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Science and Technology Strategy for the LDC's

More than 2 years after the U.N. decision to convoke a World Conference on Science and Technology for Development in 1979, and less than 2 years before it actually takes place, our understanding of the links between science and technology and the development needs of the Third World is still very slim.

In the advanced countries the position seems to prevail that fostering science and technology for development amounts to establishing modern scientific institutions in less developed countries (LDC's) and massively transferring modern technology to them, preferably through private channels. On the other hand, many spokesmen for the underdeveloped world understand science and technology for development as abolishing all international barriers that hinder their access to the fruits of scientific and technological progress. It is highly doubtful that either of these two extreme positions offers a solution to the problems of LDC's. Scientific institutes, massive transfers, and tearing down the barriers to the flow of knowledge will hardly do the trick because the capacity of the poor world to absorb and to use scientific knowledge and technical know-how in a meaningful way is very weak.

What the underdeveloped countries need first and foremost is the buildup of their internal scientific and technological capacity. The achievement of such an objective will depend more on a long-term integrated international and domestic effort than on piecemeal initiatives guided by ideological preferences or by magic thinking. This rather simple proposition seems to be forgotten by many, if not most, diplomats, scientists, and international bureaucrats participating in the preparatory stages of the U.N. Conference on Science and Technology. At least this is the impression one has after the most recent meeting of the U.N. Committee on Science and Technology for Development (New York, February 1977).

One of the major obstacles to the advancement of science and technology in the underdeveloped world originates from the divorce between local R & D activities and the educational and productive systems and from the lack of general scientific and technological culture. Consequently, whatever knowledge is produced domestically is used neither to improve the quality of education nor for productive purposes. Moreover, the supply of internally produced scientific knowledge and technical know-how does not automatically create a demand, because the little demand that exists is historically directed to the outside world.

Thus, the advancement of science and technology in the poor countries will depend more on establishing permanent and strong links between the R & D system, education, and the economy than on the volume of imported knowledge and an increased allocation of human and financial resources for research institutions. In the absence of domestic demand for their output, a corollary to the absence of scientific culture, modern scientific institutes set up in the LDC's with help from outside wither away or become sources for brain drain. On the other hand, dependence on massive imports of technology through traditional channels leads to the emergence of advanced technology enclaves that perpetuate themselves in the context of general technological backwardness.

Unfortunately, while scientific communities in the advanced countries know very little about the nature of underdevelopment, the links of most diplomats and bureaucrats from the poor world with their own societies are very often incidental. Given that scientific and technological policy for the development of the LDC's must be put in the framework of the overall development policy and must build bridges between R & D and the educational and productive systems, the U.N. Conference on Science and Technology for Development, manned mostly by scientists from the North and diplomats from the South, will be facing the most serious handicaps.

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