Governance for Climate Security, Business Innovation, Social Change and National Security

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Preamble

As scientific understanding of climate change deepens, the trend for expected impacts to be more serious, and to happen sooner. Our biologically based economy is vulnerable to the impacts of climate change. The future of our economy, environment and way of life are threatened. It is in our interest that there is a concerted global effort to reduce greenhouse gas emissions. We can practice a large number of everyday measures to reduce greenhouse gas emissions, and we can develop more. In this presentation, texts are drawn from various books, magazines and articles in order to make it comprehensive in all aspects of Facts, Factors, Analysis, Strategies, Implementation and the views, with respect to implementation pertinent to India. The subject is so vast that there is still more that can be contributed.

Analysis

The US Geological Survey estimates that human activities generate more than 130 times the amount of carbon dioxide emitted by volcanoes. Latest studies show that there is 75% chance that the world can hope to escape the danger of global average temperature rising by 2 degrees Celsius above the pre industrial era only if it is able to keep its carbon emission below 190 giga tones over the next 41 years. But unlike the financial budget there is no room for exceeding it. But last year alone world emitted 9 giga tones of carbon at a rate increase of 3% every year.. Human activities that contribute to climate change include in particular the burning of fossil fuels, agriculture and land-use changes like deforestation. To bring climate change to a halt, global greenhouse gas emissions must be reduced significantly. Excess consumption of environmental resource, were it scaled globally, we would require 3½ planets to support this copious misappropriation. What this clearly shows is that conspicuous over-consumption of our environmental resources is not linked to working smarter – there's no connection to be made with doing more, faster, and better, with less. It is simply a misappropriation of resources – a squandering of our shared environment without any purpose other than 'waste for the sake of waste'. And this waste is costing not only our precious planet, but also billions and billions in cost for the organizations involved. This cannot continue.

Governance for Climate Security

Environmental Management-Strategies for Combating Climate Change. (CLC)

To avoid or mitigate the catastrophe, overall Better Governance for Climate Security has to be put in place and the Business and Industry have to innovate fresh avenues for activities with less damage to the natural resources and the planet, the Govts, Business and the Community Groups should ensure Human Security and bring about a Social Change by Social Innovation creating a new order the Innovative Society which cares for the planet ensuring the Human Security and the National Security. Combating Climate change should be practiced in life and spirit. The governmental responsibilities are more and every man should realize his part and do his best to avert the crisis.

Climate Security- Analysis to Action.

How can we adapt to these changes? Is it possible to limit the extent of climate change and its impacts through mitigation efforts?

Adaptation

Changes in consumption habits can help address climate change. Humans need to adapt to the impacts of climate change, for instance through technological solutions such as coastal defenses and changes in consumption habits. Further adaptation efforts will be necessary during coming decades. However, adaptation alone is not expected to be able to cope will all projected effects since the options diminish and the costs increase with rising temperatures. Mitigation measures that aim to reduce greenhouse gases emissions can help avoid, reduce or delay impacts, and should be implemented in order to ensure that adaptation capacity is not exceeded.

Business Innovation- CLC and Business World

Arguments over cause of global warming – whether it is man-made or it is part of a natural cycle – are not expected to die down soon, but the unavoidable fact is that the world is witnessing drastic changes in the climatic patterns. Businesses and Industry are arguably perceived by the society to be the worst contributors of greenhouse gases emissions. Society, through various options available to it, is pressurizing businesses to align their practices with environmental goals. In such a scenario, a major challenge confronting businesses all over the world, and in developing countries in particular, is being able to reconcile economic imperatives

with environmental sustainability. How businesses shape up to meet the challenges posed by attendant physio-socio-economic consequences is going to be crucial.

On one hand, market forces are forcing companies to adopt sound environmental business practices. 'Green consumerism' is picking up.

