Integrated CCCs act as 'brain' of cities for coordinating civic services

Installation of CCCs in progress in 11 smart cities and bidding completed in another 23

Centre organizes workshop on sharing experiences among cities in Mumbai

Smart cities in the making are set to rise to an entirely a new level of monitoring and delivery of civic services through digitally integrated Central Command and Control Centres, said Shri Durga Shanker Mishra, Secretary (Housing & Urban Affairs), Government of India today. He said so while inaugurating a day long 'Learning and Experience Sharing Workshop on Digitally Integrated Command and Control Centres under Smart City Mission' in Mumbai.

Shri Mishra further said that these centres would serve as the 'brain centres' of smart cities for ensuring effective coordination in the functioning of various agencies of urban local bodies resulting in improved monitoring and delivery of services to citizens. He said that with these centres based on a host of sensors connected to a central server function as the 'eyes' and 'ears' of cities as well by enabling monitoring of garbage collection and it's transportation truck-wise, filling and emptying of garbage collection bins, traffic and red light violation, noise pollution etc.

Shri Mishra urged the cities that are setting up such centres under Smart City Mission to ensure their timely completion so that citizens could benefit from them at the earliest.

Dr.Samir Sharma, National Mission Director, Smart City Mission said that different IT based projects taken up by cities in recent years have been operating in isolation and CCCs seek to integrate all such systems with several enhanced features for better integration for better information and service delivery.

Dr.Sharma informed that Command and Control Centres are under implementation in 11 cities viz., Pune, Nagpur, Ahmedabad, Surat, Vadodara, Jaipur, Raipur, Naya Raipur, Bhubaneswar, Visakhapatnam and Kakinada (Andhra Pradesh). These centres have already become partly operational in Pune and Nagpur. 23 other cities have completed bidding process for setting up such centres.

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TRIFED Plans to Scale up Marketing Functions

TRIFED Plans to Scale up Marketing Functions

TRIFED, a PSU under Ministry of Tribal Affairs, Government of India has been working with the main objective of promoting tribal art and craft for the benefit of tribal artisans of the country, under the scheme “Institutional Support for Development & Marketing of tribal products/produce” of the Ministry of Tribal Affairs, Government of India.

In line with the objective TRIFED has planned to scale up Marketing of Tribal Products through increase of its Retail Outlets ‘Tribes India’ throughout India and other retail marketing activities. The brief of the Retail Marketing Activities of TRIFED is given below:

1. Tribes India Retail Chain of Outlets:

TRIFED’s efforts for market development of tribal products envisage enhancing income of tribals by way of providing marketing support for the various hand-crafted products they produce. TRIFED opened its first showroom by the name of ‘Tribes India’ during April, 1999 at 9, Mahadev Road, New Delhi. Progressively, TRIFED established a chain of 42 Retail outlets out of which 29 are its own outlets and 13 outlets have been functioning in association with State level organizations on consignment basis. The sales have shown an increasing trend from 162.56 Lakhs in 2005-06 to Rs 1117.85 Lakhs during 2016-17.

2. Product categories Available for sale:

- Metal Craft
- Tribal Textiles
- Tribal Jewellery
- Tribal Paintings
- Cane & Bamboo
- Terracotta and Stone Pottery
- Gifts and Novelties &
- Organic and Natural Food products.

3. Exhibitions:

In order to promote tribal art and craft and also boost overall sales, TRIFED organises and participates in Domestic and International exhibitions. The details of the same are appended below:

3.1 Aadishilp:

TRIFED organizes National Tribal Craft Expo by the name of Aadishilp, in which individual tribal artisans, tribal SHGs, Agencies / Organizations working with tribals are invited to participate and showcase their rich tribal heritage. The main objective of holding these events is to provide an opportunity to tribal artisans to show their craft / art directly art lovers, getting feedback about customer taste and preferences, this helps them in modifying their product designs and creations according to market trends and needs. The event also at times includes tribal dance performances, which is an attempt to present tribal art and culture in holistic manner.

3.2 Aadichitra

TRIFED also organises exhibitions by the name of Aadichitra since 2010, in which tribal paintings only like Gond from Madhya Pradesh, Saora from Orissa, Warli from Maharashtra and Pithora paintings from Gujarat, are exclusively displayed and sold. The tribal artists are also invited to demonstrate their skills during such exhibitions. The Aadichitra has received appreciations from all quarters of Art Lovers.

3.3 Participations in Domestic Exhibitions

TRIFED in association with tribal artisans also participates in exhibitions / craft melas organized by other Agencies of the Central/State Governments throughout the country with an objective to provide opportunity to tribal artisans to showcase and market their handicraft products. TRIFED participates in around 100 such exhibitions annually.

3.4 OCTAVE

TRIFED also participates in the OCTAVE - a dance festival of North Eastern Region, organized by Ministry of Culture, Govt. of India. TRIFED is associated with this event since 2008-09. TRIFED facilitates participation of artisans from North Eastern region and provides them the opportunity to showcase and market their products.

3.5 International Exhibitions

TRIFED participates in international exhibitions/trade fairs through Export Promotion Council for Handicrafts (EPCH) and India Trade Promotion Organisation (ITPO) in various countries for display and sale of tribal products sourced from tribal artisans. TRIFED participates in 2-3 International Exhibitions annually.

4. Sourcing of tribal products:

4.1 TRIFED has developed a system of sourcing products made by empanelled tribal

suppliers. The suppliers comprise of individual tribal artisans, tribal SHGs, Organisations/ Agencies/NGOs working with tribals, who are empanelled as suppliers of TRIFED as per the guidelines for empanelment of suppliers, a copy of which is available on TRIFED website.

4.2 Tribal Artisan Mela (TAM)

In order to increase the number of tribal suppliers and associate them with our Retail operation, TRIFED organizes Tribal Artisan Melas (TAMs) at district / tehsil level so as to reach tribals located in interior tribal areas and source tribal art and craft directly from the tribal artisans/group of artisan. Under this initiative, TRIFED in association with State Govt. /organizations invites tribal artisans to a venue an exhibition area where they display their art and craft items. TRIFED deputes its Merchandising team to these Melas to identify the new artisans and new products which can be marketed through its outlets. This initiative not only augments sourcing of tribal art and craft in its original form but also spread awareness about TRIFED's activities and ways and means for a tribal to avail of the benefits of TRIFED's activities.

The calendar of Aadishilps, Aadichitra and Tribal Artisans Melas has been circulated to all Regional Offices, a copy of which has been given to MIS Division.

NEW INITIATIVE

TRIFED plans to scale up the Retail Marketing Activities by achieving a procurement goal of Rs.20 Crores and sale of Rs.40 Crores in the current financial year and procurement goal of 50 Crores and sale goal of Rs.100 Crores by the end of next financial year through sustained efforts to ramp up supply and creation of demand, with a purpose of associating maximum number of tribal artisans through association and expertise of likeminded partners in the various States.

While considering the above, focus areas for revamping and scaling up of Retail Marketing Activities include the following:

Sale goals to be achieved through following ways:

Sale through Franchise Outlets – TRIFED plans to expand its Retail Operations by opening of Franchise Outlets for sale of tribal products. Under this model, TRIFED will get the stocks delivered at the franchisee premise as per the requirement. The Franchisee shall sell the products on the MRP fixed by TRIFED in the brand name of Tribes India with their manpower and other resources. Franchisee shall be paid a commission ranging from 10-25% on net sales and sales proceeds shall be payable once in a month. All the products supplied by TRIFED will carry "Tribal Craft Mark" in form of hologram/ label/tag for its genuineness and authenticity.

Sale through "Young Entrepreneur Development Programme": TRIFED plans to expand sale operations by empanelling young and smart sales boys/girls for undertaking

house to house campaign for sale of our tribal products. These young sales boys/girls shall be known as “**Young Entrepreneurs of TRIFED (YET)**”, who shall undertake house to house campaign for sale of our tribal products. The YET shall be provided e-brochure comprising of photographs of products available with complete details and required publicity material for showing to the customers. They shall also be provided with small samples as per their requirement for showing to the customers and in lieu of sales made through them TRIFED shall pay a commission of 10% on net sales to them.

Sale through e-commerce platforms: The various e-commerce platforms offers a huge potential for promotion and sale of tribal products. TRIFED is already selling tribal products through snapdeal.com and www.amazon.in. However, TRIFED is also expanding its operations through other e-commerce portals.

Sale through Tribes India Own Outlets: By consolidating and upgrading the same by improving interiors and exteriors for making more presentable /attractive for visiting customers. The outlets to be fully stocked and staff posted in the Outlets made active and involved in shop operations.

Sale through Mobile Vans: For reaching to masses at their door steps.

Festival Offers: Offering of various discounts packages/schemes for promotion of tribal products, liquidation of stocks and enhancing overall sales.

“Friend of Tribes”: In order to promote tribal products and Tribes India as a brand and also to create a captive customer base, TRIFED is issuing “Friends of Tribes” Loyalty Card, offering discount of 20% on most of the products being sold through Tribes India Outlets located across country. The Card holders shall be also eligible for an additional 10% discount, in case festival/other discount scheme is already existing at the Outlets at that time but not exceeding 40%.

Special discount scheme for Central/State Government Employees: A special additional discount of 10% on prevailing discounts/offers is being offered to all the Central/State Government Employees at all our Outlets on production of their official Identity Card issued by their department.

Offer packages: For every purchase of products above Rs. 2,000/-, attractive gifts will be given.

Festival discount: Festival discount of 10% on Food and Natural products and 15% on all other products are being on specific festive/occasion.

Upto 40% Discount Scheme Sale: Maximum discount upto 40% are being offered on select stocks. Offers applicable till stock lasts.

(terms and conditions shall apply)

Tribal Craft Mark: For ensuring the authenticity of tribal source, all the products marketed by TRIFED will carry “Tribal Craft Mark” in form of hologram/ label/tag for its genuineness and authenticity.

Procurement goals to be achieved through following ways:

TRIFED will concentrate in Procurement Operations. Each Regional Office of TRIFED has been assigned a goal for identification and empanelment of additional 100 potential tribal suppliers in each state having tribal population for supply good quality and quality tribal products.

Enhancing supplier base by leveraging the pool of tribal SHGs associated with Ministry of Rural Development (State Level Aajivika Mission/NRLM), Regional Offices of DC (Handicraft & Handloom), State Forest Departments, State Handicraft/Tribal Department, reputed NGOs etc., by utilising the tribal SHGs formed by them and bringing them in ambit of procurement operations of TRIFED for supply of good quality tribal products.

Identifying Experts and Master Craftsperson, who can handhold TRIFED in identifying tribal artisans and their products for attaining captive supplier base.

Involving tribal artisans imparted handicraft training by TRIFED and other agencies for supplying tribal products to TRIFED.

The tribal artisans imparted training in selected MFP items to be roped in by converting them into tribal SHGs for supply to value-added products like Honey, tamarind, hill broom, etc. to our Retail Outlets.

Developing linkage between NSTFDC, Banks and other Financial Institutions, who can provide concessional loans to the tribal artisans to support them in making the products for supplying to TRIFED.

The Regional Offices to have regular meetings/workshops with Tribal Welfare/Rural Development Departments/Agencies, reputed NGOs, experts who works in the tribal areas and take their feedback for improving the procurement operations.

Publicity campaign:

Publicity campaign for promotion of tribal products would include making use of posters, banners, leaflets, standees, mobile vans, local TV Channels, stickers in cars and walls, Radio jingles, web based portals like youtube, facebook, google, etc. which would reach to the masses and create impact.

Background:

The tribal population of the country, as per 2011 census, is around 10.43 crore, constituting 8.6% of the total population, 89.97% of them live in rural areas and 10.03% in urban areas. Thus, there exists a vast potential for harnessing the supply of tribal handicraft products from the 705 Scheduled Tribes ethnic groups of 30 States/UTs in 590 districts across the country.

MKV/AK

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Written by Abhishek Jain

Two years ago, in his Independence Day speech, Prime Minister [Narendra Modi](#) promised to provide electricity to the 18,500 villages, which did not have electricity then, in 1,000 days. This Independence Day he highlighted that more than 14,000 have been electrified since then. While 99.5 per cent of our villages are deemed electrified, a fifth of the country's population still awaits an electricity connection and many more suffer due to poor power supply. Hence, the government has moved beyond village electrification to 24x7 power for all by 2022.

The central government has set out this ambitious goal by focusing on household electrification and reliable power supply. As per the Ministry of Power statistics, 43 million Indian households are yet to be electrified. India will take nearly 20 years to electrify the existing unelectrified households if it continues with the current rate of household electrification, about 2 lakh households per month. In order to achieve the target by 2022, we need to increase the rate of household electrification by at least four times. However, even if we manage to achieve the feat, providing 24x7 electricity will remain a problem.

