

**Editorial**

## **India's Climate Change Options and Pledge to Combat IT: Rebooting India**

**Bina Rani<sup>1</sup>, Ankita Garg<sup>2</sup>, Upma Singh<sup>3</sup> and Raaz Maheshwari<sup>4</sup>**

<sup>1</sup>Department of Engineering Chemistry & Environmental Engineering, PCE, Sitapura, Jaipur, Rajasthan

<sup>2</sup>Departments of Chemistry, FASC (MITS) Lakshman Garh, Sikar, Rajasthan  
Rajasthan

<sup>3</sup>School of Vocational Studies & Applied Sciences, GBU, Greater Noida, UP

<sup>4</sup>Department of Chemistry, SBRMGC, Nagaur, Rajasthan

The greatest problem facing India is global warming. War, internal subversion and a global economic melting down are all very serious threats, but they can be stopped or contained. Global warning, on the other hand, seems unstoppable and uncontainable. The outcome of the Durban summit on climate change suggests it is already too late to prevent the 2°C temperature increase that researchers say is the maximum tolerable. Indians have scarcely understood the magnitude of the problem. With global warming, sea levels will rise, submerging habitations, small and big. Fertile areas will become deserts. Rivers and underground water will dry up. Rainfall patterns will change and glaciers will melt, at first causing floods, later causing river to die. The rising heat and lack of water will cause an agricultural catastrophe.

People will be displaced in search of safety, cooler climes, water, better soil, food and security from others. Social amenities will deteriorate, disease will spread, frictions will bubble to the surface and our political order could collapse altogether. Since the problem of the global warming will be as acute if not worse in Bangladesh and Pakistan, our crisis even greater than we think. Desperate people will across the border into India in search of sanctuary. What then, are options before us?

One option is to insist that the solution lies with the western countries. This is a drum we have beaten since 1972 but is increasingly futile. Apart from the fact that western governments don't have the courage to make tough decisions now and for the foreseeable future, there are two reasons why it's futile to beat this drum so loudly. First, the West inhabit cool, temperate zones with a good supply of water. It's therefore the least affected by global warming. Second, the west is richer and technologically more advanced and will adapt to climate change best. If push comes to shove, westerners will dig in their heels. Confrontation has its limit therefore.

A second solution is for governments and markets to encourage the rich everywhere, including India, to change their greedy ways. The prices of goods, services and energy might be made so high that consumer will be forced to live more frugally. This, of course, is the ideal solution. Unfortunately, governments don't have the will to intervene ambitiously against consumers, particularly in bad economic times – and market mechanisms seem helpless in the face of huge inequalities. The rich, who consume so massively, will remain largely unaffected by price tempering.

A third possibility is that a new form of clean energy – which is cheap, plentiful and usable for everything from industrial to household use – will save us. The other technological trick that might save us is 'geoengineering'; i.e, fiddling with the planetary biosphere to cause carbon to degrade and temperatures to moderate. Wonderful stuff, except that no such hydrocarbon substitute is anywhere insight, and geo-engineering researchers is so young a science that it may well be too late, if it's not lat, if it's not too dangerous, to unleash on the problem.

Fourth, we may finally cooperate internationally to dramatically reduce planetary emissions in the wake of an environmental cataclysm. History suggests that this solution is by no means assured, civilizations have encountered catastrophe events and futures, failed to change quickly enough, and disappeared. Finally, there is adaptation. This is the view that emission reduction are now too little too late, and the only recourse is to create material and social systems that will lessen the pain – hardly an ideal solution but increasingly the only credible one. The risk here is that many will face

great hardship. Many more though, will be saved. Perhaps by buying time through adaptation, we may come closer to a political and technological solution that will stop and reverse global warming. Adaptation policies also risk the 'moral hazard' problem: those who consume disproportionately may well conclude that if adaptation is the future, there is no need for them to change their habits. Our government doesn't utter the word adaptation for fear that it will weaken India's bargaining position. Yet, to neglect adaptation is folly. India must hope and work for the best but prepare for the worst.

