Panelist's Remarks

Ashok Khosla

I would like to share some of the lessons that I learn in my day-to-day business activities, which might well be things that are not terribly familiar to all of us. Things out there are getting worse, and that is one of the reasons why all of us are here. They are getting worse in the area of human development, as the United Nations' *Human Development Report* shows us every year. The poor are getting poorer, nature is being wiped out, species are disappearing, and climate is changing—probably for the worse. We have breakdowns in social systems. We come, almost all of us, from countries where corruption is rampant and getting worse. New and unfamiliar diseases are increasing, and there is a gradual buildup of alienation all around. Much of this relates to major problems that we will have to live with for centuries to come, including the growth of population and a dying resource base.

When we talk about global patrimony and the commons that belong to all of us members of the human race, we need to look very specifically at what these kinds of patrimonies are. They include, of course, the resource base that provides us with a living, the climate, and the life support systems of this planet. They should also include knowledge, and I think that more and more people are beginning to realize this. Indeed, some of the subsets of knowledge and knowledge generation, including something that we often do not give much thought to, which is scientific enterprise, and the scientific method that we use to generate that knowledge. And, of course, the value systems that sustain us as communities in different parts of the world.

We want to talk about this global patrimony today in the context of how local action and local justice can take place. As I said once before in this very room two years ago, the fundamental principle is one common to all religious traditions, and all societies, and that is the golden rule. This provides a very simple mechanism for us to judge whether something is good or bad, and whether we should be doing it or not. It is the golden rule of reciprocity—*Do unto others.* If you apply that in your work, and in your day-to-day existence, it is not very hard to come up with the responses that are needed for distributive justice to take place and for people to have equal access to all the good things that our planet gives us.

Local justice will come about only when everyone has access to a sustainable livelihood. It seems to me that the central, indeed the only, objective for the sustainable development community that is represented in this room is to make sure that everyone on this planet has a sustainable livelihood. This is possible only if we address individual, community, and global issues as a whole. Let me come to each of these items, and see what we might be able to do, and give you some examples, although there is no time to get into concrete detail.

The issue of the commons is the issue of what belongs to all of us by right, not only the question of a right to life and a right to a livelihood,

but also a right to access our resource base and a right to get at least equal opportunity for a decent life. This basically revolves around the issue of consumption patterns. How much can the whole planet provide for each person? If we continue to have the inequitable consumption patterns of today, it is very clear that people on this planet as a whole will not be able to attain the higher levels of consumption.

Then the value systems come into play, the question of how we relate to nature, how we relate to wastes, how we relate to the use of our resources as we have been doing, particularly over the past couple of centuries. I belong to an organization and initiative called Factor of Ten. And over the past three or four years we have been exploring in some depth the possibilities for reducing material consumption and energy consumption by a factor of 10, and this is becoming necessary because we calculated that today the anthropogenic flows of material are so great that they are now approaching in magnitude the levels of geologic flows.

In other words we are actually moving as much material in our day-to-day economic activities as nature as a whole moves around the planet. That clearly is not going to be ecologically sustainable. And we have to now look at ways in which to reduce it. Factor of Ten is a dramatic statement, but it is also a realistic statement. We can show, in a very large number of areas of human activities in different sectors, that it is possible to get the same kind of services or well-being without having to use as much energy, or material, or resources. We have to operationalize that by looking very hard at the kind of technologies, the kind of institutional mechanisms, the kind of innovation, and the kind of delivery systems that we have in place.

Rabbi Myers, before me, mentioned the very important issue of connectivity, and I can only heartily endorse what he said. But I find it a little difficult to see how the roads that he is talking about are going to be built without moving even more of Earth's resources than we are doing at the moment. We have to bring some ingenuity into this; connectivity is possible without roads. I think now we have to go into the twenty-first century and see how we are going to bring our value systems into play in real life.

Why must we have roads and cars? Why trucks and buses? Why not balloons or other vehicles lighter than aircraft? Which of us have started looking at ways in which the same services of mobility, interaction, and communication can be serviced by beautiful new technologies? The cellular phone may well be the major development intervention in a poor country today; it may be the least resource-consuming and the most effective way to achieve many of the goals that our gigantic bureaucratic systems and governments and the World Bank and elsewhere have been geared to think about.

Ismail said that there is a great deal of ferment in the World Bank, and the staff of the World Bank thinks a great deal about new issues. And I think he is right, because we are in a sense, wherever we are located, all members of the World Bank. The World Bank impacts the lives of all of us, and we are all stakeholders, even if we are not receiving a salary check from the World Bank, we might just as well consider ourselves members of this great institute, and I, as a member of the World Bank, would like to say that we need totally different kinds of approaches, what you might call appropriate technologies, which have very different characteristics, in terms of scale, in terms of economics, in terms of money flows, and in terms of impact on the resource base.

I think it's time for our values to come into play, not simply to proselytize and preach to each other once every two or three years, but to actually choose technologies and institutional designs that make a difference on the ground. This is what I try to do in my business, to find new ways, totally different ones that perhaps were in place 200 years ago. Many of our technologies may well have been lost simply because, at one dollar a barrel of oil, nothing could survive. Nothing could compete that was good and sensible.

And now we have to revive that. And part of the revival is in the issue of removing perverse subsidies, so that the real costs of resources come into play in our decisionmaking, but in part it is also a matter of choice. And these choices are going to be inconvenient and very difficult to make. They will require us to part company with ways of doing things that we have been used to all our lives.

