

India's Ecological Challenges

Dangers of forgetting the past

Ecology is ingrained in Indian psyche. It is part of our scriptures, our culture, our social behavior and has been the guiding principle of governance in India as well.

However, over the past few decades, ecology has faded from the priorities and India, as a result of almost mindless development, faces huge ecological challenges that the new government headed by Narendra Modi has to tackle.

Rajendra Shende

The first Indian Emperor to adopt ecologically sustainable governance as his priority, ruled India 2300 years ago. His name was Ashoka. H. G Wells wrote about him, "Amidst the tens of thousands of names of monarchs that crowd the columns of history, their majesties and graciousnesses and serenities and royal highnesses and the like, the name of Ashoka shines, and shines, almost alone, a star."

From the existing stone edicts of times of Emperor Ashoka, it can be

learnt that his was the first Indian empire to declare a clear-cut policy of exploiting as well as protecting natural resources with specific officials tasked with nature-protection duty. Under his rule, he brought in significant changes in the style of governance, which included providing protection to fauna, plantation of trees and even to advocate conservation measures for wildlife.

From the scriptures discovered in ancient Indian languages like Sanskrit and Brahmi, we learn that Ashoka actively pursued the policy of planting

trees on both sides of the roads; further proof that 'greening -infrastructure' is not just a slogan but a historical fact.

And the Iron Pillar near Qutub Minar in New Delhi, which was manufactured and erected during his reign stands today without any corrosion, considered as technological miracle even today. What can be better example of the sustainable mining? Technology made it possible over two-millennia earlier, to demonstrate what sustainable mining meant. Earth's resources were sustainably used by reducing the input,

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by using the technology that did not produce the corroded scrap-metal at all.

Most astonishing is the fact that Emperor Ashoka led this sustainable development agenda after he fought one of the major and bloodiest battles in the world history i.e. war of Kalinga (present day Odisha). To put it in modern jargon, his empire would have been struggling as it tried to recover from the huge expenses that had been incurred in the war effort and surely the country must have been going through a recession or at least a major financial crisis.

Fast-forward 2300 years to 2014. India is torn between infrastructure development and environmental protection; need for the metal products and degradation of land due to often unregulated mining; governance for growth and ecological degradation. Economic development that is sorely sluggish and environmental degradation is recklessly rash. Such a dilemma has made the government bring 'fast environmental clearance' as the top priority. While there is need to forge ahead with the projects that have been 'paralysed' due to environmental issues, there is growing realisation that exploiting natural resources to satisfy India's ever flaring greed would lead us soon into a deeper problem, even with faster clearance.

Poverty has been the darker side of India's inequal societal homogeny and hence makes it as the greatest polluter. It is worrying that India houses largest number of poor and also the fastest growing number of billionaires in the world. Hundreds of millions of poor Indians live in ecologically-sensitive

zones, which are either fertile lands, rich and yet ecologically fragile forests or lands filled with huge geological deposits of various minerals, which are endangered due to the greed of the rich, while threatening the economic future of the poor, pushing them into irregular jobs like construction and low or unskilled services etc.

India's challenge lies in its sheer numbers. Sixty percent of India's population is poor, and nearly 30 pc live in extreme poverty. Like any other rich of the world, India's rich community likes to justify their concentration of wealth on the basis of their own personal initiative, acumen and drive. In reality, their wealth is the result of their continued greedy and often illegal exploitation of the country's diverse and rich natural resources and the poor people that provide handy cheap labour. Continued impoverishment of rest of people is fuel for the rich's growth. This tectonic social and economic divide may, unfortunately, average out into respectable 'GDP Growth rate', but at the cost of poor and the environment.

India's challenges i.e. malnutrition, food-insecurity, air pollution, inadequate energy supply and dwindling water resources have their roots in environmental degradation. Be it air pollution in New Delhi, which has the

unenviable title of being the most polluted city in the world according to the World Health Organization, or the serious threats of melting of glaciers in Himalaya that cause flash floods or the life threatening rise in the sea level around costal mega cities, or fast reducing fishery stocks along the eastern and western coast lines.

The United Nations World Food Program (UNWFP) has painted an alarming picture, reporting that nearly 350 million people — roughly 35 percent of India's population — was food insecure and more than 1.5 million children in India are estimated to suffer from malnourishment and 43 percent of children under five years of age are underweight. Land degradation, due to excess use of fertilisers, use of pesticides that result into 'genocide' of the pollinating insects are the root causes for India's 'health challenge'. These numbers start looking more monstrous once we superimpose the issues related to climate change, increasing consumption and rapid urbanisation.

Is there a way out?

The simple and straight forward answer is a resounding yes. Setting up the

▼ According to World Health Organisation, New Delhi is the most polluted city in the world



policies that enhance resource efficiency i.e. in terms of materials, energy and human power; and implementing them, we could lead to sustainable society, even in this modern era.

Energy Security through Energy Efficiency

As the cost of electricity does not take into account the environmental costs arising out of use of fossil fuel, the use of electricity in India has become most inefficient.

Electricity for air conditioning in buildings consumes nearly 40 pc of the total electricity produced in India. In the summer months, the consumption is even more. Improving the energy efficiency of room air conditioners by 10 percent, i.e. to the best level already achieved elsewhere could mean avoiding the investment in 120 Power plants of 500 MW each in India as per the calculation of

National Renewable Energy Laboratory (NREL) of USA. If similar attempts are made for all other home appliances, India's energy problem would be solved immediately and it can also avoid the recurring black-outs and brown-outs and increase productivity.