In 2015, the Council on Energy, Environment and Water in collaboration with Columbia University conducted the largest energy access survey of its kind in India, ACCESS, covering 714 villages in six major rural electrification deprived states - Uttar Pradesh, Bihar, Jharkhand, Madhya Pradesh, Odisha and West Bengal. The study showed that an electricity connection does not guarantee electricity access. Fifty per cent of the electrified rural households across these six states did not receive even 12 hours of supply in a day. The situation was much worse in UP, Bihar and Jharkhand, with three-quarters of electrified households receiving less than 12 hours of supply in a day.

Similarly, during evening hours, particularly important for basic lighting needs, half of the electrified households received less than three hours of supply. No surprise that a third of electrified households in these states still rely on kerosene as their primary source of lighting. Reliability and voltage instability are also major challenges.

A majority of these challenges pertain to the operations and performance of state electricity distribution companies. Challenges in infrastructure planning, deployment, as well as maintenance lead to unreliable and poor supply at the local level. Thirty per cent of the rural electrified households in the six states did not have electricity supply for 24 hours on more than four days a month. This indicates a frequent breakdown of the infrastructure as well as delays in repairing them. Only about half the electrified households in the six states had a metered connection, with the situation much worse in UP that had only 15 per cent metered connections.

Unmetered connections with flat fees provide no incentive for households to be judicious about energy consumption, discouraging distribution companies to supply reliable power. DISCOMs in these states often struggle with limited or non-performing staff to effectively operate and maintain services in rural areas. A fourth of the metered households either received either a fixed bill or no bill at all, indicating that DISCOMs did not have the capacity to read meters and generate bills regularly. Electricity theft and payment defaults pose further challenges for the DISCOMs.

We need innovative solutions to address the electricity access challenges posed by rural India. Village-level entrepreneurs could be contracted to operate and maintain the local distribution while generating bills and collecting revenues from the customers. Banking on community relationships, these entrepreneurs could improve compliance on payments as well as curb stealing of power.

Recruiting and training local youth could help address maintenance issues. This will also help in creating more skilled jobs and entrepreneurs in rural areas. Pre-paid and smart metering systems are other ways to encourage payments. Many such solutions need to be piloted and tested.

As the government races to meet the 2022 target, it must also focus on designing robust and innovative tools to measure and monitor the progress on a multi-dimensional level, rather than just counting the number of connections. A new India should also embrace a new electricity system, built on the smart technologies and decentralised approaches offering resilience, flexibility, and above all, inclusiveness.

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India third in nuclear power installations: study

India is third in the world in the number of nuclear reactors being installed, at six, while China is leading at 20, the World Nuclear Industry Status Report 2017, released this month, shows. The number of nuclear reactor units under construction is, however, declining globally for the fourth year in a row, from 68 reactors at the end of 2013 to 53 by mid-2017, the report says.

The latest report further reveals that most nuclear reactor constructions are behind schedule, with delays resulting in increase in project costs and delay in power generation. There are 37 reactor constructions behind schedule, of which 19 reported further delays over the past year. In India itself, five out of the six reactors under construction are behind schedule. Eight nuclear power projects have been under construction globally for a decade or more, of which three have been so for over 30 years.

In the foreword, S. David Freeman, an American energy policy expert who led the Tennessee Valley Authority under U.S. President Jimmy Carter, writes that the debate regarding the value of nuclear energy "is over". "The most decisive part of this report is the final section — Nuclear Power vs Renewable Energy Development. It reveals that since 1997, worldwide, renewable energy has produced four times as many new kilowatt-hours of electricity than nuclear power," he writes, concluding, "The world no longer needs to build nuclear power plants to avoid climate change and certainly not to save money."

Data gathered by the authors shows that global nuclear power generation increased by 1.4% in 2016 due to a 23% increase in China, though the share of nuclear energy in electricity generation stagnated at 10.5%. By comparison, globally, wind power output grew by 16% and solar power by 30%. Wind power increased generation by 132 TWh (terawatt hours) or 3.8 times, and solar power by 77 TWh or 2.2 times more than nuclear power's 35 TWh respectively. Renewables represented 62% of global power generating capacity additions.

Russia and the U.S. shut down reactors in 2016, while Sweden and South Korea both closed their oldest units in the first half of 2017, the report notes.

Financial crisis

The report also documents the financial crisis plaguing the industry. After the discovery of massive losses over its nuclear construction projects, Toshiba filed for bankruptcy of its U.S. subsidiary Westinghouse, the largest nuclear power builder in history. AREVA has accumulated \$12.3 billion in losses over the past six years.

French bailout

The French government has provided a \$5.3 billion bailout and continues its break-up strategy, the report notes.

In the chapter on the status of the Fukushima nuclear power project in Japan, six years after the disaster began, the report notes how the total official cost estimate for the catastrophe doubled to \$200 billion.

The lead authors of the report are Paris-based energy consultant Mycle Schneider, who advised the European Parliament on energy matters for over 20 years, and Antony Froggart, energy policy consultant and senior researcher at Chatham House, a London-based non-profit organisation working on international affairs.

The world no longer needs to build nuclear plants to avoid climate change

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In Gujarat, after Narmada dam, focus on canals

On September 17, Prime Minister Narendra Modi announced the completion of Gujarat's lifeline, the Narmada dam project, the foundation of which was laid by the first Prime Minister, Jawaharlal Nehru, in 1961.

Why did it take so long?

The Sardar Sarovar dam, built over the Narmada river in south Gujarat, is the second biggest concrete gravity dam by volume after the Grand Coulee Dam in the U.S. It faced many hurdles, including the World Bank's refusal to fund it on grounds of environmental damage and displacement of tribals in Madhya Pradesh, Maharashtra and Gujarat. Mr. Modi criticised those who tried to stop the project and said that despite all obstructions and massive challenges, the people of Gujarat were determined to complete the project. The cost, originally pegged at Rs. 6,000 crore, has increased several times over and is now estimated to be around Rs. 50,000 crore.

When will the network be built?

The project was originally planned to deliver water to the parched Saurashtra, Kutch and north Gujarat regions and also parts of neighbouring Rajasthan. The question being asked by farmers, the real beneficiaries of the project, is when will the canals to bring the water all the way from south Gujarat to the parched fields in Surendranagar, Rajkot or Banaskantha be completed.

Though the dam has been built with full height permitted by the Supreme Court, all gates have been closed as the canal network is not in place to take water from the dam to the fields in the project command area.

As per the Gujarat government's figures, the Sardar Sarovar Project will provide irrigation facilities to 18.45 lakh hectares, covering 3,112 villages of 73 taluks in 15 districts of Gujarat, 2.46 lakh hectares in Barmer and Jalore in Rajasthan and 3,75,00 hectares in Maharashtra. The project's canal network involves a 532 km main canal and 32 branch canals and minor, sub-minor canals and finally field channels. Though the main canal was completed a decade ago, the State authorities have not been able to build minors, sub-minors and field channels to realise the full benefits of the project. "Under the original plan, about 90,389 km of canal network was proposed to be built to irrigate 1.8 million hectares in Gujarat. However, there is no clarity on how much network has been built so far and the area it has brought under irrigation," says the former BJP Chief Minister Suresh Mehta.

He said that instead of building the canal network according to the original plan, the State government had, in fact, reduced the command area and the canal network without obtaining permission from the authorities. According to him, the State brought down the canal network size from 90,389 km to 71,748 km, which means a reduction of 18,641 km.

Academic Vidhyut Jodhi, who has written two books on the project, said that not more than three lakh hectares was under irrigation by Narmada waters because the government, having completed the main canal and branch canals, had not built field channels to take the water to the last mile.

Owing to absence of minor, sub-minor and field channels, farmers along the branch canals have put up diesel engines to draw water to irrigate their farms which are near the main canal network.

What is the way ahead?

Having built the dam, the State must strive to make it a participatory project which means handing over the water management to local water users' associations in villages. So far, the government has only registered such associations on paper. Farmers will need to be educated on crop patterns to boost production.

Mahesh Langa

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Japan to fund mass rapid transit systems

The sources said the Detailed Project Report (DPR) for the MRTS was ready and land was being acquired. The MRTS in Haryana will be an 'elevated' one and will connect Gurgaon and Bawal (part of the Manesar-Bawal Investment Region in the DMIC).

The land has been acquired and the DPR has been finalised, officials said, adding that the MRTS has been included in the JICA 'Rolling Plan' for the ODA loan. The Department of Economic Affairs will soon ask JICA to work on preparatory surveys for the project, they said. The length of these two MRTS projects will be 85 km each.

Grant-in-aid

According to the Commerce and Industry Ministry (the nodal body for industrial corridors), the financial assistance for the DMIC project is to be in the form of grant-in-aid worth Rs. 17,500 crore — as a 'revolving fund'. This, it said, was for the development of 'trunk infrastructure' in the proposed seven industrial cities in the DMIC at Rs. 2,500 crore per city on an average, subject to a ceiling of Rs. 3000 crore per city.

In September 2011, the Union Cabinet — in addition to giving approval for Rs. 17,500 crore as 'Project Implementation Fund' — had also okayed an additional corpus of Rs. 1000 Crore as grant-in-aid to carry out project development activities. The funds are released to the Special Purpose Vehicles (SPVs) formed between the Centre and the respective State Governments. Official sources said, out of all this, the total amount spent till September 2017 was around Rs. 3,500 crore.

As per the ministry, the Japanese government had announced financial support for the DMIC project to an extent of \$4.5 billion in the first phase — for projects with Japanese participation through a mix of JICA and Japan Bank for International Cooperation (JBIC) lending. Also, the JBIC currently holds 26% equity in the DMIC Development Corporation (the SPV which is the DMIC's project development agency) aggregating to Rs. 26 crore. The Indian government holds 49% equity in the DMICDC, while the remaining is held by HUDCO (19.9%), IIFCL (4.1%) and LIC (1%).

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Making the most of the new industrial policy

The framing of the new industrial policy should be seen as an opportunity to chart a meaningful path for industry's role in India's development. The recently released discussion paper by the department of industrial policy and promotion mentions two points that need to be examined closely to grasp the headwinds industry will have to navigate: first, industry's inadequate expenditure on research and development (R&D). And second, micro, the small and medium enterprises sector facing tough competition from cheap imports from China and other countries with which India has free trade agreements.

To put the first point into context, Huawei's R&D expenditure (around \$6.5 billion) is about the same or more than that of Indian industry, while Microsoft spends (around \$12 billion) about the same as the Indian government. Regarding the second point, the consequence of the inflation-targeting framework and its impact on Indian industry via the exchange rate (resulting in cheaper imports from China) would need to be studied in greater detail.

Industrial R&D—India an outlier

If India has to realize its ambition of increasing the number of global Indian companies in the Fortune 500 list, and raise its share of manufacturing in GDP (gross domestic product) to around 25% from 17% currently, industry will have to significantly step up its R&D expenditure. Currently, R&D spending amounts to around 0.9% of GDP. The private sector in India accounts for around 35% of the country's total R&D spending, compared to many advanced economies as well as China, where the corresponding number is around 70%. This will need to be addressed by the new industrial policy, else it risks remaining a structural headwind that will continue to weigh on India's productivity growth going forward.

While the new policy will look to provide a fillip to Make In India, policymakers should be cognizant of "Made in China 2025". One is aware of the high credit to GDP ratio in China and the fact that the Chinese economy has been slowing gradually—although a look at indicators in China, such as loan growth, electricity production, railway freight and fixed asset investment (FAI), suggest that GDP growth in China should remain comfortably within the 6.5%-7.0% range and is unlikely to fall off the cliff any time soon. China is an \$11-trillion economy, and its R&D spending as a percent of GDP is around 2.1%. Indian industry has some way to go.

In the list of the top 2,500 global R&D spenders, there are 26 Indian companies compared to over 300 Chinese companies. In the top 10 global industrial R&D sectors by spending, India has a presence largely in three sectors—pharmaceuticals and biotechnology, automobiles and parts, and software and computer services. It has very little or no presence in other top sectors (see *table*) as opposed to China that has a presence in each of them. The new industrial policy should aim to push for technological deepening in sectors where Indian companies are globally competitive and also provide a road map to enable industry to diversify across sectors. Healthcare is one sector where there is significant potential to increase both public and private R&D expenditure. Focusing on healthcare equipment and services for example, where India has no R&D presence, would assist in technological deepening within the healthcare sector—and also in providing affordable and accessible healthcare through "frugal" medical devices.

Is the inflation-targeting framework hurting industry?

Turning to the issue of tough competition from cheap imports from China—recent articles in Mint have spoken about the impact of a strong rupee on Indian industry and the economy. The Indian rupee has been overvalued for quite some time (on a real effective exchange rate basis for over

two years now). This was also raised by my colleague Rajan Govil [in an article in May 2015](#) published in the *Financial Express*, in which he made a case for the inflation targeting framework being inappropriate for India. While framing the new industrial policy, it would be important to study the extent to which the inexplicably higher interest rates under the framework may have encouraged strong capital flows resulting in rupee strength that is hurting domestic industry (due to cheaper imports). The higher interest rates have also hurt credit to industry.

