UNIDO View of Technology Use

United Nations agency uses variety of programs to encourage flow of technologies to developing nations

BY G.S. GOURI*

When an industrial enterprise is established, expanded or diversified there is a flow of industrial technology. Since developing countries look upon industrial development as a centerpiece in the development process, the world flow of industrial technologies assumes particular significance for development. These technologies do not flow in isolation. They flow and get absorbed along side of investment, the creation of necessary skills, the proper utilization of raw materials, etc. Hence, when we are discussing flows of technologies, we have to visualize them as part of a chain of activities aimed at promoting specific development objectives such as industrial development. Industrial development and technological development have a mutual cause and effect relationship which has to be exploited for the benefit of both.

Some five years ago, the second general conference of UNIDO held at Lima, Peru, came out with a declaration and plan of action which expressed the aspiration that developing countries should achieve a share of 25% in the world manufacturing output by the year 2000. This involves many challenging tasks at the national and international levels, not the least of which is to mobilize the required flow of technologies.

Organization Role

International organizations cannot pretend to carry out themselves the massive technology flows that are taking place. The main actors are indeed the multitude of enterprises which supply and receive technologies. What international organizations such as UNIDO can and should do however is essentially in the nature of catalytic and promotional activities; to promote new concepts for action, to demonstrate new ways of doing things to sensitize both governments and enterprises to the implications and issues involved, and to strengthen their capabilities of developing countries for channeling the flows of technology to their best advantage. This task is by no means simple, not only because of the variety of technologies but also because of the implications of the technology flows for the balance of payments, the industrial structure, the impact on development objectives and so on. *The flows themselves have to be channeled not into isolated little ponds, but a reservoir of domestic technological capability.*

UNIDO has been engaged in this task since its inception in 1966, as the agency charged with the promotion of industrialization of developing countries. It has now developed in the field of technology a twofold but interrelated capacity.

On the one hand it has been instrumental in assisting countries in a variety of actions in the technological field resulting in new policies, institutions and programs. On the other, it has promoted new concepts, new mechanisms and new ways of doing things. These initiatives of UNIDO have arisen in response to the felt needs of the developing countries, the most recent expression of which was in the Third General Conference of UNIDO this year in New Delhi.

Illustration

I may perhaps briefly illustrate some of the typical practical issues which arise in connection with the flow of technologies and the ways in which UNIDO has been trying to contribute to the solution of the issues. One lesson from past experience with world flows of technology concerns the private and social costs of flows of inappropriate technologies. The appropriate choice of technology therefore forms the central theme of UNIDO's cooperative plan of action on appropriate technology. The message we are trying to convey is that technological choices are possible and they should be made.

Over a year back UNIDO brought together over 400 experts from developed and developing countries who examined the technological options in a dozen industrial sectors. They came up with conclusions and recommendations which were thereafter considered by a meeting of ministers. The event was called the International Forum on Appropriate Industrial Technology and it took place in India at New Delhi and Anand in November 1978. It resulted not only in the compilation and publication of monographs and technological options in the concerned sectors but also in a series on practical actions in the transfer, absorption, and development of technology. The forum was also a major sensitizing factor on the integral relationship between the technology mix of a country and its social and developmental objectives.

*Director, Industrial Operations Division, UNIDO, Vienna.

LES International Conference, Geneva

UNIDO has been engaged in a variety of information activities including an industrial inquiry service and a newsletter, which by providing information in request on available technologies, promote the flow of such technologies. A significant new dimension to this effort has been imparted through establishment of an Industrial and Technological Information Bank which has the specific mission of assisting decision makers in the technology selection process and facilitating a larger flow of technological information with wider technological options. The pilot stage of the bank has been concluded and we have now the mandate to expand its scope to some 20 industrial sectors.

As I said earlier, the flow of industrial technologies is an integral part of industrialization. Following the Lima Conference, UNIDO has initiated a system of consultations under which consultations between developed and developing countries have been organized in a number of industrial sectors. The technological flows between the developed and developing countries receive particular attention in these consultations, thus sensitizing both sides to the issues involved in each sector and the types of action required.

At a more specific level, the same process of sensitization and greater awareness of each other's point of view is sought to be created through dialogues between representatives of suppliers and recipients of technology. Members present will remember that a dialogue of this type was organized in New York in September 1976 and also more recently in 1979 between heads of national registries of technology transfer and representatives of the Licensing Executives Society. In June this year the International Federation of the Institutes of Advance Study (IFIAS) will be placing the findings of a study conducted by them on the technology transfer from transnationals to developing countries in specific sectors. We intend on this occasion to invite some representatives from the recipient countries as well so that the several relevant points of view could be brought to bear on this question.

At another level, we are cooperating fully with the initiatives of UNCTAD in the formulation of a code of conduct for technology transfer and of WIPO and UNCTAD on the question of the revision of the Paris Convention.

A number of developing countries have found it necessary to establish policies for acquisition of technology and institutions for screening technology contracts. UNIDO has been assisting several countries in this regard. It has also brought the technology registries together in a club, so to speak, which started with a membership of 15 some two years ago and now is about 23. The members of this club exchange information on their policies and on technology contracts. UNIDO providing the forum for this exchange. It is our view that the adoption of policies and procedures will systematize the basis for the flow of technologies and will thus contribute to enlarging rather than restricting such flow over a period and in ensuring that developing countries are not at a disadvantage in this regard.

Perhaps the most disturbing characteristic of the present world flow of technologies as between developed and developing countries is that developing countries are unequal partners in the transfer. A major aim of UNIDO activities in this field has therefore been strengthening of the negotiating capacities of the developing countries both at governmental and enterprise levels. This is sought to be done in three important ways.

First, through publications on practical guidelines for the evaluation and negotiation of technology contracts and on national approaches to acquisition of technologies. The demand we have for these publications is an index of the needs of the developing country enterprises in this regard.

Second, we have conducted, and propose conducting, a series of workshops and training courses for government officials and entrepreneurs on practical ways of negotiation of technology agreements, including simulated negotiation games.

Third, we have also a technological advisory service through which we can send specialists to the countries at their request for independent and confidential advice on technology negotiations. These activities, we hope, will help to systematize and render more equitable the world flow of technologies.

The concept of the world flow of technologies would itself need to be enlarged. Too often it is seen only as flow among developed countries and from developed to developing countries. There are two additional dimensions, which we are trying to promote.

One is the flows among developing countries themselves. To stimulate such flows we have been collecting and disseminating information on technologies developed in developing countries.

The second dimension is that it is not only big firms in developed and developing countries but also small and medium ones, which can supply know-how and technologies — technologies which may be particularly suitable for developing countries. We have initiated a program of cooperation between small and medium enterprises in selected countries and sectors.

In all these efforts, the basic objective is to stimulate and support actions at the national level. The impact of our activities at the national level is essentially on the formulation and implementation of technology plans and policies, the establishment and strengthening of technological institutions, the upgrading of technological skills and services, the improvement of the terms and conditions of acquisition of foreign technology and the adaptation, and development of indigenous technologies.

This support at the national level is complemented by our programs which, as I said, aim to augment the world flow of technologies, particularly through a greater flow of information; and a broader base of supply make the flows more appropriate by highlighting technology options and the need for an appropriate choice of technology; render the terms and conditions of such flows more equitable by enhancing the negotiating capacities of the developing countries in these and other respects.

The effort is a multifacted one and will have to be mounted over a long period. *At stake ultimately is world peace and prosperity based on a wide and equitable distribution of the benefits of science and technology.*