Editorial

The Need of the Nature-Based Interventions for the Post-Covid Reforms: The Eco-Ethos of Conserving Natural Heritage

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The last phase of the year 2019 has sown the 'seed' of "Coronavirus" for the 'plant of future' titled "COVID-19". It is not the first type of pandemic on the Planet Earth, the uniqueness of the causative factor is the human modified substance showing its lethality to the human society.

There are ample of historical evidences which show that the human civilizations have the strong bonding with Nature. Almost all the ancient civilizations of the world have their origin near water, i.e., the rivers. The oldest literature of the human society, the Vedas describe the statesmanship of the then humans with the Nature. It stated that the lifestyle of the human from particular region of the world has the affinity to its ecological set up of that region. The Vedic lifestyle focuses on the symbiotic relationship of the humans with nature as given by the concepts of 'Aranya Sanskriti' (forest culture) and 'Prakriti Purush' (natural human). The sustainable use of the natural resources was the feature of not only Vedic Society but also all the other ancient cultures of the world. The customs and traditions of the indigenous communities present the interrelationship of the then human society with their ecological setup. As per the Rule of Nature, the ancient culture always described human as a part of the ecosystem and the humans hardly ever tried to control nature.

With the pace of the development of the civilizations and the human society, the control over the natural resources also advanced. With the time, the competition to control the natural resources gave rise to the conflicts among the human societies which continued in the modern period up to the extent that the human existence came under the threat. The industrial age marked its impact on the human history, and introduced the philosophy of consumerist society. This was the beginning of the everlasting power game of the control over the natural resources.

The actions of the medieval period attributed the results in the modern period. The nineteenth century laid the foundation of the development challenges of the twentieth century such as 'food crises' followed by 'energy crises'. Further in the last quarter of the twentieth century, the issue of the 'climate crises' made a wakeup call for the modern human society to rethink the concepts of development. Thus, simultaneously the concept of 'sustainability' took the height and resulted in the post-nineteenth century's development through the "Sustainable Development Goals".

It is well referenced fact that the survival of humans depends onthe environment and development, and along with the human society, the environment and the economy are the pillars of the sustainability. The imbalance in any of the three poses a devastating impact. The fact is more-or-less human-centric and far away from the nature rule. The consumerist human society added 'economy'. The economy inducts the human actions resulting into the effects on the natural environment. Therefore, direct impact of 'economy' on Nature is debatable. Nonetheless, the fast growing 'economy' posed threat on the 'ecology' due to speed up of the anthropogenic actions. The economy works on 'demand' and 'supply'. High demand of the physical needs of the modern human society, obviously, pressurizes the supply chain to fulfil their need as soon as possible which results into accelerated rate of extraction of natural resources ousting the rate of regeneration. Thus, the imbalance begins and causes the 'natural' phenomenon to

buffer the changes. The rising global temperature, disturbed water cycle and the monsoonal precipitation, increased intensity of the disasters especially droughts and floods, etc. are the common features of the present climatic patterns. The author raises the question from the global community, are these phenomenon negative for ecosystem? Or negative for the survival of humans?

It is not new for the human civilization to face the challenges of natural calamities but the modern human society accelerated the rate and the intensities of the calamities. In other words, the nature has its own speed of the global processes which brings any changes in the ecosystem, thus sustaining every component. The species or the ecosystems which do not sustain such changes get extinct as per the extinction and evolution. These phenomena take millions of years in natural ways. In the modern times, the natural processes are being profoundly affected by the anthropogenic activities. The 'climate change emergency' is a result of such actions. The humans modified the natural characteristics as per the physical comfort resulting into the chain of reaction affecting the natural cycles.

Though initiated in 1972 with the first global conference on the environment with the prime focus on 'Man and Biosphere', the beginning of the twenty-first century marked a great note to work for the conservation of the global biodiversity along with the restoration of the degraded ecosystems through Convention of Biological Diversity. In 2015, the Agenda 2030 targeting 17 SDGs were adopted by the global community which integrated five Ps (People, Planet, and Prosperity for the peace and partnership). Thus, the early decades of the 21st century showed a great concern for the betterment of the environment. All the nations have prepared their policies to achieve the targets as per UN SDGs. All of sudden the global outbreak of the infectious disease 'COVID-19' changed the priorities of the nations. To break the chain of the spreading of the coronavirus, the 'stay at home' with the subsequent 'lockdown' shut down the economic activities globally. The year 2020 started with the chain effect of the 2019 and the relevance of the Agenda 2030 was realized for the early achievement. Undoubtedly, the present condition of the pandemic is a result of human distancing from Nature which in turn taught us the learning through Social Distancing. In simple words, the COVID-19 forced the modern human society to come up with early actions to reestablish the HARMONY WITH NATURE.

