

Globalization: Challenges and Opportunities in Shaping a Common Future

By R .K. Pachauri*

The issues I want to highlight related to globalization are essentially those related to several changes that are taking place and several that are not changing. The first applies to the implications of the information revolution. As energy economists we have learned enough, and have researched enough, into issues of energy supply and what contributes to demand, that is, what the factors are that contribute to demand for energy. But we have not really looked at major changes of a structural nature that are taking place round the world and I would like to highlight the information revolution as one. Come to think of it, if you go around the poorest slums of any developing country, you will find that even homes which don't have any furniture at all will possess a television set. And this is not merely a symbol of something that revolves around entertainment, but TV is a means by which you are really bringing the rest of the world into the poorest slum dwellings in the remotest corners of the earth. And obviously this would lead to rising aspirations, it would lead to a shrinking of the globe in the sense of removing mental, political and other barriers.

We need to see what the impact of this information is likely to be. For instance, I would like to say that in countries such as India, poverty has been there for several decades, perhaps, hundreds of years. It was something that was accepted as a given fact. But with the enormous political changes that have taken place, given the fact that we have a democracy which has taken root strongly – I feel very proud of the fact that the Prime Minister of the country today is a very humble farmer – the old era of leaders who came from the elite sections of society, has obviously been demolished by the firm roots that democracy has taken in this country. Now because of these changes and the fact that there is this enormous advance in terms of availability of information, the aspirations of the poor are not likely to remain static. And we, therefore, have to deal with the aspirations of those who want a better way of life and are indeed entitled to a better way of life.

I am saying this because in the global context, unfortunately this reality is often missed. I do appreciate the fact that the largest growth in demand for energy is going to take place in the developing countries but as I will show with numbers a little later, the fact still is that a very large section of this globe is energy deprived and that extent of deprivation is not related merely to luxuries like space heating and cooling, freedom to use transport as and when one wants, but to those very basic needs for cooking. In this country itself where 70 percent of the population resides in rural areas, there is still an overwhelming dependence on biomass. And it is almost a mystery where that biomass comes from. If you look at the sustainable yield of the forests in terms of providing fuelwood, it is a very small share of the total consumption that takes place. So this essentially means that people are using twigs, are using leaves, are using agricultural residue, animal waste

* R .K. Pachauri is Director of Tata Energy Research Institute, New Delhia, India. This is an edited version of his remarks at the 20th IAEE International Conference, January 22-24, 1997 in New Delhi, India.

and all kinds of sources of energy, which certainly don't lend dignity to the fact that we are heading towards the end of the twentieth century.

So I want to emphasize this dimension of poverty. And it is not easy to meet the demands of the poor, simply because they are not able to purchase the fuels that may be available through the market system. And yet, we need to bring about improvements in the efficiency of energy use, and we need to bring about institutional changes whereby the supply of energy (in the case of the poor, it will probably remain biomass energy for a long time to come) is made available to the poorest of the poor.

I am putting this issue before you because in the context of climate change, if you look at the findings of the Second Assessment Report (SAR) of the IPCC it is very clear that human intervention is bringing about climate change. It is also very clear and scientifically specified by the SAR that we need to stabilize the emission of greenhouse gases.

Now this obviously will require a change in the way we do business, a change in the way we live. And I am afraid talking about lifestyles is often a taboo, because it is regarded as some kind of a threat to those who have reached a high level of opulence and also seen as the poor wanting to take over the world and suggesting that "you shed your opulence and pass it on to us." I don't think it is as simplistic an issue as that. The basic problem is that there will be burdens that are imposed on several societies of this world. And as the Framework Convention on Climate Change clearly specifies, there are differential but common responsibilities and the differential responsibilities arise out of the fact that historically the concentration of greenhouse gases has been created above what might be called acceptable levels by consumption of fossil fuels by a very small section of the population of the globe.

So when it comes to looking at burden sharing in the future, I think, we need to understand that if you ignore the realities of poverty that exist in large sections of the globe, we would in essence be creating a situation which socially and otherwise would prove very explosive over a period of time. Even today, if you look at the increase in emergency assistance related to disasters, to political turbulence, to skirmishers, and to wars, there is a dangerous increase which obviously is going to supplant development assistance. In other words, you find that instead of preventive cure, we are now looking at solutions after the fact for disasters and crises.

