

Value Based Education For Environment And Sustainable Development

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The right kind of education means the awakening of intelligence, fostering of an integrated life, and only such education can create a new culture and a peaceful world, but to bring about this new kind of education we must take a fresh start of an entirely different basis. And hence, meeting the nation's energy requirements is high on the agenda of any government. Renewable energy sources contribute to a nation's sustainable growth trajectory, in addition to protecting the environment, promoting investment and conserving ecology.

Knowledge is beginning of freedom, and it is only when we know ourselves that we can bring about order and peace. It is generally accepted that fossilized fuels are liable to be exhausted as they are not replenish able. And, thermal plants are highly polluting. At the same time, the need for energy is increasing at an alarming rate. Whether it is industrial energy, household energy or vehicular energy, the demand is sure than the capacity. Hence the need of the hour is increased energy supply is replenish able and at the same time does not damage the environment.

Whether in the east or in the west, the need of time is to combine spirituality with activity, and so direct all human striving that they may ultimately lead man to a destined goal.

Only a few thought men and women of different countries are now able to recognise the union of intermingling of the two forces of spirituality and activity. While energy harnessed from oceans is still in a recent stage in India, geothermal energy seems a more viable renewable energy technology that has the potential to provide clean energy for both electric power production and direct heat applications.

Globally scientific education reform day by day and developments are placed at high priority. Other more well-known energy sources, like solar and wind energy are in use in some parts of the country. But financing renewable sources is a major issue. Financial assistance in the form of low-interest rate, long-term loan guarantees are some available means of addressing the high capital costs of creating renewable energy sources. Institutional finance is also one way of solving this problem. As on date, India is heavily dependent on imported oil and gas as well as coal to meet its energy requirements. But concerted efforts are on, at the same time, to harness renewable energy sources and so that India is able to honour its commitments as per the Paris Accord on Climate Change. In India the electrification of households has taken place on a massive scale and demand for energy has increased. One of the key reasons for this has been the growing population. Another is the enormous increase in energy intensive economic activities. As the conventional sources of energy are reducing and the renewable sources are under

developing phase, improving energy efficiency at all levels of the energy spectrum is the cost-effective and quick solution to address this problem. The scientific literacy plays an important role to realize sustainable developments and promoting the capability of the people to address environmental issues.

Renewable energy sector in India has emerged as an integral part of the solution to meet the nation's energy needs. There has been a visible impact of renewable energy in the Indian energy scenario during the last few years as India is on its way to achieving the 175 GW target for installed Renewable Energy capacity by 2022. Consumer appliances are one of the important areas of energy consumption. Daily household electronic appliances like AC, Microwave, Washing Machine etc., are included in this sector. A lot of initiatives are being taken to reduce the energy consumption and to enhance the technology for energy efficiency in consumer durable sector.

In practice, environmental education is necessary to solve environmental crises and also fasten students' ability. In order to achieve the renewable energy target of 175 GW by the year 2022, the Ministry of New and Renewable Energy launched schemes on development of wind-solar hybrid power projects, onshore wind power projects, biomass power and bagasse cogeneration, biomass gasifier for industries, scheme for development of solar parks and ultra-mega solar power projects, grid connected solar PV power plants on canal banks and canal tops and biogas based grid power generation programme. These approaches enable youth to understand the ecological cycle involved and its mechanism for preserving our environment.

Among all, the National Solar Mission is the most ambitious program which aims to promote solar energy for power generation with an aim of making the levelized cost of solar energy competitive with coal/gas based power generation. Historic low tariffs for solar (Rs. 2.44/unit) and wind (Rs. 2.64/unit) were achieved through transparent bidding and facilitation, giving a big push to the renewable sector.