China's exports to India totalled over \$60 billion in FY2016-17. This is not insignificant given that Indian manufacturing on a gross value added basis is around \$315 billion. In the current fiscal year, China's exports to India have grown almost 17% year-on-year on a year-to-date basis as of July. Demand in India for Chinese electronics and electrical equipment from globally competitive Chinese firms can be expected to grow going forward (currently around 35% of the total Chinese exports to India are items such as electrical machinery and equipment and parts). For now, Indian firms may have to contend with a stronger rupee. To successfully compete with their Chinese counterparts, they will need to spend a lot more than they currently do on R&D. By all means, make the industrial policy a consultative process, but it would need to be well coordinated across various ministries and backed by strong research.

Janak Nabar heads the Centre for Technology, Innovation and Economic Research, and is co-founder at Marketnomix. Comments are welcome at theirview@livemint.com

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Worrying downgrade — On snow leopard conservation

The elusive and charismatic snow leopard has lost its endangered status in the Red List of the International Union for Conservation of Nature, causing genuine worry among wildlife biologists, who believe this sends out the wrong signal to those working to protect it. If the argument for a downgrade to vulnerable status from endangered is that conservation actions have reduced the threat to the cat, there is an equally persuasive response on how little scientists know about its population health, given its remote habitat in the alpine zones of the Himalayas and trans-Himalayas. As a major range country, India has worked to protect these animals, and even launched a programme on the lines of Project Tiger for its conservation, covering 128,757 sq. km of habitat in Jammu and Kashmir, Himachal Pradesh, Uttarakhand, Sikkim and Arunachal Pradesh. There is also an upcoming international collaborative effort, the Global Snow Leopard and Ecosystem Protection Program, involving the countries that make up the range of this graceful animal. It is vital that this momentum should not be lost merely on account of the technicality that the estimated numbers have crossed the threshold for an 'endangered' classification, which is 2,500. If anything, studies on its vulnerability have to be intensified, and the task of monitoring its entire habitat of high mountains speeded up.

It would be a disservice to conservation if governments shift their focus away from the big challenges to the snow leopard's future: trafficking in live animals in Central Asia, and hostility from communities because of its attacks on livestock. India handled the problem of the cat preying on goats, sheep, donkeys and other animals by roping in communities in conservation, and compensating them for any losses. An insurance programme in which residents of a part of Spiti Valley in Himachal Pradesh participated also worked well. New research indicates that even when wild prey is available, the attacks on livestock by snow leopards have cumulatively been on the rise. The response to this finding must be to insulate the owners from losses and encourage them to move away from traditional pastoral grazing. A more fundamental worry is over the likely loss of habitat owing to changing climate patterns. Fortunately, research models indicate that there are considerable stretches of steppes in High Asia that could withstand climate-related changes in the greater Himalayan region, creating refuge lands for snow leopards. Today, the factors that pose a threat to the species remain unchanged, and the IUCN down-listing, which changes the classification since 1986, should not be misread by policymakers. If conservation has protected the cat, it must be strengthened by enlarging protected areas in all the range countries, and keeping out incompatible activities such as mining and human interference.

Rajasthan's ordinance shields the corrupt, threatens the media and whistle-blowers

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Why Indian cities are dirty

We are all familiar with the call for cleanliness that is regularly conveyed to the public through different forms of media. Photo ops of "netas" wielding brooms on streets, with the dust and the garbage of the city being swept off roads, are shown often on [Facebook](#), Twitter and other online platforms. After several months of this great countrywide "abhiyan" however, our nation remains the dirtiest country in the world.

There is no such campaign in any other country in the world, yet they are far cleaner than villages and cities in India. In my travels, I have yet to come across any place that is as dirty and as full of litter as an Indian town. Every time I return to India this is a fact that strikes me the most - that I am back in the dirtiest country in the world. Yet, I have never come across the sight of streets being swept as energetically in any other city abroad, never seen dignitaries handling brooms as assiduously as I have done here.

So what is the secret behind the mystery of the cleaner cities? As an author of several mystery adventure novels for children this is one mystery I know I can solve. Yes, it is simple, my dear Watson. No, it is not because litter is removed quietly and secretly on dark nights when the whole world sleeps, nor is it because the rubbish is made to vanish magically by helpful wizards, nor do aliens carry the garbage to research on what constitutes the filth found on the streets of planet earth.

It is the discipline instilled in the minds of citizens from an early age that helps maintain cleanliness in a country. "Do not litter" signs may be there in many public places in India and children in our schools may be told to throw waste into dustbins, yet this has not become the clarion call of our leaders. They may conduct all kinds of campaigns - against cow slaughter, against people of other religions, and so on - but so far the most important campaign against "dirtying" has not been taken up by anyone. Our public spaces are allowed to get as dirty as possible. And no wonder, for some sweeper or cleaner is bound to come and clear the rubbish. That is his job. After all, he must be getting paid to do the work. So we have every right to throw plastic bottles, bits of paper and whatever we do not need, anywhere and everywhere. Drains along roads are public dustbins and that is where we deposit our waste, no matter if the drain gets blocked or choked and the dirty water overflows on to our doorsteps. We have every right to sweep our shops and throw the dirty stuff into the drain running alongside the road leading to our home. After all, homes where puja is performed must be kept pure and clean, no matter if the brooms direct the dust and other impure matter straight onto the street in front of our pure homes.

"Gandagi nahi failayenge!" "No dumping of litter!" This slogan should ring from east to west and from north to south. "Kachra idhar udhar nahi daalenge!" should be the slogan, and not the one being made popular today. This is the secret behind the clean public places seen in other cities in other countries. It is not the "cleaning", but the "not dirtying" habit that needs to be encouraged in our citizens.

During our stay in Germany almost 50 years ago, it was a crime to throw anything outside our home in Bonn. Two dustbins were placed before our front door; all waste was placed there and they were cleaned regularly every week by the municipality. During winter, one had to remove the snow from the pavement outside our home so that passersby would not be inconvenienced. It was our responsibility to keep the area in front of our home spotless all the time. A friend of ours in the US, also many years ago, was pursued by an irate motorist, because he had thrown the remains of an [apple](#) he had been eating on the road. He was forced to pick up the apple and deposit it in a dustbin rather than on the road. We know China ended its citizens' habit of spitting on streets a long time ago.

The focus in the Swachh Bharat Abhiyaan, in short, should not be on the cleaning up of an already dirty space but on the prevention of any public spot from becoming dirty. There should be strict rules on using dustbins, which must be installed everywhere and regularly emptied by municipal authorities, with a proper system in place for doing so. The rule that everyone should keep public spaces around their homes, shops or other establishments clean and free of litter will automatically lead to cleaner cities and healthier and happier citizens.

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PM launches Pradhan Mantri Saubhagya Yojana; dedicates Deendayal Urja Bhawan to the nation

PM launches Pradhan Mantri Saubhagya Yojana; dedicates Deendayal Urja Bhawan to the nation

The Prime Minister, Shri Narendra Modi, today launched the Pradhan Mantri Sahaj Bijli Har Ghar Yojana, or Saubhagya, at New Delhi. The aim of this scheme is to provide power to all homes.

On the occasion of the birth anniversary of Pandit Deendayal Upadhyay, the Prime Minister also dedicated a new ONGC building - the Deendayal Urja Bhawan.

The Prime Minister also dedicated to the nation, the Booster Compressor Facility in Bassein Gas Field.

Speaking on the occasion, the Prime Minister gave examples of the success of Jan Dhan Yojana, insurance schemes, Mudra Yojana, Ujjwala Yojana, and Udan, to highlight how the Union Government is implementing schemes which benefit the poorest of the poor.

In this context he mentioned the Pradhan Mantri Sahaj Bijli Har Ghar Yojana, which would provide power connections to all the estimated four crore households which currently did not have a power connection. The outlay for this scheme would be over Rs. 16000 crore. These connections would be provided free of cost to the poor, the Prime Minister said.

Speaking to the accompaniment of a presentation, the Prime Minister recounted how he had set a target of electrifying over 18000 unelectrified villages within 1000 days. He said less than 3000 villages are now left to be electrified.

He explained how coal shortages have become a thing of the past, and capacity addition in power generation has exceeded targets.

The Prime Minister also spoke of an increase in renewable power installed capacity, towards the target of 175 GW by 2022. He mentioned how the power tariff in the case of renewable energy has been reduced significantly. A considerable increase has also been made in transmission lines.

The Prime Minister mentioned how the UDAY scheme has brought down losses of power distribution companies, describing it as an example of cooperative, competitive federalism.

Explaining the impact of economies of scale in the UJALA scheme, the Prime Minister said that the cost of LED bulbs has come down significantly.

The Prime Minister said that New India will require an energy framework that works on the principle of equity, efficiency and sustainability. He said the change in work culture in the Union Government is strengthening the energy sector. This in turn, will positively impact the work culture of the entire country, he added.

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PM launches Pradhan Mantri Sahaj Bijli Har Ghar Yojana “Saubhagya”**PM launches Pradhan Mantri Sahaj Bijli Har Ghar Yojana “Saubhagya”**

The Prime Minister Shri Narendra Modi has launched a new scheme **Pradhan Mantri Sahaj Bijli Har Ghar Yojana –“Saubhagya”** to ensure electrification of all willing households in the country in rural as well as urban areas here today.

The **total outlay of the project is Rs. 16, 320 crore** while the Gross Budgetary Support (GBS) is Rs. 12,320 crore. The outlay for the rural households is Rs. 14,025 crore while the GBS is Rs. 10,587.50 crore. For the urban households the outlay is Rs. 2,295 crore while GBS is Rs. 1,732.50 crore. The Government of India will provide largely funds for the Scheme to all States/UTs.

The States and Union Territories are required to complete the works of household electrification by the 31st of December 2018.

The beneficiaries for free electricity connections would be identified using Socio Economic and Caste Census (SECC) 2011 data. However, un-electrified households not covered under the SECC data would also be provided electricity connections under the scheme on payment of Rs. 500 which shall be recovered by DISCOMs in 10 instalments through electricity bill.

The solar power packs of 200 to 300 Wp with battery bank for un-electrified households located in remote and inaccessible areas, comprises of Five LED lights, One DC fan, One DC power plug. It also includes the Repair and Maintenance (R&M) for 5 years.

The expected outcome of the Scheme is as follows:

- (a) Environmental upgradation by substitution of Kerosene for lighting purposes
- (b) Improvement education services
- (c) Better health services
- (d) Enhanced connectivity through radio, television, mobiles, etc.
- (e) Increased economic activities and jobs
- (f) Improved quality of life especially for women

For easy & accelerated implementation of the Scheme , modern technology shall be used for household survey by using Mobile App. Beneficiaries shall be identified and their application for electricity connection along with applicant photograph and identity proof shall be registered on spot. The Gram Panchayat/Public institutions in the rural areas may be authorised to collect application forms along with complete documentation, distribute bills and collect revenue in consultation with the Panchayat Raj Institutions and Urban Local Bodies. **The Rural Electrification Corporation Limited (REC) will remain the nodal agency for the operationalisation of the scheme throughout the country.**

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Power problem — On Saubhagya scheme

Universal access to electricity has been a familiar and long-standing promise of governments at the Centre. Prime Minister Narendra Modi has signalled he is serious about providing this by owning responsibility for its realisation. Success, however, will require more than just budgetary fund allocation; it will depend largely on addressing structural issues that plague the broken power sector. The Pradhan Mantri Sahaj Bijli Har Ghar Yojana, or [the 'Saubhagya' scheme](#), launched by Mr. Modi aims to make electricity accessible to every household by the end of 2018. Under the scheme, expected to cost a little over 16,000 crore, poor households that have no access to electricity will be provided electricity connections free of cost. This builds on previous work carried out under the Deen Dayal Upadhyaya Gram Jyoti Yojana launched in 2015, and the Rajiv Gandhi Grameen Vidyutikaran Yojana launched by the UPA government in 2005, both of which also aimed to provide free electricity connections to the poor. In particular, it hopes to improve electricity access within villages that are already classified as "electrified", according to the criterion that 10% of households enjoy access to electricity. However, the Saubhagya scheme does very little to address the real problem of affordability. In fact, by failing to account for illegal connections taken by households which find it difficult to afford legal access to power, government data on electricity accessibility understate penetration.

