Selling the Montreal Protocol to developing sector nations

by Marjorie Mazel Hecht

Why would any nation, especially a developing nation, jeopardize its food supply and the health of its population by agreeing to give up the safe, cheap, efficient substances, such as freon, that are now used as refrigerants? This was the question I sought to answer in a series of interviews with environment ministers of developing countries that have participated in the Montreal Protocol, the 1987 treaty that mandates the phaseout of chlorofluorocarbons (CFCs). These nations, which are striving to raise their living standard to be appropriate for the 21st century, stand to lose the most from the ban on CFCs, because the replacements are costly as well as caustic and require new production equipment, thus draining funds from necessary development activities.

Interviewed here is India's Minister of the Environment Shri Kamal Nath, who was elected president of the Montreal Protocol nations group at the group's November meeting in Copenhagen. Nath's responses make it clear that the U.N. Environment Program (UNEP), under which the Montreal Protocol was organized, has presented only one side of the ozone story to member states—the scare story. The statements and research of experienced atmospheric scientists who have analyzed the ozone hole as a natural, seasonal phenomenon have not been allowed to appear in U.N. reports and science journals, and therefore have not been part of the decision-making process. Similarly, the statements of those scientists who have been measuring ozone and ultraviolet radiation (UV) for years and who see no global decline in ozone and no increase in UV do not appear in the U.N. documents.

Nath also says that India's compliance with the phase-out schedule is entirely dependent on the Montreal Fund (set up to "help" developing nations comply with the Protocol) providing the funding necessary to cover the additional costs to the Indian economy of developing CFC substitutes. Should the technology transfer for substitutes not be made available "at a time and price which allows India to achieve the intended phaseout," Nath says, "we naturally cannot be held responsible."

To cover its deliberate omissions of scientific evidence, UNEP's argument is, as Nath states, if we don't know for sure, "it's better to be safe than sorry." But exactly this philosophy is likely to backfire. Business and government officials are beginning to realize that there are no safe "drop-in" replacements, and that the costs involved are even more enormous than estimated. Simultaneously, the U.S. national press has finally begun to reveal the truth: The ozone hole scare is a hoax.

A lengthy front-page article in the April 15 *Washington Post* described the ozone layer accurately as a "renewable resource," and noted that even environmentalist leaders concede that there is no catastrophe. A *Detroit News* editorial on ozone on April 18 began, appropriately, "The apocalypse has been canceled. . . ." And as the *Washington Times* summed it up in a May 19 article, "Evidence is mounting that ozone depletion is not a problem, and the Chicken Littles of the media are beginning to eat crow."

As the signers of the Montreal Protocol realize that they've been "had," it will be clear that safety lies in overturning the Montreal Protocol before billions of dollars and millions of lives are lost in order to comply with a big lie.

Interview: Shri Kamal Nath

India's program to replace CFCs

Shri Kamal Nath is Minister for Environment and Forests for India and serves as the president of the Montreal Protocol group. He was interviewed in April by Marjorie Mazel Hecht, managing editor of 21st Century Science & Technology *magazine, and he submitted his answers in writing.*

Q: What is the impact of the phaseout of chlorofluorocarbons (CFCs) for India? What effect will this have on the food supply, by making refrigeration more costly? What impact will it have on plans for industrial development?

Nath: The total demand for ozone-depleting substances in India in 1990 has been estimated by the Task Force to be 4,700 million metric tons. This includes Group I and II substances. For refrigeration/air conditioning, the figures for 1990 and 2010 are 2,100 million metric tons and 18,000 million metric tons, respectively. Compared to the rest of the

world, our consumption of Group I and II substances is low.

It is estimated that there are at present about 7 million refrigerators in India, with an annual production of about 1 million. It is still early to say what the effect on food supply, if any, will be. There would be an effect only if there are no substitutes in the refrigeration sector. It is also necessary to mention that most of the cold storages in India use ammonia. An estimated 120,000 deep freezers are in use in the country at present, and about 2 million units is the forecast for the year 2015. This growth estimate reflects the commencement of penetration of domestic markets and the increasing sophistication of retailing and food processing in our country.

What is engaging our attention are the following possible effects of the ozone-depleting substances phaseout:

a) Implementing the phaseout may impose costs on the economy which would not otherwise be incurred, resulting in a diversion of resources from other economic activity. This is why we insist on all incremental costs being met by the Montreal Protocol Fund, our compliance with the timetable being contingent on funding.

b) There may be a price rise in consumer goods (for example fridges and aerosols) if more expensive substitutes are to be used; and consequently the growth in consumers' demand may be slowed. We want to obviate this and somehow protect not only producers, but also consumers.

c) India may become dependent (at least for a period) on the external supply of ozone-depleting substance substitutes, in contrast to the present virtual self-sufficiency in supply of ozone-depleting substances; this would of course get moderated to the extent domestic CFC manufacturers switch over to production of substitutes, and the extent to which indigenous research is successfully commercialized.

d) Companies in the developed world with the technology to make and use substitutes may not make it available to India at a time and at a price which allows India to achieve the intended phaseout. If this happens, we naturally cannot be held responsible, particularly in view of the reluctance of the Executive Committee [of the Montreal Protocol] to fund fundamental research in Article 5 countries.

e) India will lose export opportunities as its domestic capacity to make ozone-depleting substances will not be able to be utilized. For this we are not getting any compensation, and it is a sacrifice that we are making in the interests of the global environment.