Take the example of meat, I am a vegetarian but I am not proselytizing here. Consider a planet of 8 or 9 billion people consuming meat at the rate that it is now consumed on a daily basis in North America. Is it possible? And what would happen to our basic resource base if we did that? These are very inconvenient questions, but if we answer them, then I think we would get very different answers from those that we are looking at today.

Take the issue of climate change, there is a great debate going on in this very city today between those who believe that something has to be done about it and those who believe that somebody else has to do something about it. It is rather obscene to think that a country that is using one-seventieth of the amount of energy per capita, and producing carbon at one-hundredth of the amount, because most of that energy is renewable and thus carbon neutral, has to cut down on its consumption and sign on to the same kind of commitments as a country that is using 100 times as much.

Is that a value system? We really have to address some very inconvenient questions. This obscenity, if you like, comes about in a unipolar world where there are no checks and balances, and unfortunately that is what we will have to put up with for a while until the geopolitics of our world changes, which is not about to happen soon.

But value systems are something I think we all need to look at. When we read three-page advertisements and look at television advertisements that completely distort truths—where are the values? What are we talking about? I think we need to look very closely at our lives, and say enough is enough. Let us get this golden rule going. Institutions can play their part, but we must each expect as much from ourselves as from anyone else.

Knowledge is another of the commons; the sharing of knowledge is crucial. How will we get into the 21st century if we have outdated concepts, like intellectual property rights? Intellectual property rights are a totally North American concept. It is only this country that believes that money drives innovation, it is only here that people think you can do good by being motivated by money. This is not true of the rest of the world. I have a huge number of innovations to my credit. Not one of them has a patent, because the more people use it, the more it is pirated, the more it is used by people for their own good, the more I believe I am rewarded.

And it seems to me that the wood stove we developed, which I could have made billions of dollars from because it is now used all over the world, was pirated and that is the single most credible indicator of the success of the design. It was pirated in West Africa, East Africa, South Asia, everywhere. And it comes home to me for testing from the World Bank from all over the world. And I find that people did not even change the logo on it, because they did not know what made it work so well. So essentially, I have a global market, free advertising, and everybody knows that this is a good product, and all the other innovations that we have must obviously have some degree of quality too.

Which brings me to a very fundamental issue which I am very deeply concerned about, and that is the role of scientists. The role of scientists in all of this has been quite atrocious. Scientific enterprises understand about the excellence of innovation, of breakthroughs, of conceptual development, but they have never understood the idea of relevance and their relationship with society. The greatest scientists simply ask for money to pursue their work uninterrupted. They feel that science is an autonomous enterprise, and if left alone scientists will give us something good.

Well, it is very easy for us to fall into the Cartesian trap of the scientific method. It will become, I believe, increasingly difficult to do so in the future. Science can no longer be divorced from the issues of human survival, or human aspiration, or indeed of human values. We cannot take it as disembodied from the realities of production, of property, of ignorance, and of resource destruction. Science offers the greatest opportunities for a better life for all of us. But it is we, as a community of people, who think about these things and who have aspirations to introduce a better value system, who must set the boundaries within which science must be conducted.

That does not mean that scientists have to be told what to do. We have to train them to think about what they do, and do it right. Abstract science, with its very powerful, very limited meth-

ods of reductionism, and exclusive focus on objectivity—whose objectivity?—and rationalism, qualification, and simplification is no longer adequate to deal with the tasks we are talking about. These tasks are too complex and interrelated, and if we are going to support life on this planet we have to recognize that science has to change very fundamentally. And it will take a huge jump in the ethics of science to bring our work as scientific people into line with the needs of planetary survival. Merely anthropocentric science and conservation will always give us the wrong solutions.

I also would like to say a few words on values as a whole, just values as a sector, if you like. The fundamental ethical issue of sustainable development is: why do we want to conserve our resources? Why do we want to conserve our flora and our fauna, our species, and our biodiversity? Is it simply for the practical benefit of mankind? Or is it because of the intrinsic right to life of all living beings? And I think that is the fundamental value issue that we have to deal with.

It seems to me that thinking people have to decide, to choose, do all living beings on this planet have a right to life, or is it simply because they have some value to us? We development people see the whole web of life, not simply the ecologists, but all of us. We are watching species disappear, and we can be forgiven for thinking that this web of life supports us, and we, being at the top of the chain, are entitled to use up everything. But, frankly, sooner rather than later we are going to have to work out a better balance that gives us all these constituencies, essentially not just for sustainable use, but because we revere life.

I wanted to share these things because, as a pedestrian, peasant kind of businessman, I see them happen in my day-to-day life when I am selling these little products like looms, handmade paper recycling machines, low-cost buildings, mud architecture, and so on, simply because I believe that these are really, in a sense, the high technology of the future. If we are going to get into value-system thinking, let us get our terminology right. These values, of course, have been with us for a long time. We have had the Judaic tradition, Jesus Christ, and the Lord Buddha. In recent years we had a thinker in our own century, Mahatma Gandhi, whose only fault was that he was about 80 years ahead of his time. I think he was probably the first real post-modernist, a person who understood what the twenty-first century is about, the first person who understood ecology and the relationship of people with nature, who understood economics, and economics that was totally different from what we call neoclassical economics today.

But he understood that basically the future lies in small communities and in improving the lives of people and in high technology of the type that I am talking about, through the market mechanism, but a different market from today, a market with some degree of value systems built into the decisionmaking of every actor in that market. And I would suggest that one of these days we go back and we look at his writings and see how, in the 1930s and 1940s, this rather perceptive human being had already identified many of the values and practices that are needed in order for us to survive into the twenty-first century.