A free electricity connection can ease the financial burden on the poor to some degree, but it will not address the recurring burden of power bills. The aim of improving affordability would require that supply be increased drastically to lower the price paid by retail consumers. Paradoxically, amidst the government's claims that India is a power-surplus nation, the power generation utilities remain vastly under-utilised. The plant load factor (PLF) of coal and lignite-based plants, an indicator of capacity utilisation of power generation units, has dropped consistently over the decade from 77.5% in 2009-10 to 59.88% in 2016-17, according to data from the Central Electricity Authority. This is due to demand for electricity from State distribution companies dropping in tandem with their deteriorating financial status. The Ujwal DISCOM Assurance Yojana (UDAY), introduced two years ago to restructure the debt of State distribution agencies, has failed to make enough of a difference to this state of affairs. The outcome is not surprising, given that UDAY has failed to address the root problem of populism in the pricing of electricity. In the absence of the freedom to sell at a profitable price, distribution agencies have had very little incentive to demand more electricity from power generators, as evident in the constantly falling PLF. This in turn holds back investment in power generation units. Saubhagya, unfortunately, does very little to address the fundamentals of India's crippling power problem.

Rajasthan's ordinance shields the corrupt, threatens the media and whistle-blowers

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Indian renewable sector at crossroads

It has been nearly three years since the announcement of the 100 gigawatt (GW) solar capacity target for March 2022. The sector has made huge strides in this time and it is a good time to take stock of the progress made so far and analyse key trends.

Annual capacity addition has grown in the last three years at a compounded annual growth rate of 80% to an estimated 16 GW as of September. Top international and Indian investors, including private equity funds, sovereign wealth funds, conglomerates and utilities have entered the market, drawn by its high growth prospects and supportive policy framework. Growing capacity addition and private sector interest provide a ringing endorsement of government vision. In fact, it is remarkable that financing, which used to be touted as the main barrier to sector growth, has turned into a key enabler. As the sector matures, however, it faces new challenges and the policy environment needs to adapt accordingly.

The sector's growth has been very patchy—Karnataka, Andhra Pradesh, Telangana and Tamil Nadu account for 56% of total operational plus pipeline capacity. In contrast, their combined power consumption is only about 25% of national consumption. By 2018, renewable power penetration in these states is expected to cross 20%, generally regarded as a critical threshold for grid stability. Most other states, including Maharashtra and Gujarat, are already power-surplus, the result of breakneck thermal power capacity addition in the last five years (91 GW), and hence moving cautiously on renewable power. The problem is so acute that the ministry of power envisages no new thermal power capacity from 2022-27 and the recent economic survey has called for rationalization of renewable capacity addition.

The result ironically is that demand for solar power is slowing down when tariffs have fallen to a low of Rs2.42 per kWh, making solar power the cheapest new source of power in India. We expect utility-scale solar capacity addition to slow down to about 5 GW per annum, down from about 8 GW in 2017, over the next three-four years before the excess supply situation eases.

Aggressive bidding and the sharp fall in prices have raised concerns whether the solar sector will suffer the same fate as thermal power or roads, where irrational pricing led to many projects being abandoned or financially distressed. Our assessment is that because of their short gestation period, credible sponsor groups and small individual project sizes, most solar projects will come online as planned. Delays are possible and some investors will bear pain but the banks should be largely protected.

The steep fall in tariffs has led to “buyer's remorse” for many distribution companies (discoms), which have procured solar power at higher prices and are now trying to wriggle out of their commitments. States are not only scrapping ongoing tenders but also, in some cases, seeking to renegotiate or cancel previously allocated projects. We are hopeful that the regulators and judiciary bodies will clamp down on such unilateral attempts as happened in Gujarat in 2014, when the state's discoms tried to renegotiate their high-priced power purchase agreements. Wayward discoms, poor planning and policy uncertainty pose the biggest challenges to the sector. Private investors, particularly international players, need reassurance that contracts will be honoured.

As the sector matures, incentives provided by the government—capital subsidies, accelerated depreciation, free transmission, zero value-added tax, etc.—are being gradually wound down. Instead, the sector faces a growing challenge of how variable, intermittent power can be absorbed into the grid. More stringent forecasting and scheduling restrictions are on their way and the “must run” status of the sector is also under threat.

Solar panel manufacturing also remains a dilemma. Domestically manufactured modules account for less than 10% of consumption notwithstanding the Make In India campaign and policies such as domestic content requirement. Total import bill for the sector is estimated at Rs30,000 crore this year, about 1% of total imports. This may not be a daunting amount but the conundrum for policymakers is whether we need cheap power or economic growth and jobs. Are we just replacing oil imports from West Asia with equipment imports from China? Domestic manufacturers have petitioned for protectionist duties. A cogent long-term vision for manufacturing sector is missing and there are fears that India has missed the bus on manufacturing.

Inevitably, these challenges need to be addressed to achieve solar power potential in India. The 100 GW target for 2022 may be too ambitious but there should be no doubt that solar is the right technology for addressing many of India's energy sector woes—cost, access, air quality and security. It has the potential to transform our economy, environment and the lives of hundreds of millions of our citizens.

If prices keep falling even at a reduced rate of 5-7% per annum, as is widely believed, solar power will become vastly more attractive than other competing power sources. We could be looking at solar power at Rs1.50 per unit in a few years. Improvements in storage technology will solve the main challenge of intermittency. That will mean 24x7 solar power at attractive prices and no environmental burden. We are confident that long-term growth of solar power in India will be faster than most industry forecasts.

Vinay Rustagi is managing director at Bridge To India. Comments are welcome at theirview@livemint.com

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From waste to health

Keeping cities clean is essential for keeping their residents healthy. Our health depends not just on personal hygiene and nutrition, but critically also on how clean we keep our cities and their surroundings. The proliferation of dengue and chikungunya are intimately linked to the deteriorating state of public health conditions in our cities.

The good news is that waste management to keep cities clean is now getting attention through Swachh Bharat Mission. However, much of the attention begins and stops with the brooms and the dustbins, extending at most to the collection and transportation of the mixed waste to some distant or not so distant place, preferably out of sight.

The challenge of processing and treating the different streams of solid waste, and safe disposal of the residuals in scientific landfills, has received much less attention in municipal solid waste management than is warranted from a health perspective. If we do not rise to the occasion to manage the waste that we generate and fail to create clean and healthy cities, we will face many more man-made disasters such as we have seen in recent months in Deonar, Bellandur, and Ghazipur.

One of the problems is that instead of focusing on waste management for health, we have got sidetracked into "waste for energy". In the process, we are opting for financially and environmentally expensive solutions such as incineration plants which are highly capital-intensive. While the National Green Tribunal (NGT) does not allow incineration of mixed waste, nor of any compostables or recyclables, enforcement is a challenge, and the danger to health from toxic emissions looms large.

If only we were to begin by not mixing the biodegradable component of solid waste (close to 60 per cent of the total) in our cities with the dry waste, and use this stream of waste for composting and biomethanation, the management of dry waste would also be made much easier through recycling and processing including by incineration of non-recyclables with appropriate filters to check emissions; scientific landfills will be needed for the little that remains.

City compost from biodegradable waste provides an alternative to farmyard manure (like cowdung) which has been valued from time immemorial for its rich microbial content that helps plants to take up soil nutrients. It provides an opportunity to simultaneously clean up our cities and help improve agricultural productivity and quality of the soil.

India's Green Revolution rescued us from huge dependence on food imports during droughts by using high-yielding varieties of seeds and chemical fertilisers to boost the productivity of food grains. But over time, excessive and imbalanced use of chemical fertilisers has led to severe deterioration in the quality of soil. Organic manure or compost plays a very important role as a supplement to chemical fertilisers in replenishing the nutrient-depleted soils. City compost can be the new player in the field.

Benefits of compost on the farm are well-known. The water holding capacity of the soil which uses compost helps with drought-proofing, and the requirement of less water per crop is a welcome feature for a water-stressed future. Because of good water retention, farmers do not need second or third sowing if rains fail. By making soil porous, use of compost also makes roots stronger and resistant to pests and decay. Farmers using compost therefore need less quantity of pesticides. There is also evidence to suggest that horticulture crops grown with compost have better flavour, size, colour and shelf-life.

City compost has the additional advantage of being weed-free unlike farmyard manure which brings with it the seeds of undigested grasses and requires a substantial additional labour cost for weeding as the crops grow. City compost is also rich in organic carbon, and our soils are short in this. Fortification of soil with organic carbon is an essential element of integrated plant nutrient management as it increases the productivity of other fertilisers. City compost can also be blended with rock phosphate to produce phosphate-rich organic manure.

Chemical fertilisers when used by themselves pollute surface water with nitrogen runoff because only 20 per cent to 50 per cent of the nitrogen in urea is absorbed by plants. The rest runs off into streams and lakes. The addition of compost or organic manure reduces nitrogen wastage, as its humus absorbs the nitrogen and acts like a slow release sponge. The superiority of a system of integrated plant nutrient supply (IPNS), which combines the use of chemical fertilisers with organic manure, was established as far back as 1989 by the Fertiliser Association of India.

Farmers clearly recognise the value of city compost. In most cities, waste transport drivers are bribed by farmers to dump reasonably biodegradable raw garbage onto their fields for making compost onsite for their own farm use. But uncovered and uncomposted raw waste heaps breed rats and insects which carry disease, and attract stray dogs which not only carry rabies but form hunting packs that kill nearby livestock at night. They are also notorious for dog bites and causing traffic accidents by day.

If city waste was composted before making it available to the farmers for applying to the soil, cities would be cleaned up and the fields around them would be much more productive. It would, however, require that delivery mechanisms be set up for the delivery of city compost to farmers.

Recognising the importance of organic manure for the balanced nutrition of crops and restoring soil health, the Supreme Court had directed fertiliser companies in 2006 to co-market compost with chemical fertilisers. However, this direction went largely unheeded. The Solid Waste Management Rules 2016 make the co-marketing of compost mandatory. To provide incentive for co-marketing to the fertiliser companies, in February 2016, the Government of India's Department of Fertilisers notified a policy to promote the use of city compost by offering Market Development Assistance (MDA) of Rs 1,500 per tonne on the purchase and distribution of city compost through the rural outlets of these companies. In 2017, the MDA scheme was extended to compost manufacturers on bagged compost.

The MDA scheme has not worked well because of its administrative complexity and it needs to be simplified. The high volume but low value nature of compost also makes it not so attractive for fertiliser marketing companies to promote its use. While compost manufacturers must meet the quality specifications laid down by the Fertiliser Control Order (FCO), it is equally important for fertiliser companies to make vigorous efforts to market city compost using their well-connected dealer channels and help develop this nascent sector.

It could well be that the companies would rather sell chemical fertiliser which is heavily subsidised. A possible solution in such a situation would be to find a way to make the payment of fertiliser subsidy to the fertiliser companies conditional on the co-marketing of compost. The state agricultural departments can also help facilitate the use of city compost through their widespread extension networks.

Assuming that urban India generates 70 million tonnes of municipal solid waste in a year, and assuming 15 per cent yield of compost, this would provide 10 million tonnes of city compost annually. Quite apart from cleaning up the cities of biodegradable waste, this would be a major and sustainable contribution to improving the health of our soil without further damage by excessive chemical inputs. What a marvelous transition from waste to health.

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A New Division to focus on Highway Operations

A New Division to focus on Highway Operations

The National Highway Authority of India (NHAI) under Ministry of Road Transport and Highways has constructed nearly 30,000 Km world-class National Highways and has another 20,000 Km scheduled for completion in the next couple of years. The sustained growth will ensure that Indian National Highway network will measure approximately 50,000 Km of highways in the next two years, which is third largest Highways Network in the world.

However, this achievement also signals the need of focusing on the Highway Operations for rendering world class services to the highway users. Thus the NHAI has created a new Highway Operations Division. This division will focus on all non-commercial Highway Operational activities for efficient network utilization and providing hassle-free services.

The Highway Operations Division at NHAI will be headed by Member (Admin) and assisted by CGM (IT & HO) and a team of experienced officers. The Highway Operation Division will be in charge of the Electronic Tolling, Wayside Amenities, Road Safety & Security, Incident Management–Helpline, Tracking of Ambulance, Cranes on Highways, Highway Traffic Management System, Swachh Bharat Abhiyan, Highway Plantation, Road lighting, Wi-Fi and other modern amenities on National Highways.

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Cabinet approves Agreement on “Cooperation in the field of Information, Communication and Media” between India and Ethiopia

Cabinet approves Agreement on “Cooperation in the field of Information, Communication and Media” between India and Ethiopia

The Union Cabinet chaired by the Prime Minister Narendra Modi has given its approval to sign the Agreement between India and Ethiopia on “Cooperation in the field of Information, Communication and Media”.

It aims to harness the growing power of Information, Communication and Media for information dissemination and enhancing outreach between the two countries for inclusive development. It will also enhance people to people contact through exchange programmes. It would also provide an opportunity for both the nations to share best practices and new innovations in the field of Information, Communication & Media.

The Agreement will encourage cooperation between mass media tools such as radio, print media, TV, social media etc. to provide more opportunities to the people of both the nations and create public accountability.

