

NEWS	2
Welfare interrupted	2
Air Apparent	3
Wasting opportunities	5
Time up for lip service	6
Thorns of rosewood	7
Renaming renewables	8
Why we need a circular economy?	9
Burning our breath	11

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NEWS

Western Ghats lose tree cover to urbanisation -

- The Western Ghats have lost some 20,000 hectares (ha) of trees in the past 17 years, an area equivalent to 40,000 football grounds, suggests data from Global Forest Watch.
- Of this, 10,000 ha was lost in the past five years in the four Karnataka districts that form the core of the Western Ghats— Dakshin Kannada, Uttara Kannada, Kodagu and Udupi.
- The rapid tree loss has also resulted in 0.2 million tonnes of carbon emissions, says Global Forest Watch.
- The region is important for the entire Indian subcontinent because it influences the southwest monsoon weather pattern during late summers.
- The United Nations Educational, Scientific and Cultural Organisation (Unesco), while conferring the status of World Heritage Site, listed the region as the world's eight "hottest hotspots" of biological diversity.
- Besides Karnataka, the Western Ghats are spread across Kerala, Tamil Nadu, Goa, Maharashtra and Gujarat.

Welfare interrupted

Till two years ago, a group of activists in Gujarat's Valsad district were mobilising people for generating biogas from human excreta. The initiative known as Toilet-linked biogas (TLBG) is the answer to this goal.

Need -

The initiative had the potential to put back on track two of the Union government's flagship programmes: Swachh Bharat Mission (SBM), which has given rise to concerns over safe management of faecal sludge, and the Ujjwala Yojana, which is losing steam due to pricey LPG refills.

What is TLBG?

- A TLBG unit includes a toilet and a biogas digester, and costs Rs 32,000. Of this, Rs 18,000 is provided by the Union Ministry of New and Renewable Energy (MNRE) and its state nodal agency as biogas subsidy. Beneficiaries raise ₹9,100 by participating in the construction work under the Mahatma Gandhi National Rural Employment Guarantee Scheme.
- Usually, a digester with a capacity of 2 cubic metres (cu m), or 2,000 litres, is recommended for a family of five to seven people. Once installed, it takes about a month

to get filled and for the bacteria present in the waste matter to convert the organic compounds into biogas. After that, one can harness the gas every day.

- Though the amount of biogas produced depends on the number of toilet users, a TLBG unit generates 1.5 to 2 cu m biogas a day or 60 cu m a month. This is equivalent to two regular sized LPG cylinders, 37 litres of kerosene, 88 kg of charcoal or 210 kg of firewood.

Challenges -

- Some feared that the digester, if linked to toilets, would emit foul smelling gas. Then there were those who did not want to cook on gas generated from human faeces
- Several people outrightly rejected the idea due to the taboo associated with human excreta. In a few cases where the team could convince people, the place suitable for biogas plant—it should not be under a tree or shade—was away from the toilet, making it difficult to link them.

Way forward -

The government already has a similar scheme under SBM, called Gobar Dhan. It promotes biogas from cattle dung and agricultural waste as a way to achieve cleanliness. The need is to expand its scope to include human excreta. We should make efforts to remove the taboo around TLBG and make it acceptable and financially viable for communities.

Air Apparent

The new government is taking over at a time when 1.2 million people are dying prematurely due to toxic air and dying 2.6 years earlier in India, as per the *State of Global Air 2019 Report*. The new political mandate is to save these avoidable deaths. This must be the new political agenda for clean air:

1. Acknowledge the health emergency -

The new Union government will have to understand that the disease burden is going to increase because of the high level of exposure; high incidence of poverty, malnutrition and poor health status; and, widespread use of dirty fuels and low level of technologies.

2. Need for compliance model -

- The new avatar of the ongoing National Clean Air Plan (NCAP) cannot be based on the principle of “cooperative and participatory initiative” anymore. This will have to be a requirement under the Environment Protection Act or any other Act to have a firm mandate with a strong legal backup for cities and regions to implement plans in a time-bound manner for effective reduction.
- The Union government will have to ensure inter-ministerial coordination for multi-sectoral interventions and convergence of the national programme so that it aligns with the air quality targets and objectives

3. Need for higher level of ambition -

The existing pollution control laws, both the Air Act and the Water Act, permit state governments to go beyond the minimal national standards to set tighter standards if the local situation demands so.