A recent study by the International Energy Agency has shown that modern technology of digital data collection, digital networking and stand-by mode equipment costs the world \$60 bn and would rise to \$95 bn due to an increase in users. The report describes technologies and technical solutions as well as a range of policy options that are available to reduce this monumental energy waste. It projects that if better energy efficiency measures were applied to online devices in the coming years, energy saved world wide would be equivalent to shutting 200 standard 500MW coal-fired power plants.

India, which is the world's IT giant, too can save a lot of money by developing and employing energy efficient systems of digital devices. According to the United Nations Environmental Programme, the global market for energy efficient technologies is expected to nearly triple to \$2.2 trillion by the end of the decade. The country can generate 'green employment' for its youth through such drive.

Reducing Air Pollution through mitigating climate change

Use of renewable energy sources like sun and wind would add to the potential of 'green employment'. Action on Short-Lived Climate Pollutant (SLCPs), such as black carbon (BC), methane (CH4), tropospheric ozone (O3), and many hydrofluorocarbons (HFCs), that have major warming effect on climate, can have multiple impacts i.e. prevent emissions of dangerous air pollutants with detrimental impacts on human health, agriculture, national economy and ecosystems. Short-lived climate pollutants are everywhere in our lives. Black Carbon comes from cooking stoves, diesel engines and brick kilns. Methane emissions come from waste dumping, tropospheric ozone comes from release of hydrocarbons at ground level, and HFCs come from replacement of CFCs and HCFCs used in refrigeration and ACs.

Rapid implementation of reduction in emissions of SLCPs (together with measures to reduce CO2 emissions) would greatly help in saving the lives of nearly 7 million of lives every year globally, due to indoor and outdoor air pollution according to the WHO, cut global crop losses by 100 million tonnes a year, generate new jobs, reduce poverty and curb global warming by around half a degree Celsius as compared to pre-industrial level.

Considering that latest IPCC report has predicted rise of global warming by 1.5 deg C to 2 deg C, this reduction of 0.5 deg C in global warming would be a significant contribution to the global environment. India's efforts in these directions would 'make a change in

which actions on climate change could be leveraged for inclusive development'.

Ensuring Food Security by reducing waste and environmental burden

At least a third of everything we grow on this planet is lost between the field and the consumer. It is an ethical, economic and environmental issue given the enormous waste of energy, water, fertilizers and other inputs as a result of food that is produced but never eaten.

The losses in the field i.e. in production and transportation are more in developing countries. Developed countries waste more at the consumer level. We do not need GMOs, neither we need activists against GMOs, as there is enough food for everybody. Whatever food finally has to be discarded can be managed to turn into biogas, fertiliser and even energy. We can reverse this unacceptable trend in India and improve lives of poor.

There is a popular belief that 'sustainable development' means a return to some sort of pre-industrial lifestyle and that it is an additional burden and barrier to growth and the development. The debate in the region, particularly in India, on mining clearances vis-a-vis environmental degradation is the central to the GDP growth rates. However, the GDP growth rate is not the measure of better quality of life and certainly is not guarantee for the long term and the sustainable development. By efficiently and sustainably deploying natural resources and development by caring for ecosystem, which is the ultimate source of our livelihood and quality of life for generations to come. The key is in using technology, and not to shun it, by ensuring optimum resource efficiency and doing more with less.

Preventing malnutrition through regional cooperation

It is interesting that on the occasion of the swearing-in ceremony of India's Prime Minister Narendra Modi, Pakistan and Sri Lanka released hundreds of fishermen who had supposedly crossed the international sea borders. However, the root cause why fishermen hunt for



► Malnutrition needs to be eradicated through cooperation between Indian and other countries, especially SAARC

the fish beyond their geopolitical borders is the environmental degradation in the oceans. According to a report by the Food and Agricultural Organisation, the global fish-stock, which is a major source of protein for the poor, is dwindling at an alarming rate due to adverse changes in the oceanic food chain on which fish thrive. The ocean food chain in turn, is getting affected due to climate change and oceanic pollution. In the Western and Eastern Indian Ocean, the fish stock for many species is overexploited or depleted. Fishermen are compelled to go deeper in the seas to fetch fish and cross the national sea-borders. Thus environmental degradation has become the root cause of political conflicts in South Asia. SAARC countries, which are home to most of the poor in the world, mainly depend on the fish as their primary source of protein. They, therefore, face the danger of food security collapse.

Policies related to sustainable fisheries can be set by the SAARC countries to ensure future food security. Nature conservation and ecological restoration through sustainable policy

governance by supporting grassroots communities must be the priority of the South Asia. Governance to achieve sustainability holds great significance for SAARC countries. India is poised to play a catalytic role taking advantage of good will generated in the swearing-in ceremony.

The real diplomacy to be exercised by the SAARC countries is not only for restoring of the national geopolitical borders and preventing migration of people. India needs to lead from front to set in environmental governance and environmental diplomacy to build capacity for sustainable use of natural resources and create new green jobs and ultimately achieve inclusive and green growth.

The most appropriate next step for India is to organize yet another 'swearing - in' ceremony where all the Prime Ministers and Presidents of the region's countries would swear for 'Green Growth and Environmental Governance'.

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