The Agreement, through an institutional framework will facilitate exchange of delegations, personnel between the two nations, providing them opportunities to learn from each other’s best practices, bringing in equity and inclusiveness.

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Cabinet approves MoU between India and Belarus in the oil and gas sector**Cabinet approves MoU between India and Belarus in the oil and gas sector**

The Union Cabinet chaired by Prime Minister Shri Narendra Modi has given its ex-post facto approval for a Memorandum of Understanding (MoU) signed between India and Belarus in the oil and gas sector. The MoU was signed on 12th September, 2017 during the visit of President of Belarus to India.

The MoU will promote bilateral relationship between India and Belarus and it is envisaged to enhance the economic and commercial cooperation between the two sides in oil and natural gas sector. Under the MoU, both sides will work towards establishing cooperation in the areas of upstream and downstream activities, capacity building, technology transfer, enhanced oil recovery and development of mature fields in India.

The MoU shall remain in force for three years for the day of its signing.

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FAQs on Pradhan Mantri Sahaj Bijli Har Ghar Yojana "Saubhagya"**FAQs on Pradhan Mantri Sahaj Bijli Har Ghar Yojana "Saubhagya"**

Pradhan Mantri Sahaj Bijli Har Ghar Yojana –“Saubhagya” a new scheme was launched by the Prime Minister Shri Narendra Modi to ensure electrification of all willing households in the country in rural as well as urban areas on 25th September, 2017.

The following Frequently Asked Questions (FAQs) give a detailed view of objectives, features, expected outcomes and implementation strategy of the Scheme.

Qs. No. 1 What is the objective of this new scheme?

Ans. The objective of the 'Saubhagya' is to provide energy access to all by last mile connectivity and electricity connections to all remaining un-electrified households in rural as well as urban areas to achieve universal household electrification in the country.

Qs. No. 2 What all is included in the last mile connectivity and electricity connection to households?

Ans. The electricity connection to households include release of electricity connections by drawing a service cable from the nearest electricity pole to the household premise, installation of energy meter, wiring for a single light point with LED bulb and a mobile charging point. In case the electricity pole is not available nearby from household for drawing service cable, the erection of additional pole along with conductor and associated accessories shall also be covered under the scheme.

Qs. No. 3 Will electricity connection would be totally free of cost for every un-electrified households?

Ans. Yes. Poor households would be provided electricity connections free of cost. Other households would also be provided electricity connections under the scheme on payment of Rs.500 only which shall be recovered by the DISCOMs/Power Departments in ten (10) instalments along with electricity bills.

Qs. No.4 Does the free electricity connection also includes free power for consumption?

Ans. There is no provision in the scheme to provide free power to any category of consumers. The cost of electricity consumption shall have to be paid by the respective

consumers as per prevailing tariff of the DISCOM/Power Deptt.

Qs. No. 5 The earlier programme of Government of India '24x7 Power For All' has similar objective.? How is it different from this programme ?

Ans. '24x7 Power for All' is a joint initiative with the states covering all segments of power sector i.e. Power generation, transmission and distribution, energy efficiency, health of Discom etc. to finalise State/UT specific roadmap and action plan to ensure 24x7 power for all in consultation with States/UTs. The Power for All documents contain details of various interventions required across the value chain of power sector.

Providing connectivity to all households is a prerequisite to ensure 24x7 power supply. Saubhagya is a schematic support to address the issue of energy access.

Qs. No. 6 In distribution sector, two major schemes; DDUGJY for rural areas and IPDS in urban areas are already under implementation- then what is the need for a new scheme?

Ans. Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY) envisage creation of basic electricity infrastructure in villages / habitations, strengthening & augmentation of existing infrastructure, metering of existing feeders / distribution transformers / consumers to improve quality and reliability of power supply in rural areas. Besides this, last mile connectivity and free electricity connections are also provided to BPL households only identified by the States as per their list. However, in villages which are electrified in past for a long period, many households do not have electricity connections for many reasons. Some of the really poor households do not have BPL cards but these households are not capable of paying applicable initial connection charges. There is also lack of awareness as to how to get connection or taking connection is not an easy task for illiterate people. There may not be electricity pole nearby and the cost of erection of additional pole, conductor is also chargeable from the households for obtaining a connection.

Similarly in urban areas, Integrated Power Development Scheme (IPDS) provides for creation of necessary infrastructure to provide electricity access but some households are not yet connected mainly on account of their economic condition as they are not capable of paying the initial connection charges.

Therefore, Soubhagya has been launched to plug such gaps and comprehensively address the issues of entry barrier, last mile connectivity and release of electricity connections to all un-electrified households in rural and urban areas.

Qs. No. 7 Is the cost of Saubhagya scheme over & above the outlay available under DDUGJY?

Ans. Yes, the cost of Saubhagya scheme i.e. Rs. 16,320 crore is over and above the investment being made under DDUGJY.

Qs. No. 8 What is the criteria for allocation of funds to the States?

Ans. Projects under the scheme would be sanctioned based on the Detailed Project Reports (DPRs) to be submitted by the States. There is no upfront allocation of fund under the scheme.

Qs. No. 9 How the scheme would be implemented in the entire country?

Ans. Project proposals shall be prepared by the State DISCOMs / Power Deptt. and sanctioned by an inter-ministerial Monitoring Committee headed by Secretary (Power), GOI. The electrification works under the sanctioned projects shall be executed by respective DISCOMs/Power Deptt. through turnkey contractors or departmentally or through other suitable agencies capable of doing this work as per norms.

Qs. No.10 What is strategy for achievement of target in a time bound manner?

Ans. In order to hasten the process of release of connections to households, camps would be organised in villages / cluster of villages for identification of beneficiaries using modern IT technology with a Mobile App / Web Portal. Application for electricity connections shall also be registered electronically and requisite documentation including photograph of applicant, copy of identity card and / or details such as mobile number/Aadhar number/bank account number etc. shall be completed on spot in the camps, so that connections are released at the earliest.

The Gram Panchayat / public institutions in rural areas shall also be authorized to collect application form, complete documentation and also for distribution of bills, collection of revenue and other activities, as applicable.

Qs. No.11 What would be estimated rise in power demand with the inclusion of 4 crore households in the electricity network?

Ans. Considering an average load of 1 KW per household and average uses of load for 8

hours in a day, there will be requirement of additional power of about 28,000 MW and additional energy of about 80,000 million units per annum. This is a dynamic figure. With the enhancement of income and habit of using electricity, the demand of electricity is bound to vary. This figure will also vary if the assumptions are changed.

Qs. No.12 What is the provision for households where it is not feasible to extend grid lines?

Ans. For households located in remote and inaccessible areas, solar power packs of 200 to 300 Watt and battery back with 5 LED light, 1 DC Fan, 1 DC power plug along with repair and maintenance for 5 years would be provided.

Qs. No.13 How many un-electrified households would be covered under Saubhagya.

Ans. There are about 4 crore un-electrified households estimated in the country of which about 1 crore BPL households in rural areas are already covered under sanctioned projects of DDUGJY. Thus, total of 300 lakh households, 250 lakh households in rural areas and 50 lakh in urban areas, are expected to be covered under the scheme.

Qs. No.14 Would the Scheme envisage providing amnesty to illegal consumers to come and register? Is that also something the Scheme targets?

Ans. The illegal connections need to be dealt with by the respective DISCOMs/Power Deptt in accordance with their rules/regulations in this regard. However, the scheme categorically provides that the defaulters whose connections have been disconnected shall not be given benefit of the scheme.

Qs. No.15 In what manner, the Scheme would be useful for people in their daily life?

Ans. Access to electricity definitely has positive impact on quality of life of people in all aspects of daily household chores and human development. Firstly, Access to electricity would substitute use of Kerosene for lighting purposes resulting in reduction in indoor pollution thereby saving people from health hazards. Further, electricity access would help in establishing efficient and modern health services in all parts of the country. Lighting after the sunset also provide a sense of enhanced personal safety especially for women and increase in post sunset social as well as economic activities. Availability of electricity will boost education services across all areas and quality lighting post sunset would facilitate children to spend more time on studies and move ahead further in

prospective careers. Household electrification also increases the likelihood that women would study and earn income.

Qs. No.16 In what manner, the Scheme would facilitate economic growth and employment generation?

Ans. Substitution of use of Kerosene with electricity for lighting purposes would reduce annual subsidy on Kerosene and would also help reduce the import of petroleum products. Electricity in each home would provide improved access to all kind of communications like Radio, Television, Internet, mobile etc. through which everyone would be able to access all kind of important information available through these communication mediums. Farmers can access information about new and improved agriculture techniques, agro-machinery, quality seeds etc. resulting in significant increase in agriculture production and consequently increase in income. Farmers and youths can also explore the possibilities of setting up agro based small industries.

Availability of reliable electricity services would also facilitate establishment of new shops of daily use goods, fabrication workshops, flour mills, cottage industries etc. and such economic activities would generate direct as well indirect employment. Implementation of scheme itself would result into employment generation in view of the requirement of semi-skilled / skilled manpower for execution of works of household electrification. About 1000 lakh man-days works would be generated for implementation of the scheme.

The expenditure of over Rs 16,000 crore will create positive externalities which will further help in generating employment and benefit the economy.

Qs. No.17 Is there any plan for creating awareness amongst public at large about the Scheme so that more & more people are benefited from the Scheme ?

Ans. Government of India would take up publicity campaign through Radio, Print Media, Television, Sign Boards etc. Lack of awareness about procedure to obtain electricity connection including cost of connection, uses of electricity, cost of uses vis-à-vis Kerosene, benefits of using electricity (Direct & Indirect) etc. has been cited as one of the major reasons of slow progress on household electrification in various research studies.

Therefore wide multi-media campaign would be undertaken to make people aware of all aspects the Scheme. The DISCOM officials would also organise camps in rural areas for creating awareness about electricity as well as Saubhagya. School teachers, Gram

Panchayat members, local literate/educated youth would also be associated in the awareness campaign.

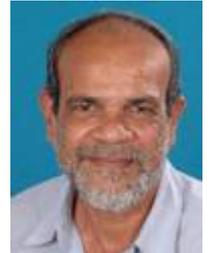
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Special Feature – 27th September (World Tourism Day)***World Tourism Day- International Year of Sustainable Tourism 2017*****Chartering roadmap towards sustainable Tourism**

*Pandurang Hegde

The arrival of foreign tourists into the country has increased from 6.8 per cent in 2016 to 16.5 per cent in January 2017. Similarly the domestic tourist arrivals in 2017 increased to the massive 15.5 per cent over 2015. Obviously, these rising tourist arrivals of both domestic and foreign tourist indicate the success of the tourism policies implemented by NDA government since 2014.

The major factor for increase in arrival of foreign tourist is the policy of introduction of online visa facility that has been extended to more than 180 countries. The reforms of extending e-visa facility for medical and business travelers, and increasing the time period of stay from 30 to 60 days has attracted foreign tourists who are keen to visit India.

The launching of e-ticketing of historical monuments like Taj Mahal, introduction of dedicated tourist trains across India and 24x7 tourist help line has had positive impact on the arrivals of tourists from foreign countries.

In the period from 2015 to 2017 the foreign exchange earnings from tourism has shown an increase of 13 per cent from 12000 crores to Rs 13669 crores.

Tourism sector has enormous potential to grow and contribute towards the higher GDP. It provides employment to 39.5 million people working in hospitality industry. Realizing this potential, the Finance Minister Sh. Arun Jaitely in his Budget speech of the year 2017-18, proposed to set-up Five Special Tourism Zone, anchored on SPVs in partnership with the States. The Finance Minister underlined the fact that Tourism is a big employment generator and has a multiplier impact on the economy. The Minister also announced the launching of Incredible India 2.0 campaign across the world during the year.

The Prime Minister has also made earnest attempt to broadcast the diversity of India through social media and showcasing them to the world. He has also spoken about the cultural diversity and spiritual affinity to tap the potential of country's spiritual legacy. The Prime Minister has approved liberalizing of this sector permitting 100 per cent Foreign Direct Investment in hospitality industry to create basic infrastructure across the country.

Travel and tourism is one of the key sectors that receive special support from the Central Government. The government of India launched several schemes to attract tourists. The Swacch Bharat Abhiyan is the fulcrum under which the tourist destinations are kept clean, like renovation of river ghats in pilgrim cities like Varanasi. The slogan of "Swaachh Bharat Swaachh Smarak" given by the Prime Minister indicates the need to keep the heritage sites clean.

Adarsh Smaarak in an innovative scheme launched by Archaeological Survey of India to promote basic tourist facilities in well-known historical sites.

Swadesh Darshan is an important scheme of the Ministry of Tourism. The scheme is based on the vision to develop theme-based tourist circuits on the principles of high tourist value, competitiveness and sustainability by synergizing efforts to focus on needs and concerns of all stakeholders. Under the scheme, 13 thematic circuits have been identified across the country for development.