Almost in all the parts of the world, every indigenous culture has the eco-ethos. These eco-ethos are somewhat broken in the wave of globalization or the foreign impacts. Despite of such exotic waves of invasions of culture, the eco- ethics in the developing nations such as India are more-or less followed by the modern societies. It is evident from the traditions and customs, though the present form is highly modified and many of those even lost their relevance. The 'modern' human society is greatly under the influence of the 'western' world. The impact has changed the eco-ethical approach of the customs and traditions. The western sciences distorted all the other knowledge base. The result is the distance from the eco-compatible cultural system in every part of world.

The distance from the eco-compatible cultural system affected the local communities to the extent that they added the challenges. Since the capability of the affected nations were not as per the western capacity, therefore, dependency increased and the nations lost their own identity in the wave of western philosophy of development. The learning of the COVID-19 for the modern world emphasizes the indigenous communities to revive their age-old eco-compatible cultural philosophy.

The positive side of the pandemic seems to review the policies of modern development practices. All the nations need to discuss the "Ecological Growth" rather than "Economic Growth" for the period of post-COVID-19.

The purpose of putting forth the views through this editorial is to encourage the scientific writers to document the ageold eco-cultural practices followed in their nations or community. Let's highlight the glory and respect of the indigenous customs and traditions which are required to mitigate the modern challenges. Let's not blindly follow the western philosophy, let's not underestimate the principles followed by our forefathers. The only point is to revive the faith and belief, and let the practices be re-experimented to assess its relevance in modern context. Without time-tested experiments, one can't neglect the age-old practices just because the western sciences presented their experimented works. The age-old traditions of any culture are the outcome of the experienced knowledge of the forefathers which were practically observed and documented or passed on through folklores.

Being an Indian, I would proudly state that we have the age-old system which has all the solutions for the modern challenges. This is the case with all the cultures of the world. The Indian system always kept human as part of ecosystem. The medical therapies like *Ayurveda* and the *Yoga* amid COVID-19 has their importance in terms of developing immunity and giving strength to every organ especially lungs. Such medication was practiced by every Indian family before western impact. This is evident from the Indian Kitchen. The ethical food system of India has all the ingredients required for person under tropical environment and fight with the external disease causing agents. In fact, every corner of the world has the ethical food system, the chain is now broken resulting into the development of ailments among community. The frequency of the sound is well tested by the western sciences but it was well established by the Indian traditional system of reciting hymns or *shlokas*. The use of buzzers by the modern world is based on sound frequency. There are many examples which need to be discussed in details.

The author used the social dimensions of the eco-cultural ethos and the customary approach for the future post-COVID-19 reforms to meet out the recently developed global challenges such as employment/ livelihood/ income generation, poverty, healthy environment, natural calamity, disasters, etc. through the action-oriented programs based on the principle, "*Conservation practices for sustainable livelihood*".

During the course of the rural development programs before COVID-19 period, the author's team developed *Enviropreneurship* programs for the rural beneficiaries based on the above principle. These programs were further grouped, and executed as per the interest of the beneficiaries, for instance, *ruralpreneurship* for the rural community, *womenpreneurship* for the women, etc. Based on the liking of the profession, these were categorized as *naturepreneurship* for the person/ youth interested in nature-based tourism activities, *agripreneurship* for the farmers or persons interested in nursery development or agriculture related programs, *yogapreneurship* for the persons/ youth interested in making *Yoga* career at basic levels, *edupreneurship* for the youth interested in making education as their career at basic levels, etc.

The *Enviropreneurship* programs under different categories had been specifically designed for the beneficiaries based on their inherited knowledge and the natural skills along with the ecological set up of the target sites. The professionals and the subject experts keep in mind the primary aim, i.e., conservation before developing a tool and plan for the target beneficiaries of the rural, rurban or tribal regions. All the programs are maintained as per the lines of the "Rule of Nature". Examples of the few of such interventions are briefed in the subsequent paragraphs.

Ruralpreneurship

The interventions carried out in the tribal belt of Rajasthan (India) dealt with the natural talents of the poachers especially related to the bird traders. While working for the conservation of the habitats and protection of the globally important bird species Green Avadavat (*Amandava formosa*) at Abu Hills in Sirohi (Rajasthan, India), it was found that the local public especially trappers were having the skills of calling birds. The birds were than trapped and sold in the market having the regional and global linkages. The author and the associates mobilized the local youth to protect the

species within their habitats, and linked the same with the income generation. The value addition of their inherited skills of identification and sighting the species of global interest were done through modern means for certain period of time. After a couple of years, the trapping was checked and local youth got engaged in birding activities with focus on the species of global interest. The five-fold increase in the income with the investment of one-sixth time of work made this as their side income. On the other hand, within a period of five years the number of head counts of the bird species was doubled for the sampling sites.

This is one of the most successful socio-ecological models titled 'Abu Model' which linked the birding as the income source for the local youth and conserving species categorized 'Vulnerable' as per IUCN Redlist, i.e., Green Avadavat.

