

depends on the competence and morale of its own scientists, technologists and other colleagues, and sufficient appreciation by its general public of the value of scientific solutions to development.

Support from developed countries could take the form not only of direct financial assistance, but of collaboration between individuals and agencies concerned with issues ranging from basic research to industrial consultation, and the dissemination of packaged technology to an illiterate rural population. In short, an active partnership of Third World scientists and technologists is an important prerequisite for success of development efforts. It is, furthermore, important to make the general public in the Third World — especially the few leaders with so much influence — aware of the critical role of science and technology in development, and to make the necessary tools available.

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Three imperatives: food storage, energy, work ...

Guido Brunner

A GREAT responsibility rests on those who will be taking part in UNCSTD in Vienna. They have to make a fundamental choice. They will either be drawn into a discussion of abstract principles of a new international economic order, or — and this is what I hope to see — they will get down to some practical business. The first will merely lead to yet another diplomatic deadlock of the kind we have seen already too often in meetings between the developed and developing world. The other will spark off that real scientific and technical co-operation which is so necessary for the solution of the problems of development.

This is an especially significant time for the conference. Prospects for the world economy are clouded, and governments are worried about the rising cost, and shortages, of energy. For the developing



Brunner: fundamental choices

world the three imperatives are: the storage of food, energy and work. The conference must see that the proper scientific and technological resources are freed to contribute to these great tasks.

A long term effort internationally and at home will be required if the developing countries are to build up the necessary internal scientific and technological capability. The transfer of technologies from the developed to the underdeveloped is only one aspect of the problem. What is equally important is to establish the means for the developing countries to improve their educational and managerial standards.

The Community and its nine Member States will play their part in this great venture. Our association with 57 developing countries in Africa, Asia and the Caribbean within the Lomé Convention has already enabled us to make a contribution, and the new Lomé Convention will provide us with a framework for offering additional support for scientific and technical co-operation.

Dr Brunner is Commissioner of the European Communities for Energy, Research, Science, and Education

Policymaking should be at the highest level of authority

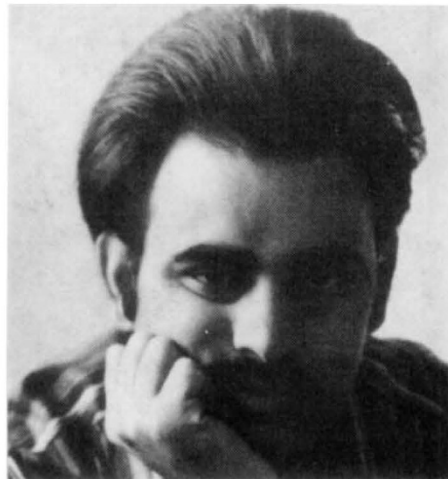
Antonio Pinilla

THE most pressing need is for a strong, deep and consistent political decision that science and technology constitute essential elements for each state to obtain:

- social integration;
- economic development;
- cultural independence;
- political coherence; and
- administrative efficiency and productivity.

Inadequate knowledge generates racial, social or religious prejudice, frustrating the national integration of countries. Economic growth requires agricultural and industrial mechanisation and rationalisation and these are impossible without a certain advanced degree of scientific and technological development. Payment of duties and royalties make national products uncompetitive in international markets. Economic dependence often generates cultural dependence, so decreasing awareness of national identity. Political and administrative sciences are key solutions to problems concerning political coherence, continuity, administrative efficiency and productivity within a free society.

For these reasons the making of science and technology policy should be the responsibility of the highest levels of authority, such as the president of the Republic (Head of State), parliament and



Sardar: self-confidence

the cabinet. The person in charge of implementing science and technology policy should have the rank of minister of state, or even better, be a full cabinet member.

The usual type of problem confronting each cabinet member is something very specific and urgent. Cabinet members cannot afford to concentrate on the scientific and technological aspects of the problems they face. That is why it is critically important that present-day states create national systems of science and technology, giving them the highest level of responsibility and authority to ensure scientific and technological aspects of national plans and objectives, policies and actions are sound, do not include errors or insufficient information, and are adequate and appropriate to each national reality.

Prof Antonio Pinilla is President of the Peruvian Consejo Nacional de Investigacion Cientifica, Lima

Inculcating an appropriate sense of confidence

Ziauddin Sardar

ALL developing starts with the individual, and science development is no exception. The first and the most critical action, in my book, concerns the scientists of the developing countries themselves: every Third World scientist must consciously inculcate in him/herself an appropriate sense of confidence. Science can only play its full role in development when the integrity of those who do science is preserved. And this integrity cannot be preserved when the Third World scientists themselves do not have any confidence in their ability to manage their enterprise.

There is a natural corollary to the development of confidence in Third World scientists: confidence in oneself precedes from confidence in one's society, tradition, culture and institution. If someone has confidence in his ability as a scientist and