Q: Is India developing substitutes for CFCs, and do you expect to manufacture these? What is the timetable? What are the development costs? Are you investigating the fact that some of the substitutes have proven to be toxic and potentially carcinogenic?

Nath: India is working on development of substitutes for CFCs, and we certainly do expect to manufacture them.

HCFC-22 is currently produced in India, and a switch-over from CFCs to HCFCs and other substitutes for ozone-depleting substances is envisaged. We have adopted the following R&D strategy:

a) Development of CFC-free technologies for refrigeration and air conditioning.

b) Development of recycling/recovery and conservation methods. (In India, our ethos and our skills are particularly suited to recycling, and our prolonging the life of equipment.)

c) Evaluation and assessment of the substitutes to provide technical support to Indian industry for adoption of appropriate substitutes under Indian conditions and for export of these products.

d) Establishment of a National Center for Refrigeration and Air Conditioning to undertake R&D activities, including recovery and recycling technologies.

As far as the toxicity of substitute substances is concerned, we shall obviously subject technologies and substances to be adopted to thorough checks before switching over. Only those found to be safe and appropriate would be acceptable.

Q: So far, there are no "drop in" substitutes, which means completely replacing existing equipment and supplies. What is the cost of replacing existing equipment? How does this replacement program affect the planning growth of the refrigeration industry and the extension of refrigeration technology throughout the country?

Nath: The estimated incremental cost is Rs 370 crores (over $100 million) for refrigeration and air-conditioning equipment manufacturers alone that would be incurred. The replacement program would require development of new designs, tooling, fixtures, vendor items, new plastics, etc., and in view of this, loss of production, extra cost of trials, tests and operational costs because of the new processes will have to be incurred. If the Montreal Fund does what it is supposed to, then the refrigeration extension program should not be unduly affected.

Q: There is considerable scientific opposition (although unreported in the media) to the science behind the ozone depletion theory. Is there opposition in scientific circles in India? Have there been questions on India's participation in the Montreal Protocol, given the scientific uncertainties of the problem that the Protocol is attempting to remedy and its great cost?

Nath: The dispute in scientific circles regarding the ozone depletion theory was active some years ago. However, I understand that there is now ample evidence on the ozone-depleting potential of certain substances and the existence of the "ozone hole." Detailed documentation of the U.N. Environment Program exists in this connection. Our scientific institutions are in close touch with research developments elsewhere. In such a matter, it is better, as they say, to be safe than sorry. Ignoring the problem on the grounds of inconclusive evidence could result in an irretrievable environmental loss, and disaster of unimaginable proportions. Our policy in this regard is to be prepared for the eventualities arising out of the current ozone depletion theory. The costs of phaseout are undoubtedly high, but we believe that the challenge must be faced.

Q: At the Copenhagen meeting of the Montreal Protocol in November, methyl bromide was added to the phaseout list. What will this mean for India? I know that in some developing sector countries, because there is no substitute, the ban on methyl bromide could mean the end of their self-sufficiency in food.

Nath: Methyl bromide is used largely as a fumigant, and is of special use in warehousing, etc. Control on the use of fumigants containing methyl bromide will certainly affect the storage of food grains. At Copenhagen, we decided to freeze production of methyl bromide in 1995 at the 1991 level. However, studies are also to be carried out to determine the speed at which phaseout should be done. In any event, compliance in developing countries with the amendments relating to methyl bromide and also methyl chloroform and carbon tetrachloride is yet to be confirmed.

Q: India had many questions about the initial Montreal Protocol regulations and the great burden it placed on developing nations. Can you comment on this?

Nath: Our apprehensions about the Montreal Protocol were largely related to the ability of the Protocol to developing its own mechanism to administer the flow of funds and transfer of technology. The interim Multilateral Fund has been a good start, and we believe that the interests of India and other Article 5 countries will be protected. The burden on developing nations is largely to do with the effect of such international conventions on domestic industry and consequently on employment and rapid development. However, we are, at the same time, aware of our global commitment toward phaseout of ozone-depleting substances, and therefore strove to bring about what have come to be known as the London Amendments. Though they do not fully meet our concerns in every respect, they are still a satisfactory resolution of our difficulties.

It has never been our commitment to the environment that has wavered; it is only that we refused to accept a system that would be unjust and counterproductive. We all have our responsibility toward the environment, but this has to be differentiated and in proportion to our role in degrading it, not only in the past, but also the impact that present unsustainable lifestyles continue to have on it. It is precisely because of this that it was necessary to have a funding arrangement as a prerequisite to any international program to save the ozone layer.