## **DANGER AHEAD**

### **Government report highlights climate change threat**

The Indian government's report on the impact of global warming across the country – soon to be submitted to the UN – predicts as much as a 4°C rise in maximum temperatures in some parts of Kutch and Rajasthan by the next decade. This raises the question of what the government intends to do to mitigate climate change. Projections show that global warming will lead to floods in the shorter term and water scarcity in the longer term. Monsoons, in particular, are likely to decrease in length. That latter development in particular could be disastrous given that about 50% of the country's agricultural sector still depends on the monsoon. It highlights the need to focus on an area where India already lags severely – water management. One of the major issues here is the imbalance in irrigation patterns and techniques caused by populist subsidies. These have resulted in overpumping of water and falling groundwater levels. At the other end of the spectrum, irrigation infrastructure is inadequate and becoming more so by the year. Squeezed between these two problems the agricultural sector – already plagued by low yields and poor storage and transport facilities – could be in for increasingly rough times. And in a country where 70% of the population still depends on this sector for its livelihood – and this could be disastrous. Rationalization of water use through subsidy reduction and instituting water charges, building better irrigation infrastructure, setting up more treatment plants for recycling wastewater, desalination plants, recharging groundwater levels – these are all absolutely essential. The government report points the way to a troubling future. Now it must work to prevent it.

### **INDIA TO PUMP IN RS2 LAKH CRORE IN 12<sup>TH</sup> PLAN TO SAVE CLIMATE**

The fight against climate change will take a strategic jump in the 12<sup>th</sup> Five-Year Plan (2012-2017) with the government intending to plough in almost Rs 2 lakh crore through the various missions, the working group on climate of the 12<sup>th</sup> Five-Year Plan has stated. The report seeks setting up of a dedicated structure of governance to oversee the different programmes under the 12<sup>th</sup> Plan with such large funds to be invested. The agriculture mission under the National Action Plan on Climate Change (NAPCC) alone is to spend upwards of Rs 1 lakh crore over five years to make the primary sector more resilient to inevitable changes in climate change. The report pointed out that the government already spends 2.8% of its GDP on programmes that bring adaptation benefits to people, but the expert group, which wrote the report, has warned that government should not make any further commitments on reducing greenhouse gas emissions without holding the widest possible consultations with ministries concerned and other stakeholders. It has asked for an inter-ministerial group to be set up to draw up strategy as the issue envelops large investment as well as strategic concerns.

The government had earlier committed internationally to reduce energy intensity of the country's economy by 20-25% below 2005 levels by 2020, which the panel noted would entail huge costs for the country. The report stated the total funding requirements could add up to several billion dollars and unless funds were provided by the international community, these actions were likely to have adverse impact on the country's growth and poverty eradication measures because of demands of expenditure on health, education, livelihood, security and diversion of resources from core issues to climate change. But the existing commitments made under the NAPCC, such as the Solar Mission and the Green India Mission, already need substantial funding over the 12<sup>th</sup> Plan. The Green India Mission will require Rs 46,000 crore in the 12<sup>th</sup> and 13<sup>th</sup> Plans. The National Mission for Himalayas requires Rs 1,500 crore and the National Water Mission requires Rs 8,900 crore by the end of the 12<sup>th</sup> Plan. The report has recommended that a separate national authority be set up for implementing the mitigation actions that would implement the domestic and international commitments made to reduce emissions and find adequate funds through all routes. The report of

the group, submitted at the end of 2011, has been with the Planning Commission for long with the environment ministry – the nodal agency for climate change within the government – also in the dark about the final version of recommendations that the plan panel is preparing.

### **PLEDGE TO UNDERTAKE INITIATIVES OF CONSCIENTIOUS VIEWS TO SUSTAIN IN PERSONAL LIVES TO COMBAT CLIMATE CHANGE**

A global picture of discrimination and divisive politics we find very common even within a country. We don't have to rack our brains to find a suitable example. It's the time man undid the damage done to the surroundings. Both the developed and developing nations should come together to protect the environment. Instead of questioning each other's duties, they should collectively strive for a solution and step up their efforts to save the environment. In fact every country should do its bit likewise we, in India, should cooperate with the government on its policies and also help formulate new ones to protect the environment. Closing the tap properly and switching off appliances when not in use are some of the basic measures that require almost no effort on one's part but still can make a huge difference.