Under PRASAD Scheme, 25 sites of religious significance have been identified for development in India namely Amravati (Andhra Pradesh), Amritsar (Punjab), Ajmer (Rajasthan), Ayodhya (Uttar Pradesh), Badrinath (Uttarakhand), Dwarka (Gujarat), Deogarh (Jharkhand), Belur (West Bengal), Gaya (Bihar), Guruvayoor (Kerala), Hazratbal (Jammu & Kashmir), Kamakhya (Assam), Kanchipuram (Tamil Nadu), Katra (Jammu & Kashmir), Kedarnath (Uttarakhand), Mathura (Uttar Pradesh), Patna (Bihar), Puri (Odisha), Srisailem (Andhra Pradesh), Somnath (Gujarat), Tirupati (Andhra Pradesh), Trimbakeshwar (Maharashtra), Omkareshwar (Madhya Pradesh), Varanasi (Uttar Pradesh) and Vellankani (Tamil Nadu).

Sustainable Tourism – a tool for Development

Tourism is the third largest export industry in the world, with 1.235 million travelers crossing international borders. The United Nations General Assembly has declared 2017 as the International Year of Sustainable Tourism. It has called for an approach to tourism based on inclusive economic growth, bringing decent jobs to local communities, preservation of environment, addressing climate change and respecting the unique cultural identity of the people.

Thus, tourism development provides unique opportunity to promote better future for people, planet and prosperity. The motto of the 2017 World Tourism Day is the respect nature, culture and respects the host.

The Government is in the process of formulating a new National Tourism Policy (NTP). The salient features of NTP are developing tourism in sustainable and responsible manner, employment generation and community participation.

It aims at promotion of diverse tourism opportunities including showcasing of rich culture and heritage of the country and the niche products as Medical and Wellness tourism. It also emphasizes on skill development and enabling environment for investment in tourism related infrastructure. It also aims at promoting domestic and foreign tourist destinations to experience the diversity of the country.

The Ministry of Tourism has adopted code of conduct for safe tourism, containing safe guidelines for both tourists and local residents that assure basic human rights, freedom from exploitation of women and children.

There are some bottlenecks in implementing the sustainable tourism goals due to the lack of basic infrastructure like roads and providing clean, comfortable accommodation to tourists. In order to address these issues the government is upgrading passenger terminals, improving connectivity to tourist destinations, providing safe drinking water and establishing communication networks in tourist areas to facilitate tourists.

India with her cultural, spiritual and natural richness offers unique experience unparalleled by any other country in the world. Diverse traditions, life styles, colorful fairs and festivals offer a vast variety of choice for the domestic and foreign tourists.

Indian government is not only aware of how to use the tourism sector as a tool to achieve sustainable development goals, but it is committed to bring and share the benefit of travel and tourism equitably with the local communities. The forests, tribal lifestyles, beautiful coastline and beaches, wild life sanctuaries and national parks provides rare opportunity to the visitors, compelling them to revisit the country to experience this diversity.

The Minister of State (IC) for Tourism K. J. Alphons has said “We must spread the word about India’s heritage, philosophy, and it’s incredibly diverse cultures which are worth experiencing.”

The enabling environment being created by the Government of India towards making the country tourist friendly is definitely charting a roadmap towards attaining sustainable tourism, the major goal of International Year of Sustainable Tourism.

**The author is an independent journalist and columnist based in Karnataka.*

Views expressed in the article are author’s personal.

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The country is the world's largest milk producer for the past two decades and its credit goes to the farmers of the country: Shri Radha Mohan Singh

The country is the world's largest milk producer for the past two decades and its credit goes to the farmers of the country: Shri Radha Mohan Singh

NDDB has implemented several major dairy development programs including 'Operation Flood' from its inception in the country: Shri Singh

**NDDB is playing a leading role in the implementation of the National Dairy Plan and the recently announced Dairy Processing and Infrastructure Development Fund:
Union Agriculture Minister**

Shri Radha Mohan Singh addressed the gathering at the NDDB Dairy Excellence Awards organized at Anand, Gujarat on the foundation day of National Dairy Development Board

Union Minister for Agriculture and Farmers' Welfare, Shri Radha Mohan Singh has said that the National Dairy Project (NDP) aims to increase the productivity of milch animals which will lead to increase in milk production for meeting growing demand for milk. Shri Singh said this today in the TK Patel Auditorium, NDDB Anand, Gujarat. In this program, Chief Minister of Gujarat Shri Vijaybhai Rupani and Union Minister for State, Agriculture and Farmers Welfare, Shri Purushottam Rupala were also present.

Shri Radha Mohan Singh said that the productivity of milch animals is increasing through artificial insemination using high-quality semen taken from high genetic bulls and by providing balanced food to the animals of the farmers. To promote balanced diet for the effective use of input, NDP initiatives are helping farmers to increase production by lowering dietary (Ration) costs.

Shri Singh said that the country has been the world's largest producer of milk for the last two decades and its credit goes to the farmers of the country. Since more than two-thirds

of our nation's citizens live in rural areas, therefore, there is a need to make the farmers more prosperous, for which dairy sector is important.

Union Agriculture Minister said that NDDB has implemented several major dairy development programs including 'Operation Flood' from its inception in the country. India is at number one in milk production and contributes 19 percent of the world's total milk production. Dairy farmers' income has increased by 13.79 percent in the year 2014-17 compared to the year-ago period. Milk production, which was 155.49 million tonnes during 2015-16, is planned to increase it to 200 million tonnes in 2019-20. Presently, NDDB is in the leading role for the implementation of the National Dairy Plan (NDP) and the recently announced Dairy Infrastructure Development Fund (DIDF). The Central Government has established dairy infrastructure development fund (DIDF) at the cost of Rs.10,881 crore for the period from 2017-18 to 2028-29.

The purpose of the DIDF is to establish an effective mechanism for creating a basic structure for milk cooling at village level and installing electronic equipment for milk adulteration, manufacturing/modernization/processing facilities and for procuring milk. Educational institutes would set up for value-added products for milk unions/milk producers companies.

The purpose of NDP-1 is to help in increasing the productivity of milch animals and thereby increase the milk production to meet the growing demand of milk and to provide more assistance to rural milk producers for more market access, including organized milk processing sector. During the year 2015-16, NDP-1 has been expanded into four states (Chhattisgarh, Jharkhand, Telangana, and Uttarakhand) and its implementation period has been extended to 2018-19.

Shri Radha Mohan Singh said that under the able leadership of the Prime Minister, on the 75th anniversary of the Quit India Movement, under the 'Sankalp se Siddhi Mission', the Central Government has set a target to double the income of farmers by 2022. For this, recently, a seven-point strategy has been unveiled. Ministry of Agriculture is working in this direction through various schemes in the dairy sector.

Shri Singh said that his experience indicates that producer-centric institutions are very important for dairy development. Union Agriculture Minister said that the selection of Dairy Excellence Awards has been done fairly and the producer-centric institution which has achieved excellence in operation, administration, and inclusion have been honoured

with Dairy Excellence Award where the winners will be encouraged to maintain their performance, it is expected that by learning from these role models, others will be motivated to achieve excellence. Shri Radha Mohan Singh gave his best wishes to the award winners.

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Kandla Port renamed as Deendayal Port**Kandla Port renamed as Deendayal Port**

The Ministry of Shipping has issued a notification renaming Kandla Port Trust as Deendayal Port Trust with effect from 25th of September, 2017. Kandla Port, located on the Gulf of Kutch in Gujarat, is one of the twelve major ports in the country. As per the Ministry's notification, the Central Government, in exercise of powers conferred on it under Indian Ports Act, 1908, made the amendment to replace "Kandla" with "Deendayal".

While inaugurating various projects at Kandla Port in May this year, Prime Minister Shri Narendra Modi had given the suggestion for renaming of Kandla Port after Pandit Deendayal Upadhyay, who stood for the uplift of the poor and weaker sections of society. The Ministry of Shipping issued the required notification on the occasion of the closing of the year long centenary celebrations of Pandit Deendayal Upadhyay.

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India Joins Race in 5G Ecosystem, Constitutes High Level Forum on 5G India 2020**India Joins Race in 5G Ecosystem, Constitutes High Level Forum on 5G India 2020**

India is at the cusp of a next generation of wireless technology 5G. 5G has been conceived as a foundation for expanding the potential of the Networked Society. A digital transformation brought about through the power of connectivity is taking place in almost every industry. The landscape is expanding to include massive scale of “smart things” to be interconnected. Therefore, the manner in which future networks will cope with massively varied demands and a business landscape will be significantly different from today.

The economic benefits from the 5G technology are also quite immense. As per the OECD (Organization for Economic Cooperation and Development) Committee on Digital Economic Policy, it has been stated that 5G technologies rollout will help in,

- a) Increasing GDP
- b) Creating Employment
- c) Digitizing the economy.

For India, 5G provides an opportunity for industry to reach out to global markets, and consumers to gain with the economies of scale. Worldwide countries have launched similar Forums and thus, India has joined the race in 5G technologies. We are open for collaboration with them.

Government has constituted High Level 5G India 2020 Forum with three Secretaries of key Ministries/Departments Telecom, Meity and DST, and also comprising of renowned experts like Dr. A. Paulraj, Professor Emeritus, Stanford University, USA, Mr Gururaj Deshpande - Chairman of Sycamore Networks, Sandstone, USA, Indian industry led by CEOs of ICT industry, Telecom Standard Development Organisation of India (TSDSI), Professors from IIT Madras, IIT Mumbai, IIT Delhi, IIT Hyderabad, IISc Bengaluru, IT industry and stakeholders from industry associations.

The Term of Reference of the High Level Forum for 5G India 2020 shall be: -

- a) Vision Mission and Goals for the 5G India 2020, and
- b) Evaluate, approve roadmaps & action plans for 5G India 2020.

The primary goals of the forum are to achieve:

- early deployment of 5G in India
- a globally competitive product development and manufacturing ecosystem targeting 50% of India market and 10% of global market over next 5 to 7 years.

The forum will complement the eco-system by focused actions in the following areas:

- Research Ecosystem – for IPR development, standards development and proof of concepts through research projects, PPP projects, testbeds and pilot roll-outs.
- Regulatory Framework – including spectrum assignments and a start-up friendly regulatory

environment to enable leap-frog and embracing of innovative technologies.

- Inclusive Business environment – with special focus on investment incentives favourable to start-ups and innovators and enablement of Venture capitalists.

Forum will constitute a number of Steering Committees in different domains.

A vibrant eco-system of research built around 5G that encompasses Industry, Government and Academia will further strengthen the MAKE (& DESIGN) in INDIA initiatives to enable:

- Design and manufacture of 5G technologies, products and solutions in India;
- 5G start-ups that enable this design and manufacturing capabilities;
- Generation of IPR backing the above designs;
- India based companies should have some essential IPR in the 5G standard;
- Manufacture of 5G chipsets, this may require massive investments;
- Appropriate testbeds and technology platforms to enable and help Indian technical ecosystem to have an edge in 5G;
- Accelerated deployment of next generation ubiquitous ultra-high broadband infrastructure with 100% coverage of 10 Gbps across urban India and 1 Gbps across Rural India.



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**Linkage of rivers will help farmers to grow more crops and contribute in progress of the country:
Vice President**

Linkage of rivers will help farmers to grow more crops and contribute in progress of the country: Vice President

Unveils Plaque for 'Sujalam Sufalam Yojana'

The Vice President of India, Shri M. Venkaiah Naidu has said that linkage of rivers will help the farmers of our country to grow more crops and raise their earnings and contribute in the progress of the country as a result of increased irrigation facilities. He was addressing the gathering after unveiling the Plaque for the 'Sujalam Sufalam Yojana' (Water and Irrigation Projects), in Mehsana, Gujarat, today. The Governor of Gujarat, Shri Om Prakash Kohli, the Deputy Chief Minister of Gujarat, Shri Nitin Patel, former Chief Minister of Gujarat, Smt. Anandi Ben Patel, the Minister of Water Resources, Government of Gujarat, Shri Nanubhai Vanani and other dignitaries were present on the occasion.

The Vice President said that there are many rivers in our country, and some of the states are receiving more water and in many other states, farmers are not getting benefits of these rivers. He further said that the Governments have been considering over inter-linking of rivers for decades. But there were many hurdles in its realization and so it took time to implement this concept, he added.

The Vice President expressed his happiness that Gujarat Government has given concrete shape to the concept of river linkage and has linked Narmada and Sabarmati rivers, so that more and more farmers are benefitted. He further said that he is fortunate to inaugurate the Plaque for the Project.

The Vice President said that the main sources of the progress of Gujarat are: Agriculture and Industry and every state must pay due attention to both of them. Work for everyone and water for every farm is very important and this was a beautiful dream of Pandit Deen Dayal Upadhyay, he added.