It would be in order to look at globalization in the context of the problems of the future, wherein there are positive opportunities. The biggest opportunity is that since we are in an era of globalization, it should be possible to use resources as efficiently as possible and it should be entirely possible to produce energy and goods and services in the most efficient manner, simply because the boundaries that political – and, therefore, economic – divisions in the past have created, are gradually breaking down. You see signs of that in this country. A large part of the software development industry is located in the city of Bangalore, simply because it is much cheaper to produce software in the city of Bangalore than, say, in Texas. This kind of thing will happen, which means that there is a net welfare effect all over the world from which others can benefit.

But, I would still highlight the lack of policy, the lack of vision on what needs to be done for energy for the poor. And

I would submit that this still remains to a large extent the responsibility of governments, of international organizations and the international community at large. In the interest of brevity, I will only highlight the fact that we need some new development paradigms. I think, we have pursued a path of structuring our economic activities in a manner that was dictated by one single paradigm.

There is perhaps, now need to look at de-urbanization and I think the new information technology makes it possible to decentralize economic activities, reduce the congestion, reduce pollution in our cities and this can be done if we start internalizing the costs of pollution and environmental damage in our pricing decisions. The other opportunity that comes from globalization is the sharing of experiences. We are trying to attract private sector investments in the energy sector in this country. I regret, we have not taken advantage of the international experiences in this regard and that is why the success is less than perfect.

Lastly, I wish to mention a major project that we have in our Institute called GREEN India 2047 - Growth with Resource Enhancement of Environment and Nature - about which we will be very happy to provide you some material. What we are really looking at is the last fifty years of India's development, that is, since Independence, whereby we have grown, we have established institutions, but at the same time we have damaged our natural resources. We are trying to catalogue this damage and depletion and provide an economic

Table 1.
Conventional Projections for Use of Industrial Energy Forms

	Actual		Projection			
	1980	1990	2000	2010	2020	2030
Population (millions)						
Industrialized	1075	1158	1215	1260	1295	1315
Developing	3310	4085	5000	5900	6750	7575
Energy User/Person (watts)						
Business as usual						
Industrialized	7170	7255	7360	7465	7570	7675
Developing	615	770	965	1205	1500	1880
Energy Efficient (Anderson)						
Industrialized	same		7435	7225	6325	6285
Developing	as above		950	1340	1720	2300
Total Energy Use (terawatts)						
Business as Usual						
Industrialized	7.7	8.4	8.9	9.4	9.8	10.1
Developing	2.0	3.2	4.8	7.1	10.1	14.2
World Total	9.7	11.6	13.7	16.5	19.9	24.3
Energy Efficient (Anderson)						
Industrialized	same		9.0	9.1	8.2	8.3
Developing	as		4.8	7.9	11.6	17.2
World Total	above		13.8	17.0	19.8	25.5

Notes: Business as usual results obtained by extrapolating 1980-90 rates of increase in per capita use of industrial energy forms for industrialized and developing countries. One terawatt = 1012W.

Source: Theme paper on "Energy". (In) Proceedings of the International Conference on An Agenda of Science for Environment and Development into the 21st Century, (eds) J.C.I. Dooge, et al, Cambridge University Press, New York, 1992, 103-118, Holdren, J.P. and Pachauri, R.K.

value to the loss incurred and project these fifty years into the future. I would like to submit that this project is really taking a longer term vision that can sensitize and reshape the thinking of human beings and bring about the development of new paradigms that I mentioned a little earlier.

Table 1 shows some numbers related to this subject. This table is from a paper that Professor John Holdren and I had coauthored for a conference in 1991 before the Rio Summit, where the scientific community from all over the world got together to develop a scientific and technological agenda for meeting the needs of the future. These projections clearly brought out that even with the increases in energy consumption that are taking place, there would still be enormous disparities between the industrialized and the developing countries, and, therefore, we had come up with a thesis that perhaps, efficiency improvements in the developed countries would provide them an opportunity to retain and even improve standards of living and thereby reduce the consumption of energy, thus permitting the developing countries to continue to increase their energy consumption - efficiently, of course - whereby you could still keep some kind of a cap on the overall emissions of the globe and overall environmental problems that are associated with the use of energy.

In conclusion, without going into detail, I trust I have been able to mention a few issues that I feel are of relevance in looking at globalization and its impacts, particularly for the energy sector.

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