4. Need for effective solutions -

Air pollution reduction target will require cities and regions to adopt scale, depth and stringent action with detailed pathways for clean energy and mobility transition, waste and dust management and control of combustion sources. This will require a strong multi-tiered accountability system to hold implementing agencies accountable and responsible.

5. Set the agenda for action -

- The Union government must also immediately speed up multi-sectoral action. To cut vehicular pollution, it must ensure timely implementation of BSVI emissions standards in April 2020, and control of real world emissions from vehicles on roads.
- It must also support integrated public transport system and invest in walking and cycling infrastructure.
- It must also bring in zero emissions mandate for quick changeover to electric mobility.
- In the industry sector, the government must quickly implement the new power plant standards.
- The new government must also use innovative health based strategies for 100 per cent coverage of households with clean fuels of LPG and electricity.

6. Fund the transition -

Both the Union and state governments must adopt the “polluter pay” based taxation mechanism to mobilise resources for dedicated funding of pollution control action as well as to discourage polluting products, processes and activities.

Wasting opportunities

Nearly three decades ago, 178 countries adopted Agenda 21 that emerged from the Earth Summit in Rio de Janeiro. The agreement was a global partnership to encourage countries to make a transition to sustaining life on Earth.

Outcomes -

It pointed at the unsustainable patterns of production and consumption, and recognised the need to develop effective ways to dispose mounting waste. It stressed on revisiting the root cause of changing consumption patterns and focussed on reducing waste, apart from environmentally-sound recycling.

How waste management should be achieved?

1. Inclusive waste management -

- The three “Rs”—recycle, reuse and reduce—are most talked about in waste management conversations.
- Although recycling has been focused more, the other two ‘Rs’ have been ignored.
- There are two key principles which the government can introduce: design for environment and pay-as-you-throw programmes. Promoting sustainable design through green tax or green reward systems can help reduce the use of toxic materials as well as make products have a longer life.

2. Implementation -

To make a new beginning, the government should bring more accountability and transparency for regulatory agencies, especially the state bodies; build competencies of state and Central agencies involved in monitoring; improve coordination between regulatory bodies; and impose strict punitive measures under Environment Protection Act.

3. Stop being the dump -

India has borne the brunt of global waste for decades. It is now time to say no. A start has been made with a ban on the imports of solid plastic waste and restrictions on e-waste imports. This must be taken forward, both in terms of investigations and plugging the loopholes that allow dumping, and bringing in more waste streams under the blanket ban.

4. Informal waste pickers, processors -

There is a need is to find a solution keeping in mind people’s skills, core strengths and livelihoods, for unorganised sector workers while also understanding that environment affects everybody and cannot be ignored.

5. **New priorities -**

Studies indicate that one-fifth of what goes into municipal landfills is food. Yet, no step has been taken to address this. Specific policies are also required on packaging and sanitary waste because a massive increase in its volume is likely soon because of changing lifestyle, access and knowledge.

6. **Others -**

Lastly, Swachh Bharat Mission needs a makeover where the focus must be on waste minimisation and behavioural changes.

Time up for lip service

The new government cannot afford to ignore climate emergency. It must immediately put in place policies to deal with this crisis.

What needs to be done?

1. **Move to electricity -**

- At present, electricity meets less than 20 per cent of our energy consumption. The remaining 80 percent is met by the direct burning of fuels - mostly fossil fuels - in industry.
- We must evolve a roadmap to meet at least 80 per cent of our final energy needs in the form of electricity in the next two decades.

2. **Decarbonise electricity sector -**

- The falling cost of renewable power and grid-scale storage indicate that 100 per cent renewable-based electricity supply is technically and economically feasible.
- The country needs an ambitious goal to generate 100 per cent electricity from non-fossil fuel sources by 2040-2050.

3. **Protect ecosystems -**

A healthy and vibrant ecosystem, which includes mangroves, forests, floodplains, rivers and land, will build our resilience to withstand the worst impacts of the climate catastrophe.