The Vice President said that there are many public-welfare programmes, specially irrigation programme already going on in Gujarat. He further said that by making small dams, this state has shown how to preserve rain-water that reaches the farms. Despite facing many hurdles, this state has built Sardar Sarovar Dam, which is one of the world's highest dam, he added.

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Shri Piyush Goyal, Minister of Railways announces key decisions for Transformation of Indian Railways

Shri Piyush Goyal, Minister of Railways announces key decisions for Transformation of Indian Railways

Inspired by Prime Minister Shri Narendra Modi's goal of making Railways the engine that fuels our *vikasyatra* (development journey) towards New India, Minister of Railways, Shri Piyush Goyal announced various decisions taken by Ministry of Railways for Transformation of Indian Railways today i.e. 28th September, 2017 in Rail Bhavan. Minister of State for Communication (I/c) & Minister of State for Railways, Shri Manoj Sinha was also present on the occasion. Chairman, Railway Board, Shri Ashwani Lohani and all board members were present on the occasion.

Minister of Railways, Shri Piyush Goyal said, "Railways is committed to ensuring high standards of safety, speed and service for Indian consumers and also ensuring contribution to national development. In the past one month, Indian Railways has taken significant transformative steps to ensure this goal."

Several decisions announced by the Minister of Railways, Shri Piyush Goyal are as under

Highest priority to passenger safety

Overriding and perceptible priority to safety

Priority to track renewal over new lines/gauge conversion/ in allotment of rails

Tremendous stress on field inspections by officers

Overriding priority for granting maintenance blocks

Eliminating remaining 5,000 unmanned level crossings in a time-bound manner

Shift to LHB coaches from ICF coaches by next year

Provision of CCTV cameras in coaches and stations for enhanced security especially benefitting women and senior citizens

Ramping up electronic interlocking of signals in place of manual interlocking

Revamping the existing signalling system - use of TPWS (Train Protection & Warning System) and MTRC (Mobile Train Radio Communication). Also considering modern signalling systems for suburban and long distance trains

Using technology like ultra sonic frequency detection, cameras for detecting defects etc.

All RPF staff and TTEs to be in proper uniform while on duty to bring in transparency

RPF staff will not check tickets, which is the function of TTEs. They shall however assist ticket checking squads.

Transforming through technology

Stress on extensive use of mobile apps for monitoring and passenger services

All stations and trains to have high speed wi-fi connectivity

Proposed to increase speed of around 700 trains with effect from 1st November 2017. 48 trains are being converted from Mail express to the Superfast category

Expediting the project for GPS based real time monitoring of train movement

Expediting satellite based mapping of all Railway assets through ISRO

Energy efficiency

Completion of electrification by the next 4-5 years. This will lead to savings in energy costs of over Rs. 10,000 cr while reducing pollution and dependence on imported diesel

100% LED lighting and energy efficient appliances like fans, ACs etc. to be introduced in in trains, stations, office buildings and residential colonies in a time bound manner

Faster Redevelopment of stations

About 20 stations will be modernised in an expedited manner with superior infrastructure and passenger facilities including hotels, eateries, shopping, disabled friendly, multimodal transport hub, security etc. by December 2018

Identifying additional stations and trying to create a self-financing business model like reassessing tenure of contract, access control and freedom to sublease etc.

Railway Stations as Multi-utility centres

Many stations that receive very few trains in a day are proposed to be used as Multi-utility centres for activities like yoga centres, skilling, educational purposes etc.

Upgrading health and education facilities

In addition, schools and hospitals operated by Indian Railways will be improved with infrastructure facilities, which will benefit not only railway employees but also other people

Human resources

Tremendous stress is being laid on welfare of human resources

Grievance Redressal Camps are being organised regularly. Grievance Redressal Cells are being set up in every Zonal/divisional headquarters for hearing employee complaints

Extensive delegation of powers is being done

Process reforms to improve the efficiency of the system is being taken up in an aggressive manner

Reduction in number of organisational layers is being analysed

Posting of brilliant and enthusiastic officers as Station Directors at 75 A1 Class Stations to bring dynamism in operations

Posting additional ADRMs to strengthen divisional work by reallocation from headquarters

Focus on welfare of field staff

Improving overall working conditions of Group D category staff. For example, gang-men, who are responsible to ensuring track safety, and who have to walk around 15-16 kms on an average in a particular day will be provided with comfortable uniforms and better quality shoes. Their living quarters (Gang huts) too will be improved

Running rooms of loco drivers are being air conditioned

Enhancing Railway Revenue through monetisation of assets

Monetisation of railway assets will improve finances and the operating ratio, freeing up resources for critical railway projects. This will be done by making land monetisation attractive by changing various rules and regulations

These improvements will help the lifeline of our nation to flourish as well as contribute more to our economic and social development. The transformation of the Indian Railways is well under way to ensure it is not just the compulsion of the people but the choice of the people.

AKS/MKV/ENS

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Minimum Support Price for Minor Forest Produce is launched Nationwide**Minimum Support Price for Minor Forest Produce is launched Nationwide****TRIFED Signs MoU with Amazon****Minister of Tribal Affairs Inaugurates National Workshop on Minimum Support Price for Minor Forest Produce**

Minister of Tribal Affairs Shri Jual Oram inaugurated the National Workshop organized by TRIFED on “**Minimum Support Price (MSP) for Minor Forest Produces (MFP) scheme – Taking it to the next level for a Fair and Equitable Deal to the Tribals**” Ministers of State for Tribal Affairs Shri Jaswantsinh Sumanbhai Bhabhor and Shri Sudarshan Bhagat were specially present to grace the occasion. Ms Leena Nair, Secretary, Ministry of Tribal Affairs, Shri Pravir Krishna, Managing Director, TRIFED and senior officials were also be present on the occasion. Senior level functionaries of Government of India from the Ministries of Tribal Affairs, Rural Development, Textiles, Forests and Environment and over 100 senior officers from all the States also participated in the day-long Workshop.



Shri Jual Oram, Minister of Tribal Affairs said that this workshop is a step to expand the horizon of the scheme of providing Minimum Support Price for Minor Forest Produce. This scheme is already implemented in 9 States and today it is expanded nationwide. This workshop will help to expand the scheme Nationwide. He also said that MFP collection centres should also be depots of daily requirements to sell items of daily need to the tribals. He said that after minerals, MFP could be the largest generation of revenue. He emphasised on the use of social media and new technology to help the tribes to sell their produces at best prices.

Shri Sudarshan Bhagat, Minister of State for Tribal Affairs said that Minimum Support

Price provided to Kisans have helped them overcome the vagaries of the market price fluctuations for their produce. Similarly providing Minimum Support Price for Minor Forest Produce will help Tribals for their progress and development. At present Minimum Support Price will be given for 24 Minor Forest Produce but gradually efforts will be made to increase the number of Minor Forest Produce.

Shri Jaswantsinh Sumanbhai Bhabhor, Minister of State for Tribal Affairs said that he is very happy about these type of workshops and this step will help tribals to develop in all their fields. Similar efforts were made by this Government for developing vulnerable people like women, villagers and poor.

Ms. Leena Nair, IAS, Secretary, Ministry of Tribal Affairs, Government of India said that This workshop is a clarion call for understanding the gaps in the scheme of providing Minimum Support Price to Minor Forest Produce and making course correction. She also said that this Scheme should be implemented through women's self help group because women play important role in this business. She emphasized that Haat Bazars must be strengthened.

Shri Pravir Krishna, Managing Director, TRIFED said that This workshop aims at expanding the horizon and taking it to all the States. MoU with Amazon is a step towards expanding the reach of the 'Tribe India' brand to next level to National & International markets through e-commerce.

TRIFED Signs MoU with Amazon: Marketing of Tribal Handicrafts Scaled-up for Empowerment of Tribals

In order to have institutional support to marketing initiatives, TRIFED has formally signed an MOU with M/s Amazon Seller Services Pvt. Ltd for sale of tribal products through leading e-commerce giant www.amazon.in at a mutually agreed terms & conditions.

As a part of the MOU, exquisite authentic tribal art and craft items crafted and sculpted by tribal artisans from all over the country will be showcased on the online portal www.amazon.in for sale. The aim is to promote tribal handicrafts like handloom products, cane and bamboo products, tribal jewellery, Dhokra craft, tribal weaves and embroidery, tribal paintings etc by cashing in on the online retail space reach to boost sales.

All customers on www.amazon.in and the Amazon mobile shopping app have easy and convenient access to over 65 million products across hundreds of categories. They benefit from a safe and secure ordering experience, convenient electronic payments, Cash on Delivery, Amazon's 24x7 customer service support, and a globally recognized and comprehensive 100% purchase protection provided by Amazon's A-to-Z Guarantee. They can also enjoy Amazon.in's guaranteed one-day, two-day delivery, Sunday and Morning delivery on products fulfilled by Amazon

"TRIBES INDIA" showrooms managed by TRIFED, offer a wide range of Tribal Products from different parts of the country, which include Metal Craft, Tribal Textiles, Jewellery, Tribal Paintings, Cane & Bamboo, Pottery, Gifts and Novelties, Organic and Natural products sourced

from tribals at their places of habitats from higher Himalayas (Bhutia tribes in the Uttrakhand, Bodh & Kinnaura tribes in Himachal Pradesh) in the North and (Toda & Irula Tribes in Nilgiri Hills) in the South and from North Eastern States (Tangkhul Naga, Bodo, Konyak & Dimasa Tribes) to the desert of Rajasthan and Rann of Kutch (Bhil, Garasia, Rathwa, Gamit Tribes) in the West. There is fabulous collection of tribal paintings mainly Saura from Orissa, Gond from Madhya Pradesh, Warli from Maharashtra and Pithora from Gujarat.

From a single store in 1999 at Delhi, now TRIFED has established a chain of 42 retail outlets and tie-ups with 13 State level Emporiums. The idea is to provide opportunities to the tribal artisans of the country to market their products on a sustained basis. TRIFED plans to expand this network to other cities as well so as to provide a larger market for tribal products.

Background:

A National Workshop on Minimum Support Price for Minor Forest Produce Scheme was organised by Tribal Cooperative Marketing Development Federation of India Limited (TRIFED). Tribals constitute 8.6% of our population. Minor Forest Produce is very important to tribals economy. There is lack of proper storage facility and logistics. It is, therefore, important for the Government to intervene for supporting them. The MSP for MFP Scheme provides a safety net for these tribals. Although the Scheme was launched in 2014 it had mixed result for various reasons. Some states did well but in several other States the Scheme is yet to take off. The State has to play the role of as active player and not remain a mere spectator. The Scheme needs to be taken to the next level through value addition and synergy with the programmes of other departments.

Minor Forest Produce (MFP) is a major source of livelihood for tribals who belong to the poorest of the poor section of society. The importance of MFPs for this section of the society can be gauged from the fact that majority of 100 million tribals depend on MFPs for food, fodder, shelter, medicines and cash income. It provides them critical subsistence during the lean seasons, particularly for primitive tribal groups such as hunter gatherers, and the landless. Tribals derive 20-40% of their annual income from MFP on which they spend major portion of their time. This activity has strong linkage to women's financial empowerment as most of the MFPs are collected and used / sold by women. MFP sector has the potential to create about 10 million workdays jobs annually in the country.

Government of India has taken a number of initiatives for socio economic development of tribals like introduction of Forest Rights Act, PESA Act and has been implementing schemes for development of MFP by providing financial support to State TDCCs and TRIFED for market development of MFPs. Recognizing the critical importance which MFP hold for tribals and its potential to create large scale employment opportunity thereby, helping in reducing poverty and increasing empowerment of tribals particularly women and poor people of the poorest and backward districts of the country, Govt. of India has now decided to introduce an ambitious scheme of providing fair price for the MFP collected by tribals through Minimum Support price (MSP).

The scheme has been started with the objective of providing fair price to MFP gatherers, enhance their income level and ensure sustainable harvesting of MFPs. The MSP scheme seeks to establish a framework to ensure fair prices for the produce collected by them, assurance of buying at a particular price, primary processing, storage, transportation etc while ensuring sustainability of the resource base. It is a holistic scheme for development of MFP trade and covers 24 non-nationalized / non-monopolized MFPs namely,

Karanj Seed, Mahua Seed, Sal Leaf, Sal Seed, Lac (Rangini & Kusumi), Chironjee, Wild Honey, Myrobalan, Tamarind, Gums (Gum Karaya), Kusum Seed, Neem Seed, Puwad Seed, Baheda, Hill Broom Grass, Shikakai, Guggul (exudate), Bael (dried & without crust), Nagarmotha, Palash Kesuda (Flower), Shatavari (dried), Madhunashini, Kalmegh, Tamarind (de-seeded).