On the other hand, with the implementation of Kyoto Protocol, emission reduction targets of Greenhouse Gases (GHGs) – the main cause of global warming - are now becoming a reality, with the focus for action turning to the private sector. Business and industry have a crucial role to play in the implementation of Kyoto Protocol and various Emissions Trading Schemes. Businesses, by adopting green technologies and processes, can meet their all three bottom lines: Environmental, Social, and Economic. Such businesses not only lead to sustainable development in the society but ensure their own sustainability too.

Businesses in the developing countries like India can gain competitive as well as economic benefits through Clean Development Mechanism (CDM) projects. India offers vast potential for CDM projects. As per one source, the country can generate 248 million tones of carbon dioxide equivalent or Certified Emission Reduction (CER) units per year, including 78 million tones from land-use and plantation projects.

Businesses must rethink the way they work – quite simply, businesses must work smarter. Key to working smarter and reducing the environmental impact of business is workplace effectiveness – understanding the holistic interaction of people, space, and infrastructure.

As part of Implementation Strategies by Business/Industry the slogan PROACTIVATE, starting with the base Natural Capital and ends with the National Security, is final. Thanks to Dr.Madav Mehra.

CLC and Common Man –The Worst Hit

Post economic reforms, the gross development product (GNP) improved from an average, making India one of the ten fastest growing developing countries, where the dismantling of the industrial licensing system, free investments by foreign Companies, lowering of import tariffs on capital goods all contributed. Encouraging progress was also made in other sectors. The percentage of the population in poverty continued to decline. Literacy increased .Software services, entertainment and information technology-enabled services emerged as new sources of strength, creating confidence about India's potential to be competitive in the world economy.

However, the picture is not all rosy and is clouded by other features which give cause for concern. The economy is currently in a decelerating phase and urgent steps are needed to arrest the deceleration and restore momentum. More than half of the children between 1-5 years in rural areas are under-nourished, with girl children suffering even more severe malnutrition. The infant mortality rate has stagnated, as many as 60 per cent of rural households and 20 per cent urban households do not have power connection. Only 60 per cent of urban households have water taps within their homes, and far fewer have latrines inside the house.

Environmental Costs

The development has come at a price. Rapid population growth coupled with rapid Industrialization has caused severe environmental degradation and pollution with local, National, regional and global impacts. Deterioration in urban environment, increase in slum population, and air, river, and water pollution has vastly affected the quality of life of the urban poor. The air quality of major cities indicate that ambient levels of nitrous oxides, sulphur dioxide, lead and suspended particulate matter is often higher than the Standards fixed by World Health Organization and also the Indian standards. Other harmful substances in like ozone are not even monitored. Land and forest degradation in the rural areas and overexploitation of ground water is seriously threatening sustainability of food production.

Environmental Degradation, Poverty and Economic Development.

It has been accepted now that it is not always the poor who are the greatest polluters responsible for a degraded environment. Urbanization and industrialization and unsustainable use of natural resources have all contributed to serious environmental problems. Population growth and economic change (which often bypasses the poor, or reduces their access to natural resources) were also seen to contribute to this process. It is therefore believed that poverty needs to be eradicated in developing countries before they can turn their attention to environmental protection.

Environmental conservation must go hand in hand with economic development because any economic development which destroys the environment will create more poverty, unemployment and diseases and thus cannot be called even economic development. It may just be the transfer of resources from the poor to the rich. Environmentally destructive economic development will impoverish the poor even further and destroy their livelihood resource base. Therefore the environmental concern in the developing world must go 'beyond pretty trees and tigers' and must link it with peoples' lives and well being.

While rural populations suffer from an increasingly degrading natural resource base, in urban areas, populations face environmental challenges of a different kind. Increasing pressures on urban environments is taking its toll on the quality of life of urban population. Although economic deprivation may be less acute in urban areas than in the rural, the deleterious effects of non-economic factors may indeed be more pervasive. Urban population growth is much higher than the rate of population growth, and already about 29 per cent of India's population lives in urban areas, frequently in deplorable conditions.

Social Innovation - Social Change - Innovative Society.
People have to live their Lives beyond mere Existence.

