

# Reorienting earth day for shaping Indian environment

## Evolution of earth day

Earth Day is an annual event in India and the world. The scope of Earth Day must be widened for reshaping Indian Environment. We celebrate the planet's environment and raise awareness about environmental pollution. The day, designated on April 22, is observed worldwide with rallies, conferences and other activities. Started as a grassroots movement, Earth Day created public support and contributed to the passage of the Clean Air Act, the Water Quality Improvement Act, the Endangered Species Act and several other environmental laws. The idea for Earth Day was proposed by then-Sen. Gaylord Nelson of Wisconsin, who died in 2005. The first Earth Day was in 1970. Nelson, after seeing the damage done by a 1969 massive oil spill in Santa Barbara, California, was inspired to organize a national "teach-in" that focused on educating the public about the environment.

## Strong focus needed to transform earth day from ritual to action

Indian people, academics and policy makers should utilize this day for revitalizing India taking lessons from global and national successful stories. Thinking about the future of planet and life on earth is mentioned in Rachel Carson's book entitled '*Silent Spring*', published in 1962, began with a 'fable for tomorrow', presenting true story about the use of DDT had caused damage to wildlife, birds, beet, agricultural animals, domestic pets and even human beings. In 1968, Garrett Hardin published a paper titled 'The Tragedy of the Commons' summarized with the population problems, restricted use of resources, environment pollution. The international NGO 'The Club of Rome' founded in 1967, dedicated to the study of the 'world problematique'. The term describes the political, social, cultural, environmental and technological problems of a global, multidisciplinary and long term perspective. In 1972, researchers from Massachusetts Institute of Technology (MIT) presented a model 'Limits to Growth', published under Club of Rome that explain the ecological limits to economic and demographic growth, which is a result of mathematical simulations conducted on demographic and economic growth correlated with the exploitation of natural resources and forecasted up to 2100. They have investigated five major trends of global concern such as accelerating global industrialization; rapid world population growth; widespread malnutrition caused by poverty; dependence on non-renewable resources and their accelerated depletion; and deteriorating environment.

In 1972, 'The United Nations Conference on the Human Environment' took place in Stockholm, Sweden and first time added ecological issues of global concern. The conference concluded with the declaration of principles and action plan to fight pollution. In 1984, the United Nations Assembly gave Gro Harlem Brundtland, the mandate to form and heading over the World Commission on Environment and Development. The commission's mandate was to recommend means to the international community to preserve the environment through improved cooperation between developing nations and developed

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nations, while considering existing relationships between peoples, resources, the environment and development. Ambitious action plans for people, prosperity and the planet were accepted in 2015 to achieve the agenda for Sustainable Development by 2030. There are 17 Sustainable Development Goals (SDGs): eradicate poverty, strengthen universal peace through collective partnership, promoting eco-growth, social inclusive and environmental sustainability. Spatial information technology is not only providing information of earth resources but also useful to manage them in an integrated, inclusive and sustainable manner in order to achieve sustainable development goals.

## India has incredible earth diversity

India is a country with incredible geographical diversity together with plurality in society, language, religion, culture and ethnicity. It is a country of second largest human resources of the world with a population of more than 1210million (2011) people supporting nearly 17.5 per cent of world's population. India has a rich geographical diversity with following characteristics:

- i. Northern Himalayan Mountain incorporates typical land use *Jhum* and unique trans-humance practice together with varied cultural groups including tribes
- ii. Two coasts of the Peninsula with rich biodiversity, estuaries and backwater ecosystem and dependent social groups like fishing communities
- iii. Diverse humid to arid climates, varied rainfall and related production system, crop calendar and life cycles
- iv. Plateau characterized by steppe to savanna and humid meso-thermic forests and dependent indigenous people on minor forest products
- v. Indus-Ganga-Brahmaputra alluvial plains in the north exhibiting continuation of traditional unique socio-economic interaction such as *Jajmani* system
- vi. Rising million-cities like Delhi, Agra, Kolkata, Mumbai and Bangalore containing within them, most modern to cultural heritage and most traditional land uses together with worst form of visible poverty in the form of slums

- vii. Delta in the coastal regions of the eastern sea with typical mangroves and wetlands.

### India's climate action on earth environment

India, the world's fourth-largest carbon emitter with its population of 1.3 billion people, ratified the Paris agreement on climate change to become the 62<sup>nd</sup> nation to join the deal on the 2<sup>nd</sup> October 2016, on the occasion of Gandhi Jayanti, which is also the International Day of Non-Violence. The Paris agreement requires the member countries to make binding commitments to curtail CO<sub>2</sub> emissions in order to balance global average temperatures from rising above 1.5°C as compared to the pre-industrial years. In the coming years, India is aiming to develop a sustainable model of economic development by harnessing the available and potential clean energy sources. India also plans to reduce its carbon emission intensity - emission per unit of GDP - by 33-35% from 2005 levels over 15 years. It aims at producing 40% of its installed electricity capacity by 2030 from non-fossil fuels with the development of clean sources of energy. This signifies the commitment of India to shift significantly from coal-based power generation to renewable energy sources to reduce the emissions of carbon, vulnerability of global warming and to combat climate change ill effects. India is one of the most disaster-prone areas of the world. Nearly 57 per cent of the country's land is prone to earthquakes included in the seismic zones III-IV. About 8 per cent of the land is vulnerable to cyclones of varying intensity. About 68 per cent of the net sown area and 5 per cent of the total land are vulnerable to droughts and floods (40 million ha). India alone accounts for 20 per cent of the deaths caused by floods in the world.