❖ Unarguably, the continuous and geometric rise of the global population has quelled the world's energy demand to unimaginable proportions. If we examine this phenomenon in the context of 'correlating statistics' it means that the global energy demand has tripled within the past 50 years while the world population has increased two-fold. This portends to an alarming problem in the not-too-distant future. For, a time will come when fossil fuels will be depleted forcing human beings to find alternative sources for operating electrical and electronic equipments. At a parallel vein climate change is becoming an even greater threat to the biosphere. The answer to these looming hazards is sustainability, which is an attempt to provide the best outcomes for human and natural environments for both now and the indefinite future. It relates to the connection within economic, societal, institutional and environmental aspects of human society, as well as the non-human environment. In its essence, sustainability is intended to be a means of balancing civilization and human activity so that society, its members and economies are able to meet their needs and express their greatest potential today, while preserving biodiversity and natural ecosystems for years to come.

❖ An irony of modern life is that there is an inherent interplay of positive and negative aspects as far as economic and technological developments are concerned. While countries strive to increase their GDP and living and living standards of people, we witness less of sustainable development. There is hence, a dire need to develop a framework wherein our quest for progress and modernity doesn't interfere with our vision for a sustainable world. Adopting eco-friendly techniques of production is one such example. Using more and more of biotic fertilisers and manure in place chemical fertilisers can make a pivotal beginning. We should also use less of plastic and more of public transport. Efficient use less of fuels and electricity can also go a long way in creating a sustainable environment.

❖ At a time when the importance of the global community efforts are being over-emphasized, it's firmly believed that efforts at the micro-level need to be intensified. Educational institutions, corporate houses, resident welfare associations and individuals can all embark on environmentally-conscious initiatives in their own capacity and make a valuable difference. What is perhaps best about micro undertakings is that the investments entailed are much lesser as compared to macro undertakings. The initiative can be as simple as a mere lifestyle modification or adoption of a certain technique, which is geared towards energy conservation. For instance, shutting down the computer, instead of using the sleep mode can save up to 15KW hours in a week. Travelling by public transport instead of private cars translates to capacity utilization and can considerably minimize pollution. One can understand the effectiveness of local efforts by simple envisioning the amount of paper that can be saved if each one of us starts accepting online bills. It's firmly believed that we don't need constitutional amendments to adopt energy saving practices and habits. It's reiterated that if proactive local efforts are replicated throughout the country and across the world, a lot can be achieved in terms of fighting the global menace of climate change.

❖ Sustainable development fundamentally implies that we meet the needs of the present generation without compromising on the needs of the future. Unfortunately our current patterns of consumption are irreversibly damaging eco systems, rapidly depleting natural resources and causing

extinction of species. We should understand that we are in a critical phase of history wherein our actions can usher a decidedly positive or negative future as far as the environment is concerned. This is where the sustainable usage of resources can't be overemphasized. Creating a green market and stressing on cleaner technologies is the need of the hour. Most importantly we have to realize that concern and care for the environment is a fundamental duty of all global citizens. Countries across the globe need to align together as far as environmental issues are apprehensive. We must realize that we are one human family with a shared vision and a common destiny. Mother Earth – the Blue Planet, is our only home and restoring its vitality and resources is a collective mission.

❖ China, very recently, stunned the world by announcing a 40-45% cut in C-emissions by 2020 while linking it to the growth of its own GDP. Following it, our MoEF indicated that India might very soon follow the trend and opt for a 20-25% cut. The fact that China, Indonesia, Brazil, South-Africa and peer group countries have put down voluntary, unilateral, non-legally binding quantitative targets, stand in testimony to the fact that countries across the world now prefer sustainable development over mere economic development, stressing the need to change from old sector centred ways of doing business to new approaches that involve cross sectoral co-ordination and integration of environmental and social concerns into all development processes. It involves simultaneous pursuit of economic prosperity, environmental quality and social equity. It emphasizes that goal is as important as means of getting it. A sustainable world envisions a picture of a world where all countries strive for and achieve sustainable development. There have been several developments in this context at an international scale. It's ironical that while developed countries disturb the environment the most, they urge less developed nations to be prudent in their energy use. This attitude has to change and there has to be a uniform onus on all nations. Moreover, sustainable development can't be achieved till all countries across the globe realize that sustainable development is not an option but a pressing compulsion, consequently, we all need to join hands and bridge geographic, cultural and economic boundaries while marching towards a sustainable world.