Environmental Entitlements: Dynamics and Institutions in Community-Based Environmental/Natural Resource Management.

We have to make the society conscious of the environment and the GHGE, utilization of natural resources, environmental protecton and conservation. We have to educate them, train them and inculcate in them the sense of Environmental Security, Human Security and bring about a Social Change resulting in Innovative Society which takes care of itself, the National Security and the Planet. This means and includes that every individual acts in a better way to save the planet matching his own economic imperatives with the Environmental Sustainability.

While community-based natural resource management (CBNRM) now attracts widespread international attention and its practical implementation frequently falls short of expectations. Focusing on the implications of intercommunity dynamics and ecological heterogeneity are essential. It should build a conceptual framework highlighting the central role of institutions — regularized patterns of behavior between individuals and groups in society — in mediating environment-society relationships. Grounded in an extended form of entitlements analysis, it should explore how differently positioned social actors command environmental goods and services that are instrumental to their well-being. Further insights are essential from analysis of social difference; “new”, dynamic ecology; new institutional economics; structuration theory, and landscape history.

Human Security linked to the environment

Human security and better quality of life depends on several factors, all of them linked to the environment. These include:

Water security for consumption and livelihood purposes
Food and nutrition security
Health security
Livelihood security
Ecological security
Social security

These linkages make the issue of environmental protection all the more serious in India. The environmental problems facing India are different from those facing the affluent countries and are more immediate. Air and water pollution, soil degradation, deforestation, desertification, shrinking wetlands, inadequate public health and sanitation, indoor pollution in rural areas, growing water scarcity, falling groundwater tables, the lack of minimum flow in rivers, and over extraction of water for irrigation purposes are some of the environmental problems that need to be addressed first before any poverty alleviation programme can meet with success or human security achieved. Thus environmental management and economic development are mutually supportive aspects of the same agenda, indeed two sides of the same coin. A poor environment undermines development, while inadequate development results in lack of resources for environmental protection.

National Security

Environmental problems are becoming serious in India because of the interacting effects of increasing population density, industrialization and urbanization, and poor environmental management practices. Unless stringent regulatory measures are taken, environmental systems will be irreversibly degraded. Lack of political commitment, lack of a comprehensive environmental policy, poor environmental awareness, and functional fragmentation of the public administration system, poor mass media concern, and prevalence of poverty are some of the major factors responsible for increasing the severity of the problems. Environmental problems in India are highly complex, and management procedures have to be developed to achieve coordination between various functional departments and for this, political leaders have to be convinced of the need to initiate environmental protection measures. (B. Bowonder)

Unless these problems are solved National Security the resultant of Environmental Security will be difficult. A deep analysis goes to show that Environmental Terrorism is running riot in India, unabated. The Central and the respective State Govts should think more on this subject. The functioning of the Govts, their arms and the departments should inculcate and practice a better environmental culture in their governance pattern. Regulatory and enforcing mechanisms should be fool proof. What the arms of Governments, the several tiers of Govts, were doing these years? At lower levels/tiers, the Governments may not know the basics of the subject at all. In top levels/layers, they know too much, and that, they cannot do any thing bypassing the political interests/stakes. In the middle level/tier they are corrupt and powerless. All the welfare schemes do not fully reach the grassroots. How Environmental conservation/protection will reach the grassroots levels of the society? Our attempts to bring about a change will not be known or understood at the lower levels/strata of the society.

Unfortunately the political culture in India is not good for any environmental sustainability or the sustainable development. The mushroom growth of regional parties with narrow out look and perspective do not go well with the National interests and security. As a result people are kept a begging waiting for favours, grants and Inams from the Govt.without doing any work. People are also made corrupt. The politicians must have the basic knowledge of the subject and should practice to some extent the clean politics in the interests of the Nation. In developing areas the lakes, ponds and other water spots are converted in to housing plots by the politicians, besides their un lawful protection for environmental degradation.

