Ecological fragility and vulnerability of the communities

Today’s ecological fragility is man-made. Over and unregulated use of natural resources such as water, energy, land etc., flora and fauna in the last century has led to decline and deterioration of natural resources, pollution, disturbances in bio-diversity, health hazards and societal inequity. The pace of decline and deterioration of natural resources may result in making Earth unfit for living in near future. Most developing countries and their populations have been struggling with instances of climate extremes - e.g. torrential rains and storms, monsoons, severe droughts; and, as temperatures rise, such events will occur more frequently, placing an additional burden on the world’s poorest populations. The Global Climate Risk Index 2015 suggests that "of the 10 most weather related affected countries through 1994-2013, nine were developing countries in the low income or lower-middle income country group". A study conducted by Cline (2007) estimated that agricultural productivity in India will decline to an extent of 27-49% by 2030. Paradoxically, those who contributed least to global warming happen to be most vulnerable to a changing environmental condition, in particular the rural and urban poor. Because the low-income people rely greatly on natural and ecosystem resources for their livelihoods and have limited resources, assets, and coping mechanisms in hand, such as savings and insurance schemes, they have the lowest adaptive ability to cope with the effects of extreme weather events and, more broadly, climate change.
Changing life styles and environmental degradation

The environmental consequences of unsustainable lifestyles and patterns of production and consumption are now widely acknowledged. According to the Intergovernmental Panel on Climate Change (IPCC), anthropogenic greenhouse gas emissions (GHG) are mainly driven by population size, economic activity, lifestyle, energy use, land use patterns, technology and climate policy. The researchers say consumers are responsible for more than 60 percent of the world’s greenhouse gas emissions, and up to 80 percent of global water use. If the people change the consumption habits, this would have a drastic effect on the environmental footprint as well. Emissions can be substantially lowered through changes in consumption patterns, adoption of energy saving measures, dietary change and reduction in food wastes. In India, traditional practices that are sustainable and environment friendly continue to be a part of people's lives. India has a history of low carbon footprint and lifestyle. The Indian conception of life is embodied in a coherent world-view in which all its aspects exist in a state of inter-related harmony, being governed by a universal order that is reflected in all realms of human experience. People have a general inclination towards need-based consumption and an ingrained sense of responsibility which resists wasteful consumption and propagates respect for life.

But the tradition has been fast changing in recent years. India is a growing market of consumption. Domestic consumption in India in the last decade increased 3.5 times from Rs.31 trillion to Rs.110 trillion, according to findings of a study by the Boston Consulting Group (BCG) in 2019. Consumers are increasing discretionary spends on categories other than essentials. Spending on electronic goods, cars, and clothes has increased considerably. Prevalence of over consumption phenomenon is more in urban settings and in places of tourism attraction than in rural areas. As a result, many urban tourist areas in India have been facing the environmental issues such as water scarcity, water contamination, pollution, waste piling, non-communicable diseases etc.

Possible solutions

It is the high time to educate the people and prepare them to face the challenges. Green and resilient practices that are driven by the principles of environmental sustainability need to be promoted among the people. The resilient practices are built around two concepts namely adaptation and mitigation. Adaptation refers to adjustments in natural and/or human systems in response to actual or expected climatic stimuli or their effects, with a view to moderating harms and/or exploiting benefits and opportunities arising from adverse environmental conditions. Such practices are being developed by
individuals and institutions in different parts of the world. A few example for resilient practices include, e-cycle, rain water harvesting structure, bio-gas plant, form pond etc. These practices and products have demonstrated their effectiveness and sustainability. However, many of these products have not been scaled up because of

1. Declining value systems that fostered environmentally sustainable lifestyle practices in the communities
2. Lack of promotional efforts by the responsible authorities
3. Sparse availability of technology and support services
4. Lack of a favourable policy framework for promotion of resilient practices
5. Lack of financial assistance particularly to the low income group of people

Social capital and sustainable development

The concept of social capital is an extensively recognised framework for studying and comprehending the social relationships. Social capital can be referred as the benefits, or value, of the societal institutions and the connections they enable. There is growing evidence from both the land and marine sectors to show that when people are well connected in groups and networks, and when their knowledge is sought, incorporated, and built upon during planning and implementation of conservation and development activities, then they are more likely to sustain stewardship and protection over the long term. There is growing recognition of the effectiveness of such local groups and associations in bringing about positive biodiversity outcomes, and the idea that social connectedness should be seen as an important capital asset is gaining strength.

One of the most significant initiatives is the advent of farmer field schools for rice management in India, in which farmers attend as individuals to learn about the value of beneficial insects for pest control rather than the use of pesticides, and later remain connected in groups to implement the necessary and difficult changes to their farm practices. As a result, many countries are reporting large reductions in pesticide use. Joint forest management in India has been another success. Governments have come to realize that forests cannot be protected without the willing involvement of local communities, who are increasingly being granted rights to use timber and non-timber products and allocated joint responsibility for protecting and improving degraded land. The most significant changes have occurred in India and Nepal, where government of India issued new policies for joint forest management in 1990.

Important other examples worldwide include: fish, shrimp, and rice farming in the Mekong Delta of Vietnam; improved fallows in Kenya and Zambia, where 2-year-old tree fallows introduced to monoculture farm systems have increased diversity and soil regeneration; fair
trade and organic coffee in Mexico, where socially inclusive cooperatives have adopted organic methods and reinvested returns in local social projects; soil-improving legume-based systems in Guatemala and Honduras, which encourage farmers to remain settled in one place rather than continue with shifting systems that require burning of forests.