### Biotic life in Indian environment

Great variation in climatic conditions has given appearance to a variety of forest types including tropical and sub-tropical forests in the Western Ghats and eastern Himalaya, temperate and alpine forests in central and western Himalaya and desert forests in the arid and semi-arid regions of the country. According to Forests Survey of India (2015), about 7,01,673 km<sup>2</sup>, constituting 21.34 per cent of its geographical area is under forest cover in the country. Very Dense Forest (VDF) however accounts for only 2.5 per cent while the Moderately Dense Forest (MDF) and open forest account about 10 per cent and 9 per cent respectively. The total forest and tree cover of the country is estimated to account for 24.16 per cent of the country's land. India is well endowed with great wealth of biodiversity in its forests, wetlands and marine areas. The country has 7 per cent of the mammals, 12.6 per cent birds, 6.2 per cent reptiles, 4.4 per cent amphibians, 11.7 per cent fishes and 6 per cent flowering plants of the world.

### Challenges for geo-sustainability in India

Challenges for sustainable development in India have linkages with resource limitations. India covers 2.4 per cent of world geographical area with 17.5 per cent of world human population and almost the same numbers of cattle population. Land use change should be controlled and local habitats of the wild animals should be preserved for over all ecological development of the nation. Better implementation is required to improve the availability of basic infrastructure. Participatory forest management approach should be implemented throughout the country. Marketing cooperatives of fruits, off-season vegetables and flower growing farmers need to be encouraged. Sustainable tourism and medical tourism need to be promoted. The Government plays an important role in providing a

social protection to its citizens in order to increase income and assets, enhance capabilities and ensure access to entitlements and claims by programmes like National Rural Livelihoods Mission (NRLM) and MGNREGA. Various measures should be promoted by the government to ensure proper development in the agricultural sector like crop diversification and weather-based crop insurance schemes. The Government of India's recent initiatives like Digital India, Make in India, 100 Smart Cities Development together with Corporate Social Responsibility are expected to bring more balanced regional development.

### Sustainability of Indian environment through production, processing and marketing

Indian environment requires to mobilize resources for revitalizing village India as smart through promoting the Sixth Industry. The "Sixth industry," means the multiplication of primary (1), secondary (2), and tertiary (3) industries. It requires the participation at three levels involving Government, Private Sector Industry and People Efforts by mobilizing local community efforts engaged in particular specialized primary activities like agriculture/lumbering/animal husbandry/forestry/fishing specific to the region. Government can facilitate the inputs required for the development of processing units, outlets and distribution of the processed products by connecting the manufacturer farmers directly with consumers. For example it would be next to impossible for a poor medicine growing farmer to go for marketing of its products. The task needs the active role of Government-People Participation (GPP) for the development of an efficient system in producing raw to final products for assisting in Make in India Programme. These kinds of innovative activities if linked with National Skill Development Programme can bring employment of more than 30 people in one unit and improve prosperity of rural India by making villages as Smart villages. This style of productive system could enhance the benefits of agriculture and help in developing rural resources in order to reduce the pressure of rural-urban migration. We have to take lessons from best practices promoting decent work and economic growth in many developed countries like Japan. It would be appropriate to quote the example of rural areas in Japan, where these kinds of activities adding prosperity to the nation and reducing the dependency on cities. India is having huge potential in developing of Milk Unit Farms at local level. with Business: cattle farming and allied activities together with Products like: milk, cakes, cookies, ice cream, fruit juices and sauces, Tourism involving: Medical Tourism, Ayurveda, Village Tourism. Milk is not the only foodstuff produced on this farm, various kinds of delicious dairy products are produced, including ice cream, cakes, cookies, jam, and instant curry.

### Future earth vision and restructuring Indian policy

Future Earth is a new 10-year international research initiative that will develop the knowledge for responding effectively to the risks and opportunities of global environmental change and for supporting transformation towards global sustainability in the coming decades. Future Earth will mobilize thousands of scientists while strengthening partnerships with policy-makers and other stakeholders to provide sustainability options and solutions in the wake of Rio+20. Indian policy requires restructuring as following

- i. Solution-orientated policy for sustainability, linking environmental change and development challenges to satisfy human needs for food, water, energy, health

- ii. Effective interdisciplinary collaboration across different ministries and natural and social sciences, humanities, economics, and technology development, to find the best scientific solutions to multi-faceted problems
- iii. Timely information for public and policy-makers by generating the knowledge that will support existing and new global and regional integrated assessments
- iv. Government Participation in people's programme policy-makers, funders, academics, business and industry, and other sectors of civil society in co-designing and co-producing research agendas and knowledge
- v. Increased capacity building of young, women, artisans, disable, and socially deprived groups.

## Conclusion

In this way, Earth day can facilitate India towards economically viable, socially inclusive, ecologically healthy and technologically efficient.

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## Conflict of interest

The author declares there is no conflict of interest.