Above all the people have become selfish, self centered and corrupt. The society is competing with politicians in getting things done and enriching themselves with out any big effort. They do not care for the environment. Even the city dwelling educated lot is indifferent to the environment and act in such a way to create a hazard. People enjoy independence too much and unlimited freedom in such a way that they usurp the rights and freedom of his co men. How are we going to educate the educated lot? The problem starts right from the house hold garbage disposal right from a small town to metropolis.

Every individual has to contribute towards this cause which ultimately will result in National Security. Every individual has to refine himself and refine his co men the society. Governance for environmental security has to usher in total change in every aspect in order we achieve National Security.

Strategy and Action Plan – Giving People A Voice In Their Destiny.

The basic objective is to bring about all round enhancement of human well being by eradicating poverty through adopting well conceived development strategies in which environmental concerns are posited as the vital aspects. Environmental management and economic development are mutually supportive aspects of the same agenda. A poor environment undermines development, while inadequate development results in a lack of resources for environmental protection. Environmentally destructive economic development will impoverish the poor even further and destroy their livelihood resource base. Environmental concern must be linked to people's lives and well being, impacts as these do

Air pollution, soil degradation, deforestation, desertification, shrinking wetlands.
Inadequate public health and sanitation, indoor pollution in rural areas, growing water scarcity, falling ground water tables, the lack of minimum flow in the rivers and over extraction of water for irrigation purposes are some of the environmental problems that need to be addressed first before any poverty alleviation programme can meet with success.

Concentration, Monitoring and Controlling Climate Change - Core Areas.

Climate Change and Global Warming and the Oceans
Space-Based Observations of the Coupled Ocean-Atmosphere System
El Niño and the North Atlantic Oscillation
Non-linear Surface and Bulk Waves of the Oceans
Measurements of the Air/Sea Fluxes and Global Climate

Sustainable Environment, Health and Development
Environmental Economics
International Trade and Sustainable Development
Coastal Zone Management
Environmental Assessment and Development
Air Pollution and Water Pollution
Heavy Metal Pollution & Long-term Health Impacts
Pollution of Pesticides and Agro-chemicals
Environmental Impacts on Agriculture and Forestry
Fishery and Environmental Pollution
Waste Disposal and Pollution
Waste Management & Landfill Gas
Environmental Conservation and Pollution Control

Remote Sensing and Global Surveillance
Global Earth Observation System of Systems
Remote Sensing and GIS
GIS and Land Use
Space-Based Observations of the Coupled Ocean-Atmosphere System
Monitoring of Climate Change Indicators
Sand Storms
Climate Networks (Ocean, Polar Region, Forests)
El Nino & North Atlantic Oscillations
Treeline Advances

Water Resources Management
Impacts of Climate Change on Water Resources Management
Assessment of Current and Future Vulnerability of Water Resources
Water management and planning
Hydrological modeling
Waste water treatment and management
Groundwater flow problems and remediation
Water quality
Irrigation problems
Water markets and policies
Urban water management
Decision support systems

Pollution control

Carbon & GHG Management
International Technology Transfer
International Emission Trading
Price-induced Technical Change & Technology Diffusion
Carbon Dioxide Sequestration
Domestic Emission Trading
Clean Development Mechanism (CDM)

Extreme Events and Impacts Assessment
El Nino-like Climate Change
Floods & Drought
Heat Waves
Pacific, North Atlantic and Indian Ocean Oscillations
Extra tropical-based Northern and Southern Oscillations
Sea Level Rise
Coastal Regions Emergency Preparedness
Climate Modeling & Downscaling Techniques
Regional Climate Modeling for Impact Assessments
Forecasting the NAO
El Nino-like Climate Change

Greenhouse Gas & Ecosystems
Trace Gas Exchange between Ecosystems and the Atmosphere
Fluxes of Nitrous Oxide and Other Nitrogen Trace Gases from Intensively Managed Landscapes

