

## **Light our way out: Green patch**

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The realisation is now dawning across the globe that development which the world has pursued in the past is not sustainable. This derives from the growing evidence of damage to various ecosystems, but also most glaringly from mounting evidence of climate change. The Fourth Assessment Report (AR4) of the Intergovernmental Panel on Climate Change (IPCC) clearly brought out the influence of human activities on the earth's climate and its impacts, resulting from the cumulative emissions of greenhouse gases, the most dominant of which is carbon-dioxide. The rate of these emissions has grown in recent decades with an increase of 70 per cent between 1970 and 2004. Consequently, the world's climate is changing far more rapidly than in previous periods.

Indian society has traditionally lived in harmony with nature, emphasising conservation of natural resources. The Indian way of life has not come into conflict with our ecosystems, except in the second half of the 20th century. The problem has been accentuated by massive pressure on land with a growing population, as well as lifestyles emulating those of the developed world almost to a fault. The result has been an increase in our resource intensity of growth to more or less the same levels as in the developed world. This is particularly true of energy consumption where certain sections of society have emulated the lifestyles and consumption patterns of the developed world. If we continue on the same path we would have serious problems in securing adequate imports of oil for our expanding economy and population. The answer lies in efficient use of energy and innovative solutions by which renewable energy can be used on a large scale.

As it happens, unfortunately, we have been conditioned to adopt solutions used only in developed countries, seldom seeking innovative options suiting our own resource endowment, socio-economic conditions and technological opportunities, all different from those of the developed world. There are, for instance, 400 million people in India today who have no access to electricity among 1.6 billion worldwide. Tragically, it is very unlikely that the current generation among these deprived 1.6 billion would ever receive electricity in their homes. We, therefore, have to find innovative solutions to this problem today.

Against this background, Teri has launched its campaign 'Lighting a Billion Lives', which is based on the use of solar lanterns specially designed and manufactured on a decentralised basis. Typically, this activity is centred around one person in a village, usually a woman, who is able to charge a number of solar lanterns using a solar panel during the day and rents them out to all the villagers at night. The entire village benefits from clean, pollution-free lighting which enhances their incomes and wellbeing.

It is estimated that last year the under-recoveries of kerosene in the country amounted to approximately Rs 30,000 crore. Over 40 per cent of the kerosene sold with this subsidy is diverted for adulteration of other petroleum products. We are, therefore, not only imposing a fiscal burden on the oil sector, but unwittingly promoting adulteration. Solar technology would also eliminate pollution emitted by kerosene lamps.

Innovative thinking is also required in another area likely to become a major problem in the future, with demand for mobile phones increasing dramatically. For servicing these mobile phones, base stations are dotting the skyline all over the country. Each base station typically requires around 4 KW of power. Given the unreliable power supply in many locations, diesel generators have become the preferred source of electricity supply. Consequently, the 250,000 base stations in India, it is estimated, consume 1.8 billion litres of diesel annually. These units are ideally suited for electricity supply using renewable energy sources, such as photovoltaics, biomass gasifiers or even wind energy where windspeeds are suitable. However, such options need to be driven by effective regulation or suitable incentives provided by the government. In the absence of such policies, we are creating a system that increases our dependence on oil imports, with high levels of noise and pollution in these locations.

India has the capacity and intellectual power to devise 'out of the box' solutions for our own benefit with a welcome break from developed world practices, and yet we are heading towards unsustainable outcomes, blindly following the prosperous nations of the north. A sharp departure is called for, and it is hoped the Prime Minister's National Action Plan on Climate Change will provide an impetus for bringing this about.