Womenpreneurship

The interventions carried out by the author's organization in the Braj Region of Rajasthan (India) with the prime focus on the improvement of the water conditions of the rural environment of the Bharatpur Region. The CSR supported water sustainability projects executed around the World Heritage and Ramsar Site - Keoladeo National Park (KNP) (Bharatpur, Rajasthanm, India) at twenty-two sites of twenty-one villages resulted into onset of the mass mobilization of the community to work at the local level for income generation. The present example from Village Chak Ramnagar is briefed for the readers, policy makers, scientific workers, development professionals, etc.

Before 2000s Bharatpur was known as the flood prone area due to influx of the water from three different directions which finally gets mixed in River Yamuna. Post-2000 has changed the water flow pattern of the area due to rampant anthropogenic activities and encroachments of the water passages on the name of development. The water scarcity affected KNP. The concerned management planned and worked on several options for assuring water availability to KNP. This issue raised a conflict between the human settlements all along the water channels and the governance resulting into the 'Water Politics'. Amid such conflicts, the author along with his team implemented water sustainability projects in the rural areas around KNP to bridge the gap created between the local communities and the governance.

The village Chak Ramnagar is one of the sites of interventions. The human population of this village is constituted by *Banjaras* (the Gypsies of India). They are known for their traditional knowledge of water harvesting. With the pace of development and availability of the alternative options of the water supply system, they present generation lost their inherited knowledge of harvesting water and making of the world famous traditional water structures such as baories, step wells, lakes, etc. Many of these lakes in north-western, western and south-western parts of India are standstill monuments visited by the global tourists. At the selected site, with the customized approach of the traditional and modern knowledge was executed in the planning for the improvement of the water conditions in 2009-10. The civil works were carried out for the structural interventions whereas social mobilization was carried out for mass awareness on the water management. The traditional water reservoirs of 2.2 million cubic meter water holding capacity with a recharging potential of 6.7 billion litres were constructed. The result was observed when the defunct wells and bore wells started functioning and the water output time and volume of the submersible pumps increased five-folds within a span of year. Further, the recharging also affected the water quality of the underground water table. The TDS was decreased to ten times along with the control of other chemical constituents making the water potable.

The most important impact was the time management of the women of the family. With the water availability within a village, the time of water collection by women was decreased to one-third fo their previous engagement. This led to the beginning of the *enviropreneurship* program linked with their traditional skills of creating grass artifacts. The available free hours were used for the production of the handicrafts. The value addition in their inherited art developed a rural enterprise of women and led to the wing of womenpreneurship. Under this wing, the women were engaged in manufacturing of the articles as per their skills. Further, the training sessions were initiated to develop and reshape their inherited skills as per demand of the market. The grass artifacts linked the need of raw material which relates the women with their ecological setup. The women realized that once readily available local grass and plant species, being used as raw material, were in shortage due to conversion of the natural ecosystem into agriculture landscapes or human settlements. With this realization, the male counterparts supported the women and engaged in replanting the species. On the other hand, the women adopted the other technical skills of their arts especially

reviving their age-old practices of using cloth bags instead of plastic bags. They developed a centre of manufacturing the cloth bags for the urban people. Such adaptations not stopped, amid COVID-19 after realizing the importance of the 'Mask', the rural women are manufacturing the Masks since the onset of the lockdown in India. Thus, self-motivated women are reforming the whole of the rural community especially imparting training to the women from the family who returned back to the villages from cities after lockdown. This is a small step in rural India towards fight against the negative impact of the COVID-19 by the rural women.

There are ample of examples and successful case studies which have the global significance. Despite of the fact that the interventions are site-specific, the principle has the universal application. Such interventions directly contribute to the UN-SDGs at the micro level. The interventions undertaken by the author and his team have direct contributions towards all the SDGs through *Enviropreneurship* Programs, in general. Whereas *womenpreneurship* programs specifically focus on 1, 5 and 8 along with associated steps for 3, 11, 13, 14; the *ruralpreneurship* programs focus on 1, 2, 3, 6, 8, 11, 12, 13, 14 and 15. The *Prakritishala* (Nature School) program exclusively deals with SDG 4 (4.7).

Thus, the present global condition is a wakeup call for the humans to come back in their eco-cultural roots. The urban centres are proving to be the failed development, and the nations have to rethink the policy towards urbanization. The 'greenspaces' and the 'bluespaces' need to be protected at any cost. The energy consumption by humans has to be reduced by minimizing the physical comfort needs. The nature-based industry with the sustainable consumption is need of the time. The time for achievement of the Agenda 2030 targets need to be pre-pond to 2021, if human is willing to sustain the future generations as well as survival of present generation.

The detailed steps and the description of the site-specific globally applicable Socio-ecological Models could be shared by the author in forthcoming articles through the scientific platform of this journal.