Human Health in a Changing Climate
Climate Extremes and Circulatory, Respiratory and Infectious Diseases,
Climate Change and Allergies
Climate and Health Database
Biometeorological Adaptation
Pollution and Health
Weather and Climate vs. Morbidity and Mortality
Thermal Environment and Health

Agricultural and Forestry Resources Management
Sustainable Agriculture
Assessment of Current and Future Vulnerability of Food Production and Water Resources
The Future of Food and Agriculture
Soil Carbon Sequestration & Soil Conservation
Agro forestry
Economics of Climate-Forest Policies
Reforestation & Carbon Budget
Wetland Ecology and Management in a Changing Climate

Clean Energy Technology
Renewable Energy Resources
Hydrogen & Fuel Cells
Biomass Production and Conversion
Wind Energy
PV-generated Electricity
Heat Pump
Landfill Gas

Low GHG Transportation
Alternative Fuel Vehicles
The Hydrogen Fuel Infrastructure for Fuel Cell Vehicles
Ethanol fuel
Hybrid Vehicles
Biodiesel

Education: Global Change & Sustainable Development
Climate Change Science & Environmental Education
The Role of the Media
Institutional and Life-long Learning
Sustainable Development and Corporate Learning

Measures and Methodology for Mitigation

The principal objective of environment sector is to integrate the objectives of the policies stressed and to take cognizance of long term developmental perspectives related to industrialization, power generation, transportation, agriculture, irrigation and other economic activities. Some of these goals have been identified as indicated below.

A. Industrial pollution control
Large, medium and SSI polluting industrial units-beyond satisfying statutes.

B. Water pollution control
The rivers, streams, lakes, ponds and large stretches of the coastal marine environment in India which are highly polluted with municipal waste, waste generated from industry, chemical agents from fertilizers, pesticides from crop protection, and silt from degraded catchments should be cleared. Over extraction of groundwater and areas of groundwater pollution will have to be identified and regulated/ checked.

C. Air pollution control
Ambient levels of nitrous oxides, sulphur dioxide, lead and suspended particulate matter are often higher than WHO and the Indian standards and the harmful substances in ozone should be checked/monitored and brought under control.

D. Strengthening of central and state pollution controls Boards in capacity and integrity

E. Environmental impact of human health
Assess the impacts of various pollutants on human health and measures taken to control/eliminate them. Phasing out of highly polluting obsolete technologies is envisaged.

F. Hazardous substance management
Comprehensive national chemical profiles, Emergency response centers in all industrial pockets with a large number of accident hazards units as also inventorisation of isolated storage of hazardous chemicals, are necessary.

G. Soil contamination and environmental degradation
Contaminated sites should be identified and soil remediation plans should be implemented. For reclamation of degraded areas a separate programme is envisaged.

H. Environmental impact assessment (EIA)
Capacity building will have to be undertaken for decentralized EIA of projects and monitoring of compliance of clearance conditions.

I. Ecological survey, conservation and ecogeneration
Ongoing programmes should be strengthened and biodiversity for ecological security to be conserved.

J. Creation of Awareness, education, on the job training and research -vital
Schools and colleges are open to be covered for participation in environmental programmes.

K. Environmental law and policy
Revamping of environmental laws for ensuring their effective implementation, training of judicial officers in environmental laws and strengthening of enforcement mechanism.

L. Forestry
Existing policy, laws, rules, regulations and executive orders should be reviewed for removing constraints in holistic development of forestry with people's participation. Wild life conservation has to be given the due care.

Combating Indian Climate

Apart from the contestations under the heading National Security, the following points have to be taken for consideration.

The government, concerned about economic development and raising the standard of living of its people, has actively supported the development of the small enterprise sector. However, small enterprises tended to be the worst polluters and, as the findings indicated, gave the least attention to environmental issues as part of their operations.

