The looming crisis

The economics of climate change and Pakistan

By Arif Azad

Climate change first rose to world's attention as a major public policy issue in 1988, when James Hensen, a NASA scientist, testified before the US Congress that he and other scientists had found that human beings were contributing to warming up the planet by burning fossil fuels. This finding sparked a flurry of initiatives by governments and the United Nations. Consequently the growing international concern led to the formation of Internal Panel on Climate Change (IPCC), which, in its 1995 report, endorses the finding of Hensen by asserting that the "balance of evidence" suggests that human activity is contributing to the process of global warming.

The report's findings, though measured and conservative in estimates, galvanised Europe and rest of the world into giving a united, coordinated and fitting response to the looming challenge. This heightened concern resulted in the Kyoto Protocol, which committed all world governments to reducing greens house emissions, responsible largely for global warming. The implementation of the Kyoto Protocol, however, was blocked by the refusal of the United States and some other governments to ratify it. Amid this foot-dragging over the Kyoto Protocol, the Stern Review on the Economics of Climate Change, commissioned by the British treasury, was unveiled in 2006.

The Stern Review makes a convincing economic case for urgent action. It says that inaction could cost 5-20 percent of global gross domestic product (GDP). On the other hand, the cost of acting early could be as puny as one percent of global GDP. The report finds that the current level of greenhouse gases in the atmosphere stands at 430 parts per million (ppm) of carbon dioxide (CO2), compared with 280 ppm before the Industrial Revolution in 1832. These ever-increasing concentrations have already caused a temperature rise of half-a-degree centigrade. More ominously, the report calculates, if the current rate of emission continues, the concentration of greenhouse gases could touch 550 ppm by 2050.

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This concentration, almost double the pre-Industrial Revolution level, could cause an increase of two-centigrade in the earth's temperature. In the worst-case scenario, the earth's temperate could rise by as much as five-centigrade. This slight rise in global temperature can melt glaciers, causing changes in water availability and increasing sea level, which in some cases can lead to extreme weather conditions like floods and heat waves. In addition, warm temperature could cause crops yields to fall, leading to the collapse of agricultural and food security systems.

The consequences of climate change are starker for the developing world, which is already resource-starved. As the climate change is global in its impact, Pakistan, like other developing countries, is vulnerable too. In our case, the areas of water, deforestation and renewable energy are of particular concern, though climate change is all encompassing in its impact. The Stern Review recommends, in particular, a strong and vigorous action against the increasing rate of deforestation in the world. In Pakistan, the problem of deforestation is more acute than other countries of the region, let alone the developed countries.

According to Shaheen Rafi Khan, an expert on renewable energy sources working with the Sustainable Development Policy Institute (SDPI), Islamabad, only five per cent of Pakistan's land area is under forest cover. This compares poorly with the global average of 30 per cent and the Asian average of 18 per cent. In addition to an already sparse forestland, Pakistan's rate of forest depletion is also high, with almost 39,000 hectares of forest vanishing annually. This high rate of forest depletion, coupled with climatic changes, adds not only to gas emissions through burning of woods as fuels, but also removes natural deterrents against floods. According to the Stern Review, deforestation contributes 15-20 per cent of gas emissions. The consequences of forest depletion on the livelihood of barely surviving communities and their displacement are equally frightening phenomena.

Pakistan's reserves of fossil fuels are fast depleting in the face of relentlessly increasing energy demands. The rate of electricity consumption is increasing annually at 10 per cent. At the moment Pakistan's fuel consumption needs are being met through dirty fossil fuels, like coal or petrol. In recent years, however, there has been a switch to natural gas, which is a relatively cleaner fossil fuel. Considering the limited availability of the existing fossil fuels, as well as the high demand for energy in the country, the challenge of switching over to clean and renewable sources of energy needs an urgent attention.

The rise in global temperature, when translated into water scarcity in Pakistan, carries serious implications too. Over the years, the per capita availability of water has decreased to such an extent that in 2005 Pakistan became a net water-deficient country. With global warming, and lesser and degraded water availability, crop yields are bound to plummet and unsafe drinking water is set to increase the health care costs. Add to this scenario the decreasing investment in the sectors of water and sanitation, and the picture of an environmental apocalypse becomes quite real!

Though Pakistan's share of global gas emissions is low in both absolute and per capita terms, the exponential increase in atmospheric emissions over the past few years is worrying. Moreover, Pakistan's vulnerability to high levels of global gas emissions, as well as increasing local temperature and rainfall variability, are going to have profound implications for livelihoods, crop patterns, and flood and disaster management systems. The Stern Review, besides getting the corporate sector involved in addressing the issue of climate change, urges the developed countries to share in the task by lending a helping hand to the developing countries. Besides offering market-oriented solutions to the problem of carbon trading between different countries, the Stern Review emphasises the importance of the developed countries living up to the promise of devoting 0.7 per cent of the GDP in aid by 2015.

This timely released tranche of $ 150-200 billion of aid money would go a long way in mitigating the climate change-related extra costs that the developing countries are going to incur. This extra cost is estimated to be $ 80 billion annually. The battle of adapting to the climate change-related changes, therefore, can only be won with imaginative local policy initiatives, backed by proper global financial and technical support systems. As far as climate change is concerned, the local and the global are so indelibly fused that untangling them to the exclusion of each other would spell disaster for the world's environment.

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