4. **Set up safety nets -**

Millions of people will lose their crops, homes and businesses every year due to extreme weather events. There is an urgent need to put in place affordable and effective safety nets to save them from total ruin. For this, safety nets like agriculture, home and business insurance or other compensation programmes must be strengthened.

5. Monitor, forecast and warn -

The changing weather patterns will require massive investments in forecasting and warning systems. From agro-meteorological advisories warning farmers about inclement weather to predicting cyclones and extreme rainfall, forecasting and warning systems will go a long way to save lives and build economic resilience.

6. Others -

Lastly, but most importantly, the new government must recognise that climate emergency is real and happening, and it must take this message to every Indian to build a groundswell of opinion in favour of real action to prevent climate catastrophe.

Thorns of rosewood

Over 50,000 rosewood artisans in India have been badly hit by trade regulations introduced in 2017 by the Convention on International Trade in Endangered Species on Wild Fauna and Flora, or CITES.

Issue -

- Data collected from 2017 to 2018 by the Export Promotion Council for Handicrafts shows that India's international trade in Shisham (*Dalbergia sissoo*), a type of rosewood, was Rs 617 crore, against the potential of Rs 1,000 crore.
- The reason for the dip, claims India, is the decision to include the entire *Dalbergia* genus under Appendix II of CITES, which has species where trade must be controlled to avoid overexploitation.
- The decision was taken at the last CITES conference of parties (CoP 17) after several African and Latin American countries said illegal international trade in rosewood, fuelled primarily due to rising Chinese demand, was decimating rosewood populations throughout its range.
- India has sent a proposal to CITES ahead of the upcoming CoP 18 that trade of individual species should be regulated, and not the entire genus, based on their conservation status.
- India has two species of *Dalbergia*, of which *D latifolia* (Indian rosewood) is classified vulnerable, while shisham is widely grown by farmers. India wants to deregulate the trade of shisham.

Renaming renewables

On March 6, the renewables sector accounted for 20.6 per cent of India's total energy production, but the next day, the share jumped to over 33 per cent. This became possible because on March 7 the Union Cabinet brought all hydro projects of more than 25 MW capacity under the renewables category. So far, only hydropower projects of under 25 MW capacity were considered in the renewable category. This would help revive the ailing hydropower sector, states the Cabinet decision.

Background -

- For a good one-and-a-half decade after Independence, hydropower was India's main source of energy.
- In 1962-63, it contributed 51 per cent of the country's total energy mix, shows data on the power ministry's website.
- In 2018-19, the figure stands at 13.1 per cent. A grouping of 27 big power sector units, says that small and large hydropower projects should be at least 35 to 40 per cent of India's energy mix for optimal load management.

Fall of hydropower sector -

The reason behind the fall of hydropower are two-fold -

- One, hydropower plants are complex and time-taking to build and, hence, costlier than conventional and other renewable projects.
- Two, since the plants are expensive to build, the electricity they produce is costlier.

How the change will revive hydropower sector?

- The Cabinet's decision will help revive the sector because discoms and other big users will be forced to buy hydropower. It will be done through Hydropower Purchase Obligations (HPOS) - a tool to make discoms and power plants buy hydropower - mentioned in the decision.
- HPOS have been conceptualised along the lines of Renewable Purchase Obligations (RPOS), which were introduced in 2008 in the form of Renewable Energy Certificates (RECS). All discoms and power plants are obligated to buy a certain amount of renewable power every year (the percentage varies annually) and if they do not buy it, they have to purchase equivalent recs. HPOS have been announced as a separate entity within non-solar RPOS.

- However, RPOS as a tool have not succeeded, which raises doubt about the prospects of HPOS too. Twenty-seven states and Union Territories in India have achieved less than 60 per cent of their RPOS in the past nine years.
- Moreover, HPOS are unlikely to come into implementation anytime soon because they are applicable only to hydropower projects commissioned after March 8, 2019, and none of India's under-construction hydropower plants are close to completion.

Past experiments of revival -

- This is not the first time the government has tried to revive the hydropower sector. In the 1990s, it opened up the sector to private players to bring in additional resources.
- Subsequently, many state governments allotted a large number of hydro projects to private companies.
- However, in spite of a number of policy measures and initiatives, private companies produced just seven per cent of the country's hydropower, while their share in India's thermal power was almost 40 per cent.
- In an effort to boost the sector, the government announced a bailout package of Rs 16,000 crore in 2016, but It was never implemented.