Major problems have to be analyzed in the implementation of Indian environmental policy, with particular attention to policy design, policy analysis, and setting of standards. Political problems are identified that under lie difficulties in policy formulation and implementation, and strategies to improve implementation have to be proposed. We have to work for a Total Change. Now is the time for all businesses and governmental organizations to enhance the effectiveness of their workplaces – for the sake of our planet

Implementation

Despite a strong legal framework and various ministries at the center, departments and boards at the state level; and local agencies involved in environmental management, implementation remains weak. Institutional capacity building to strengthen monitoring,

enforcement, and compliance with existing laws can have a high payoff; and the government alone cannot become responsible for environmental management, stronger efforts have to be made to involve the large nongovernmental organizations in community programs ranging from biodiversity conservation to alternative energy projects. The cooperation will require transparent policies and practices such as early involvement in the environmental impact assessment process, access to information, and actions to increase involvement through public participatory processes. No one sector or technology can address the entire mitigation challenge. All sectors including buildings, industry, energy production, agriculture, transport, forestry, and waste management could contribute to the overall mitigation efforts, for instance through greater energy efficiency. Many technologies and processes which emit less greenhouse gases are already commercially available. Above all each citizen should feel his responsibility of environmental conservation, its protection, National Security and safety of the planet.

Comprehensive Regional Plans and their implementation

Integration of economic and environmental plans for various regions have to be attempted systematically and unless comprehensive steps are taken up some of the capital assets (such as forests, fresh water, soils, etc.) are likely to be irretrievably damaged. (Dr B.Bowonder).
Making even the smallest strides in addressing these factors can make a huge environmental difference. However, the factors cannot be addressed in isolation as the reality is that, none of these factors exist in isolation. Each factor – people, space, and infrastructure – is entirely interdependent of the other and each drives the demand for the other.

Planning and implementation, both, have to be region based, to be effective and successful. Factors differ area wise, location wise. Measures required will differ from place to place depending on the maximum damage by a particular factor. At the same time a comprehensive plan capable of taking care of all the measures analyzed has to be chalked out for each region or area. Effecting pollution control measures and leaving waste management un attended in a particular area, where even more than these measures are required, will be meaning less and spoil the efforts initiated already. The region can be a district, metropli or taluk, or a cluster of villages, depending on the intensity of the problem. Region based plans will be easy to implant and apex groups to control and monitor the activities can also be organized.

In Top Priority by Government:

A wide variety of policy tools can be applied by governments to create incentives for mitigation action, such as regulation, taxation, tradable permit schemes, subsidies, and voluntary agreements. Past experience shows that there are advantages and drawbacks for any given policy instrument. It is important to consider the environmental impacts of policies and instruments, their cost effectiveness, institutional feasibility and how costs and benefits are distributed.

Switching to more sustainable development paths can make a major contribution to climate change mitigation. Policies that contribute to both climate change mitigation and sustainable development include those related to energy efficiency, renewable energies, and conservation of natural habitats. In general, sustainable development can increase the capacity for adaptation and mitigation, and reduce vulnerability to the impacts of climate change.

- Necessary enactments, Sanction of more funds for Environmental Conservation Schemes.
- Increase effectiveness and improve the integrity of the authorities and Pollution Control Boards.
- Effect stringent measures to all Public Sectors to follow the measures of pollution Control, effluent and waste water treatment and better waste management.
- Direct all public sector companies to practice better CSR and care for Environment In the surrounding areas of the company location.
- Improve the integrity of the executive authority and also in public sector.
- Ban all old diesel vehicles and trucks with engine conditions bad and are old
- Instruct district authorities to cooperate with local community and groups for Implementing best environmental conservation measures with special focus.