The Government of India is promoting renewable energy by generation-based incentives (GBIs), capital and interest subsidies, viability gap funding, concessional finance, fiscal incentives etc. for providing financial support to various schemes. Ministry of New and Renewable Energy has taken various special steps in addition to financial support to this sector. These include amendments to the Electricity Act and tariff policy for strong enforcement of Renewable Purchase Obligation (RPO) and for providing Renewable Generation Obligation (RGO), evacuation of renewable power through green energy corridor project, incorporating measures in Integrated Power Development Scheme (IPDS) for encouraging distribution companies and making net-metering compulsory and raising funds from bilateral and international donors as also the Green Climate Fund to achieve the target. After more than seven decades of postcolonial development, millions of people in India are enjoying comforts and conveniences of modern life. Average incomes have increased significantly. Many consume a wider diversity of goods. Urban and even rural lifestyles in parts of the country are dynamically infused with technological innovations, ranging from 4G (fourth generation of broadband cellular network technology) smart phones to 4-wheel drives. Many agrarian practices have been

transformed too, through the adoption of techno-scientific artifacts, including hybrid and genetically-modified seeds, water pumps, tractors, chemical pesticides, and fertilizers.

These “modernizing” technologies are embedded in wider socio-economic processes (that is, state-society and worker employer relation and patterns of income and wealth inequality) and environmental dynamics (that is, pollution, groundwater depletion, etc). Crucially, they implicate a specific modality of human nature relations, in which resources are “extracted” from nature to meet the demands of (some) humans, and the effluents and wastes produced in this process are “dumped” into nature. Modernizing development thus extracts what it believes to be “good” from nature and dumps the “bads” it produces back into nature, effectively treating the earth as a giant sewer (Barry 2016). In order to do this, modernization invents and uses a range of techno sciences across multiple areas of activity from mobility to energy generation and agriculture.

The extension of this “extract-dump” modality of human-nature relations through the modernizing techno sciences depends on multiple other forces in society. These include: capitalist desire for short-term profit and growth that tends to obscure potential harms; scientific/engineering education systems enchanted by standardization and control of nature; policies supporting innovations considered efficient according to narrowly expedient economic criteria; regulations to “manage” pollution and waste, which often just shift the loci of dumping; attaching high status to individualized engagement with—and ownership of technological artifacts; and social construction of the sense of freedom associated with individualization (which in its competitive form, also serves as a norm for social control). Together, these social institutional and political-economic forces, as they align with modern techno sciences to extract natural resources and dump wastes, constitute what we term as “modernizing development pathways” (Leach et al 2010).

In any field of activity, multiple pathways are possible. However, as we argue in more detail later, typically one pathway becomes dominant and self-reinforcing (that is, agricultural intensification; fossil fuel-based transportation). A pathway comes to dominate by attracting a majority of the development resources available in an area of activity. It dominates also by shaping what is imagined as practicable by designers, planners and policymakers. In this process, alternate pathways are marginalized, which also marginalizes the possibilities of realizing more sustainable human-nature relations that limit or transcend the extract-dump modality.

The movement for eliminating manual scavenging has been fighting a long battle against caste discrimination, and drawing attention to the criminal neglect of undignified and unsafe working conditions for sanitation workers with little investment in sustainable alternatives (Goswami 2018). These and other injustices have been highlighted by political ecologists by focusing on environmentalism of

The poor in support of calls for environ. mental and climate justice (Guha and Martinez-Alier 1997; Chu and Michael 2018). Recently, post-growth thinking developed in the global South is also gaining visibility (Gerber and Raina 2018; Kothari et al 2014). Such research is of critical importance in bringing neglected imaginaries to light and to draw attention to people's struggle against dispossession in varied forms. What needs further articulation are socio technical

practices that can be strengthened to build alternatives to modernizing development pathways: alternatives that are not underpinned by the extract-dump modality of human-nature relations.

This pluralisation of development pathways, while undoing the dominance of modernizing development, is crucial for meeting the United Nation's 2015-30 sustainable development goals (SDGs). This is not about tinkering with current dominant pathways. Instead, it is about the promotion of the conditions fostering emerging (but currently marginalized) sustainable pathways, which are often impeded by the dominant pathways. Modernizing pathways are even impeding further social progress in their own terms of generating economic growth and securing the comforts of modern living, due to the serious environmental and health hazards they are linked with. As we begin to grasp these hazards, including rapidly declining insect populations, rise of superbugs with antimicrobial resistance, and increasing casualties of urban air pollution, it is evident that development pathways must be diversified, also for achieving social justice.

References

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