**Green finance for resilience**

The concept of green finance is new and is in an evolving phase all over the world. For 25 years, financial institutions have addressed environmental issues through voluntary codes of conduct, such as the United Nation’s (UN) Environment Programme’s Financial Initiative, the Equator Principles for Project Finance, and the UN Principles for Responsible Investment (UNPRI).

Newer developments have gone beyond voluntary codes of conduct to establish regulations and mandatory guidelines for green financing. Both the European Union and the European Banking Federation have issued guidelines for green and sustainable finance, and a number of largely industrializing countries, mostly members of the Sustainable Banking Network hosted by the International Finance Corporation (IFC), have introduced sustainability regulations for banks.

Starting in 2005 major US banks such as Wells Fargo and Bank of America started dedicating financing toward sustainable entrepreneurship. This usually meant financing the building of environmentally sustainable or friendly buildings or enterprises. In 2018 the Loan Market Association in the UK issued Green Loan Principles to ensure any green loan is used for eligible green projects. This includes stating that this must be clearly articulated in the finance documents along with the expected environmental benefits, which must be assessed, quantified, measured and reported by the borrower.

The guidelines issues by Loan Market Association of United Kingdom defines Green finance as “Any type of loan instrument made available exclusively to finance or re-finance, in whole or in part, new and/or existing eligible Green Projects”. The fundamental determinant of a green finance is the utilisation of the loan products. The use of the green loans should provide clear environmental benefits, which can be assessed, and where feasible, quantified, measured and reported by the borrower. At retail banking level; green cards, green car loans, green mortgages, green home equity loans, green certificates of deposits etc. are some of the examples of the green finance products that are emerging globally.

In India, the concept of green financing is yet to gain momentum. There are only a few green financing initiatives rolled out by the Indian financial institutions. For example, State Bank of India (SBI) is offering innovative ‘Green Housing Loan’ to its customers who are buying properties in green projects which reduce carbon emissions and promote renewable energy.
The product offers 5% discount on the margin money, 0.25% concession on interest rate and waiver of processing fees for customers going in for the green projects. Recently, SBI declared the country’s first ‘Green Car Loan’ to encourage its customers to buy electric vehicles. The new scheme will offer loan at 20 basis points lesser than the interest rate on the existing car loan schemes. While there are such initiatives taken up by the financial institutions for middle-high income group of people in the country, the green finance needs of the low income group of people have been ignored. Ironically, the low income families are the most vulnerable communities to the present-day’s environmental crisis and require huge support.

The guidelines released by Loan Market Association have listed an indicative categories of eligibility for green finance. The categories, listed in no specific order, include, but are not limited to:

- **Renewable energy** - including production, transmission, appliances and products
- **Energy efficiency** – such as in new and refurbished buildings, energy storage, district heating, smart grids, appliances and products
- **Pollution prevention and control** – including reduction of air emissions, greenhouse gas control, soil remediation, waste prevention, waste reduction, waste recycling and energy/emission-efficient waste to energy
- **Environmentally sustainable management of living natural resources and land use** – including environmentally sustainable agriculture, environmentally sustainable animal husbandry; climate smart farm inputs such as biological crop protection or drip-irrigation; environmentally sustainable fishery and aquaculture, environmentally sustainable forestry, including afforestation and reforestation, and preservation or restoration of natural landscapes
- **Terrestrial and aquatic biodiversity conservation** - including the protection of coastal, marine and watershed environments
- **Clean transportation** – such as electric, hybrid, public, rail, non-motorised, multi-modal transportation, infrastructure for clean energy vehicles and reduction of harmful emissions
- **Sustainable water and wastewater management** – including sustainable infrastructure for clean and/or drinking water, wastewater treatment, sustainable urban drainage systems and river training and other forms of flooding mitigation
- **Climate change adaptation** – including information support systems, such as climate observation and early warning systems
- **Eco-efficient and/or circular economy adapted products, production technologies and processes** – such as development and introduction of environmentally sustainable products, with an eco-label or environmental certification, resource-efficient packaging and distribution
Way forward for Green Resilient Rameswaram

Rameswaram is a unique island that has a special place in the hearts of Indians. At least two crore pilgrims visit the Rameswaram Island every year. The numbers are impressive, but it also indicates the level of exposure of the island with relatively smaller area to pollution. Presently, the Island is undergoing acute water salinity problems. Nearly 6 crore litre of grey water is left to the environment without treatment. Increased tourism activity in a smaller area coupled with undesired waste management activities has resulted in piling up of huge volumes of untreated waste posing a big threat to the environment. As per Swachh Bharat Mission rating of clean cities 2017, Rameswaram occupies the lower cardinal order of 262 out of 468 cities in India. Over fishing and contamination of sea water by dumping domestic and industrial waste into the sea, cause pressure on marine resources and affect bio-diversity.

Green Rameswaram Trust, under the patronage of Vivekananda Kendra has been undertaking several initiatives activities to promote resilience in Rameswaram. Building a social capital through promotion of Green Resilient Groups (GRGs) is one of the key strategies that the Trust is adopting. As on 30 November 2019, we have covered 2,506 members through promoting 156 GRGs. Each GRG consists of 15-20 members, who are the residents of Rameswaram island. The groups meet once in a month and undertake savings and credit activities among the members. Taking learnings from the international experience on green finance, Green Rameswaram Trust plans to implement the following activities.

1. Strengthening the social capital by networking the GRGs into clusters and federation and implementing institutional practices
2. Educating the community on green life style practices using GRGs and their network organisations as a platform
3. Evolving and implementing innovative green finance products among the GRGs
4. Documenting the processes and impact of green finance initiative and disseminating the same wider knowledge and policy advocacy