The Industry is expected to:

- Control Pollution of all kinds effectively with their respective activities/functions by appropriate measures. Waste Management should be good. Avoid dumping the debris, rejects and wastes on road sides and public places.
- Create green cover in their premises and surroundings
- Check emission with their own vehicles and minimize their use.
- Totally severe business with truck operators whose vehicles are not checked for emissions. Though a clearance certificate is produced a through check on the part of the company is required.
- Make Environmental Management efficient and take it to the life and spirit, CSR more realistic than considering it as philanthropy during pleasure to appease the community and the local population for the time being, to solve local issues.
- Join the local community and community based organizations either as leader or an active participant including Finance and Contributions, in environmental conservation activities in the area or locality. Use the expertise to train people, educate them and create awareness.
- Represent to the Governments, Boards, Local bodies and authorities about the measures to be taken to ensure better environment in the locality

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NGOs

Non Governmental organizations are expected to supplement the services of the Government in all welfare schemes. They should be in a position to act independently in the matter of Environmental conservation activities. They can effectively implement the programme slated as follows.

- Organize village level groups to create awareness and training programmes.
- Act as a bridge between the Government and the People for redressel of the problems of the local community.
- Effectively make the industries in the area care for environmental issues and make them do every thing to fall within norms.
- Interact with village folk, farmers and laborers for environmental friendly farming practices.
- Act with local bodies to keep villages, towns & Metropolis clean and enforce better waste management.
- Choose any of the project that deems fit for the locality and implement the same on own accord or joining the community, industry, authority in the area.
- Effectively make the Government machinery work better in this regard.
- Propagate the use of bio degradable substances and for not using polythene carry bags in shops.

By Community-Vital Role

The common man is the most affected in these deteriorating environmental conditions. The responsibility of the community is the most vital in this regard. It is a pity that the politicians, burocrats, Industrialists and the Executives forget for a moment that they hail from the same society and that they are integral parts of the society. No development can take place at the cost of social welfare and well being. The development in itself is only for the welfare of the society.

The community can take up the Environmental issues directly.

- The local community can very well assess the damage caused by the industry or from any sector in their area or locality and ask for setting right the malady.
- They can form themselves in to groups to fight the cause of environmental issues.
- They have to be aware of the issues, malady and acquire basic knowledge regarding environmental issues.
- They can organize organic farming, agro forestry, green cover creation and other agro based environmental improvement projects themselves.
- They can represent the relevant matters to concerned authorities.
- They acquire great power if the entire population of the village or locality joins together towards the common cause.
- Some of them can get the basic training and they can train others in the same village or the neighboring villages. They can create awareness in maximum speed with which no other mechanism will match.
- Since the society takes up the matter, it is easily possible to create awareness and administer actions rather than an external force doing it.
- Tutoring a few in a village/town is important and they will pursue the efforts with the rest of the community.

Joint Effort/ Action Groups and Modules

A joint effort of individuals, NGOs, Self Help Groups, industries in that area and the local community possibly with local bodies and government authorities may be a good idea. The approach will be more societal and more result oriented. Tackling problems will be easier and the results will be faster.

Problems Anticipated in Implementation - Stringent measures

The companies/industry may not cooperate fully or effect measures for name sake, which will not produce any result. Attempts are likely to deter the actions and will be more so with the companies owned by politicians.

Cooperation of authorities, local bodies are to be managed only with difficulty.

Local population, the action groups and the authorities concerned will have poor understanding of the subject.

Views on Experience

Only aggressive actions are required. Administering sermons will miss the ears of majority Sensationalizing the issues is the only option.

Highly polluting Public sector companies are first in the category of being anti socials, under Govt. sheltering.

For implementation of the strategy Scalar system may not work. The grass roots of the society, affected most may be tutored successfully to gain momentum as a movement.

How many of us are ready? For this cause, Dr.V.Aravind is down to streets for this cause. Some efforts towards this holistic solution are mentioned in this paper/presentation.

Actions Taken

Efforts of Dr.V.Aravind and his Organization towards the cause of Environmental Security- Business Innovation-Social Change-Sustainable Development and National Security.