The scheme is applicable for implementation in all the States across India. Any de-nationalized MFP / items removed from the purview of monopoly procurement in future will also qualify for coverage under the Scheme. Similarly, any nationalized / monopolized procurement MFP will disqualify for coverage under the Scheme. However, if any State willingly wants any nationalized items to be included in MSP, then it shall have to change its nationalized status accordingly.

Government of India has extended financial support for part of working capital requirement of State Implementing Agencies and also share losses, if any, with the State Governments in the ratio of 75:25. It is expected that State level agencies which were not participating in procurement process due to fear of incurring losses will now aggressively pursue procurement and marketing of identified items under MSP as they are assured of financial support as well as substantial sharing of losses. It is expected to increase quantum of MFP procurement substantially thereby benefitting tribal people. The Scheme also envisages training of tribal MFP gatherers on sustainable harvesting and value addition activities including facilitation for marketing of the produces so that natural resources can be optimally utilized in a sustainable manner.

The scheme seeks to institutionalize various medium & long term aspects of sustainable collection, value addition, market infrastructure development, knowledge base expansion of MFPs, market intelligence development etc. Strengthening the bargaining power of Gram Sabhas / Panchayats and their involvement shall also be addressed and taken care of during implementation of the scheme.

Ministry of Tribal Affairs, Government of India is the Nodal Ministry for implementation of the scheme which will announce Minimum Support Price (MSP) for the selected MFPs with the technical support from TRIFED. TRIFED will act as the Central Nodal Agency for implementation and monitoring of the scheme through State level implementing agencies. State designated agencies will undertake procurement of notified MFPs directly from MFP gatherers (individual or collectives) at haats notified procurement centers at grass root level at prefixed Minimum Support Price and ensure full & timely on the spot payment to MFP gatherers.

Value Addition assumes critical importance in ensuring remunerative prices to the tribals in the renewed approach. Two stage value addition would be the cornerstone for enhancing livelihood income of the tribals under the scheme. The grassroots level procurement is proposed to be undertaken through SHGs associated with Implementing Agencies. Convergence and Networking with other Govt departments / scheme shall be undertaken to utilise the services of existing SHGs, Aajivika etc. These SHGs shall be appropriately empowered to undertake the procurement operations on a scientific and systematic lines. The SHG members shall undertake preliminary value addition like cleaning, grading, drying & home level primary processing under the direction and supervision of State Implementing Agency. The stock after preliminary processing shall be supplied by these SHGs to the storage of State Implementing Agencies. For higher value addition of MFPs, Big Corporates shall be involved under PPP model. This PPP model will be based on utilising Private entrepreneur skills in undertaking processing as well as marketing of the produce and Central / State Government support in terms of creating infrastructure and providing enabling environment for undertaking value addition of systematic scientific lines. These will be sophisticated large value addition hubs managed by Private entrepreneur.

The entire operation shall be monitored through State level committee headed by Chief Secretary and district level committees headed by District Collector for effective implementation of the provisions of the scheme. The scheme will touch the lives of tribal people involved in collection of MFPs across all the States and help optimum utilization of natural resources in a sustainable manner. This scheme will be an important milestone in economic development of tribals.

MKV/AK

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The danger in Asia's demographics

Last week's move by Standard & Poor's (S&P) to downgrade China, the first time since 1999, didn't have the same shock value as its 2011 call to strip "AAA" status from the US. But it's a timely reminder of the biggest problem facing Beijing and much of Asia.

No, not the soaring debt that S&P's cited, as did Moody's when it downgraded Beijing in May. The real reason S&P's cut China's sovereign rating to "A+" from "AA-" is demographics. Yes, China has immense savings. As it churns out tens of trillions of dollars of fresh credit, though, a dwindling workforce, lost productivity and deflation could strain the central government's ability to balance servicing exploding debt with financing its social development. And China is hardly alone. Hong Kong, Japan, Singapore, South Korea and Taiwan also face demographic headwinds.

It's understandable that those riding demographic tailwinds might feel smug. But officials in India, Indonesia and the Philippines must consider their own population-growth-related vulnerabilities. So must investors.

Warnings of China's demographic reckoning come just as Deloitte LLP delights governments in Jakarta, Manila and New Delhi enjoying young and growing labour pools. India came out on top. In Asia, generally, the ranks of those over 65 will rise from 365 million now to more than half-a-billion in 2027, Deloitte said.

By 2030, Asia will have 60% of the global share. Young India, by sharp contrast, will drive the next Asian tailwind as its potential workforce surges to 1.08 billion people from 885 million over the next 20 years. Equally important, it will hold around there for roughly 50 years. Indonesia and the Philippines also are looking at decades of swelling-workforce magic.

Or not. If Narendra Modi, Joko Widodo and Rodrigo Duterte aren't losing sleep over these trajectories, they're delusional. Demographic dividends only matter if Modi can create future jobs for the roughly 25% of his 1.3 billion people under the age of 15. So far, that hasn't been the case. For all the excitement about Modi's 'Make in India' push, job creation in export-related industries isn't anywhere near what New Delhi advertised. Nor is domestic retail-sector growth picking up the slack with well-paying new positions. It's hard to be too optimistic about the consumption outlook.

That's especially so now that Modi appears to be resting on his laurels. After steps to open the aviation, insurance and defence industries, all indications are that the Bharatiya Janata Party is already focused on the 2019 election. Unfortunately, the real big bang will only come when Modi revolutionizes labour, land and tax policies and goes markedly further to cut red tape and increase government efficiency.

That goes, too, for Indonesia's Widodo, who's known as Jokowi, and Philippine President Duterte. Jokowi is indeed working to improve infrastructure, reduce graft, increase transparency and, via tax tweaks, facilitate the return of billions of dollars of investment into South-East Asia's biggest economy. Yet it's not enough. Neither Indonesia's urbanization boom nor its enviable store of national resources nor its growing middle class will matter if Jokowi doesn't hasten reforms.

Efforts to improve roads, bridges, ports and power grids, rein in the bureaucracy and ensure legal contracts are enforced are lagging today's 5% growth, argues Elizabeth Pisani, author of *Indonesia Etc: Exploring the Improbable Nation*. For all Jokowi's efforts to decentralize democracy and take on what she terms the "judicial mafia", a menace that complicates doing business, Indonesia will have a hard time climbing the global competitiveness rankings, Pisani says.

The Philippines may be an even bigger risk. Duterte's economy is experiencing China-like growth of 6.5%, but his policy priorities are more about guns than butter. His bloody drug war has already filled more body bags (at least 7,000) in 456 days than brutal dictator Ferdinand Marcos did in 20 years. Policing drug pushers and users is important, but it's eclipsed all else—including economic upgrades.

The mandate voters gave Duterte, remember, was to accelerate the reform successes of predecessor Benigno Aquino. From 2010 to 2016, Aquino strengthened the national balance sheet, increased transparency and accountability, went after tax cheats and ignored the powerful Catholic Church to cap a population growing faster than incomes. Voters turned to strongman Duterte to take things to new levels. Sadly, his priority is deputizing bands of gunmen to shoot alleged drug-trade members extrajudicially. Not surprisingly, the peso is Asia's worst performing currency so far this year.

The US Federal Reserve's rate hike campaign won't help efforts in Jakarta, Manila and New Delhi to maintain growth consistent with rising living standards. But it's crucial that Jokowi, Duterte and Modi hit the reform accelerator to create enough decent jobs to employ their swelling populations. That means spreading the benefits of rapid growth, investing more in human capital and attracting ample foreign investment.

If not, China's challenges may pale in comparison to hundreds of millions of young Filipinos, Indians and Indonesians turning on governments running afoul of demographic trajectories.

William Pesek, based in Tokyo, is a former columnist for Barron's and Bloomberg and author of Japanization: What the World Can Learn from Japan's Lost Decades.

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'India Playing a Leadership Role in Wildlife Management by Involving Local Communities': Dr. Harsh Vardhan

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India Hosts Global Wildlife Programme to Address Illegal Wildlife Trade

In an attempt to address illegal wildlife trade across 19 countries of Asia and Africa, India is hosting the Global Wildlife Programme (GWP) jointly with World Bank and United Nations Development Programme. Union Minister of Environment, Forest and Climate Change, Dr. Harsh Vardhan will inaugurate the Global Wildlife Programme on October 2. Briefing mediapersons on the Global Wildlife Programme here today, Dr. Harsh Vardhan said that India is playing a leadership role in management of wildlife through involvement of local communities. Pointing out that no programme can succeed solely because of Government policies, the Minister said that peoples' participation at societal level can ensure its success. "Five crore people living around national parks and sanctuaries are working as partners in environment conservation", Dr. Harsh Vardhan said. The Minister pointed out that a 15-year National Wildlife Action Plan (2017-31), with a special focus on peoples' participation will also be launched on October 2. He emphasised that the Conference will act as a platform for knowledge exchange and coordination on the action taken on the ground to combat illegal poaching of wildlife and improve governance on wildlife conservation. Dr. Harsh Vardhan underlined the fact that the number of rhinos, tigers and elephants is in fact, increasing.

The Minister said that till now programmes and plans related to wildlife were focused on and around national parks and sanctuaries. However, the strategy and programmes will now be based on the landscape of the region. He added that the impact of such issues as global warming, climate change and disaster management on the people living around wildlife areas and on the wildlife will also be discussed.

Coinciding with the 'Wildlife Week', the theme of the Conference is - "Peoples' participation in wildlife conservation". The meeting will bring about strengthened cooperation between India and the 18 GWP countries in better management of wildlife habitats and minimizing human-wildlife conflict situations. It will also enable India to strengthen its enforcement mechanism to control illicit trade.

The GWP will hold discussions on management of wildlife habitat, securing sustainable community livelihood, enhancing enforcement, monitoring, cooperation to reduce wildlife crimes such as poaching and related threats. The Conference will provide an opportunity for India to showcase its conservation efforts through joint forest management, vana sanrakshan samitis, eco-development committees in and around Protected Areas.

The proposed outcomes of New Delhi Conference include: Reiterating Mahatma Gandhi principles to the world, as the Conference coincides with Gandhi Jayanti and UN International Day of Non- Violence on October 2, 2017; Take leadership in Wildlife Conservation by showcasing India's conservation models for Asiatic lion, single horn

rhino, tiger and Asiatic elephants; Consolidating “people’s participation for wildlife conservation”; Need to strongly address unaccounted black money generated through illegal wildlife trade at global market; Sensitise stakeholders like Governments, corporate, banks, public sectors, media, youth etc for investments in wildlife conservation and develop sustainable models for wildlife conservation thorough peoples’ participation in 19 GWP countries.

The meeting will host wildlife experts, leading practitioners across 19 GWP countries, government representatives from India’s forestry and conservation sectors, leading corporate associated with environmental and biodiversity conservation, civil society organisations and school children. The participating nations include – Afghanistan, Botswana, Cameroon, Ethiopia, Gabon, India, Indonesia, Kenya, Malawi, Mali, Mozambique, Philippines, Republic of Congo, South Africa, Tanzania, Thailand, Vietnam, Zambia and Zimbabwe. In addition, representatives of World Bank, United Nations Development Programme (UNDP), United Nations Environment Programme (UNEP) and International Union for Conservation of Nature (IUCN) will also be present. Earlier, four similar Programmes had been convened at Gland (Switzerland), Hanoi (Vietnam), Nairobi (Kenya) and Liberville (Gabon). Led by the World Bank, the Global Wildlife Programme was initiated in 2015.

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NHAI's projects to generate approximately 50 Crore man-days employment over next four years
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The ongoing and targeted projects of National Highways Authority of India would generate estimated employment of approximately 50 crores man days over the next four years on a seasonal basis. This would be averaging to nearly 12.5 crore man-days yearly from 2018-2022. Of this, about 1.0 crore will be professional man-days, 3.5 crore skilled labour man-days and 8.0 crore semi-skilled and un-skilled man days.

The NHAI currently has 282 projects having length of about 20,000 km under implementation across the country out of which 10,000 km of length is targeted to be completed over next one to two years. There are around 220 projects having length of about 31,000 km which are targeted to be awarded and completed in the next 3 to 4 years across all the States in the country under NHDP and Bharat Mala Schemes. Thus, NHAI plans to construct approximately 50,000 km Highways in next 4 years.

This will generate seasonal employment opportunities as successful and efficient execution of projects invariably requires qualified professionals, skilled and semi-skilled work force.

In order to meet the requirement of professionals, skilled and semi-skilled work force, NHAI has undertaken an elaborate exercise for Skill Development. The Chairman, NHAI Shri Deepak Kumar, held a meeting with the officers of Ministry of Skill Development and Entrepreneurship to chalk out the road map for skilling of professionals, skilled and semi-skilled workers. Various issues connected with the Skill Development were discussed in the meeting. The Chairman, NHAI asked the officers of Ministry of Skill Development and Entrepreneurship to submit detailed plan of Skill Development in tune with the requirement of NHAI projects. The plan would be finalized in discussion with the concerned stakeholders.

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