Standing Committee on Hydropower -

- The Standing Committee report says segregation of hydro projects is just based on capacity and that all hydel projects are renewable in nature.
- The segregation came into play only because the different categories were allocated to different ministries, it states.
- Initially, India had a Ministry of Energy, from which the Ministry of Non-renewable Energy was culled out in 2006.
- The committee even claims that at just 4-10 gram CO₂/kWh, hydropower is best in terms of GHG emissions. It is even less than 38 gram CO₂/kWh GHG emitted from solar power. The report also says that many countries, like the US, China and Canada consider all hydro plants as renewable.

Why we need a circular economy?

Rwanda has a reason for opposition for used clothes. Pushed by flawed trade regimes and myopic policies, these goods have nearly decimated the textile, apparel and leather industries in Africa.

The concern -

- The textiles system operates in an almost completely linear way: large amounts of non-renewable resources are extracted to produce clothes that are often used for only a short time, after which the materials are mostly sent to landfill or incinerated.
- During the period the number of garments purchased each year increased by 60 per cent but the average number of times a garment was worn before disposal declined by 36 per cent.
- More than US \$500 billion worth of natural resources are lost every year due to clothing underutilisation and the lack of recycling.
- Some 65 billion tonnes of raw materials entered the economic system in 2010, and this figure is expected to grow to around 82 billion tonnes in 2020.

The idea of circular economy -

- Worldwide, the governments, facing a growing crisis of raw materials, are making the concept an integral part of their policies.
- China - In 2008, the country adopted the Circular Economy Promotion Law and has established a commission which is responsible for planning and coordination of the circular economy. It monitors a scheme, Trade Old for Remanufactured, which aims to motivate citizens to recycle and reuse. Under the scheme, customers get 10 per cent discount if they trade their old equipment for remanufactured items.
- Japan - It processes and reproduces its waste in such way that 98 per cent of the metals get recycled. Even 12 years ago, only five per cent of waste ended up in landfills. In fact, in 2001, Japan was credited for introducing the first take-back law in the world, which forces retailers and manufacturers to take back used air conditioners, televisions, washing machines and refrigerators. Under the law, consumers share the responsibility of manufacturers and the government to initiate the take-back process and pay a fee for collection and recycling of products.
- Germany - Germany recycles 65 per cent of its materials and sends 30 per cent to waste-to-energy plants. Only five per cent goes to landfills.
- Global bodies like the Organisation for Economic Co-operation and Development, the World Economic Forum (WEF) and the United Nations Environment Programme (UNEP) are also promoting circular economy through various events.
- In 2017, WEF and its partners established the Platform for Accelerating the Circular Economy, or PACE, to drive action towards a circular economy. Under PACE, over 50 business and government leaders have come together to create favourable conditions for widespread adoption of the concept.
- As per UNEP, Remanufacturing and comprehensive refurbishment can contribute to reduced emissions by 79 to 99 per cent in many sectors. Remanufacturing can reduce new material requirement by 80 to 98 per cent.

Burning our breath

The theme of this year's World Environment Day was air pollution.

Source of air pollution -

There are three major sources of air pollution: burning of fossil fuels and biomass for energy; burning of agricultural residues and waste; and, dust emissions from natural and human-made sources.

Elaborating the issue -

- Burning for energy - We burn 1.6 to 1.7 billion tonnes of fossil fuels and biomass annually to meet our energy needs. Of this, about 55 per cent is coal and lignite; 30 per cent is biomass; and, 15 per cent is oil and gas.
- Agriculture residue and waste burning - Hundred to 150 million tonnes of agricultural residues are burned each year on the fields. This is a seasonal activity, and hence, during the burning seasons, they are a significant contributor to air pollution. Overall, we burn 1.8 to 1.9 billion tonnes of fossil fuels, biomass and waste every year. Of these, 1.5 to 1.55 billion tonnes or 85 per cent are just coal, lignite and biomass. They also happen to be the most polluting fuels.

Conclusion -

If we only consider the amount of materials we burn, which is a good proxy, then at an all-India level, 85 per cent of air pollution comes from the burning of coal and biomass; oil and gas contribute less than 15 per cent.