Dr.V.Aravind has taken major steps towards the cause on several factors on the captioned subject. Summary of all the activities and initiatives taken with relevant exhibits are not given in this presentation due to constraints in space/pages. The evaluators/readers are requested to kindly visit the website www.aravindfoundation.org for the narrations of the major steps taken, projects slated and the representations made with photographs and scanned versions of the press clippings. (In English, Tamil and or both).Dr.V.Aravind is in to public life for the past 30 years and is also in to politics. Service is a routine rather than an occasion and value based politics is his home ground. Contested the elections for the State Assembly with a manifesto for his constituency and with a specific agenda with details of what will be done for the constituency. The manifesto contained major projects for Environmental conservation and sustainable development. Reference- www.aravindv.com. - Electioneering.

1) Natural Gas as Cleaner Kiln Fuel, Controlling Deforestation
An effort to make the ceramic oil fired kilns to work on Natural Gas, to make 200 ceramic units and 200 highly polluting huge down draft kilns using fire wood to the tune of 2000 to 5000 Mts per month at Vriddhachalam stop using fire wood as fuel, effort to stop deforestation in the locality-controlling pollution-working for a sustainable development through innovation.
Exhibits- Please visit www.aravindfoundation.org –Representations-Photos-In Media/Press.

2) Water Resource Management, Waste Water Recycling- The Neyveli Lignite Corporation Limited (N.L.C) Canal Irrigation Project, Cuddalore District, Tamil Nadu, India. This is a project for recycling and redistribution of water that is wasted due to pumping of water during mining operations of the Neyveli Lignite Corporation Limited (N.L.C).The underground water table in the area has suffered and going down; further deeper every day on account of the pumping of water out of the open cut mines of NLC by giant water pumps. Water would flow 14 kilo meters to join major lakes and river, after running through 165 villages irrigating 26,000 hectares of cultivable land and benefiting 2.5 lakhs of people, besides improving the water table.
Exhibits- Please visit www.aravindfoundation.org –Projects-Representations-Photos-InMedia/Press.

3) Comprehensive Drinking water project for Katiyanallur Village, Cuddalore District, Tamil Nadu, India.
The project involves distribution of drinking water by pipe line from an external source for 7 villages (Potable water not available for 70 years) in Vriddhachalam Taluq, Cuddalore District of Tamil Nadu and at least 10000 people will be benefited.
Exhibits- Please visit www.aravindfoundation.org –Projects-Representations-Photos-InMedia/Press.

4) Pollution Control-Severe Emission-Creating wide spread awareness.
Represented to the Chief Minister on Highly polluting Govt of Tamil Nadu Company, within the thickly populated Municipal limits of Vriddhachalam,Cuddalore District of Tamil Nadu, made to install pollution control devices with the cooperation of people.Dr.V.Aravind had to do this braving the opposition from other ceramic units.Dr.V.Aravind owns an emission free ceramic unit.
Exhibits- Please visit www.aravindfoundation.org –Representations-Photos-Media/Press.

5) Some of the other efforts towards Rural Employment, Restarting of once closed factory of the Govt, Benefit for the contract laborers of Neyveli Lignite Corporation Ltd, Roads in rural areas, Improvements for the town and adjoining villages, creating awareness about the Govt Schemes-publications/speeches are done as a matter of routine. In the very recent speech and a publication "**Economic Melt Down - The Gangrene**" in the National Convention of the Investor Cell of BJP, Dr.V.Aravind called for an Eco- Political agenda for the elections and general better governance. He has stressed the need for alternate energy-renewable energy development mechanisms which include interlinking of rivers and tidal, ocean and geo energy development projects for sustainable development.
Exhibits- www.aravindfoundation.org / www.aravindv.com

Conclusion

Without new mitigation policies, global greenhouse gas emissions will continue to grow over the coming decades and beyond. Rapid world-wide investments and deployment of mitigation technologies, as well as research into new energy sources will be necessary to achieve a stabilization of the concentration of greenhouse gases in the atmosphere. Every citizen worth the salt to his Nation and fellow men has to put forth his best efforts towards this holistic cause Environmental Conservation, Security and the National Security, individually and collectively. With the Government's support- Without the Government's support - Inspite of the Government's support