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SCIENCE, TECHNOLOGY AND DEVELOPMENT:

THE IMPERATIVE OF SOCIAL INNOVATION

A declaration of present and past members of the

United Nations Advisory Committee on Science and Technology for Development

to commemorate the tenth anniversary of the Vienna Programme of Action adopted by consensus at the UN Conference on Science and Technology for Development, which took place in Vienna in August 1979

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ADVISORY COMMITTEE ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT

[To commemorate the tenth anniversary of the adoption of the Vienna Programme of Action, present and past members of the Advisory Committee on Science and Technology for Development have issued the following declaration:]

SCIENCE, TECHNOLOGY AND DEVELOPMENT: THE IMPERATIVE OF SOCIAL INNOVATION

A declaration of present and former members of the Advisory Committee on Science and Technology for Development on the occasion of the tenth anniversary of the Vienna Programme of Action (*)

1. Humanity approaches a new century confronting a fundamental paradox: we have never had so much power to influence the course of civilization, to shape the way our species will evolve, and to create an ever-expanding range of opportunities for human betterment - but we remain unwilling or unable to use this new-found power to achieve our full potential as human beings.

2. Throughout most of history, nations and societies have been compelled to behave as though some groups could only progress at the expense of others. Today, advances in science and technology have created new possibilities for all of humanity to prosper, if we could but summon the collective will and wisdom to employ the new means available to us.

3. Science has been the most important factor in placing this unprecedented opportunity within our grasp. During the past four centuries, the systematic process of subjecting abstract conceptions and propositions about the world to the test of empirical observations - which is the hallmark of modern science - has superseded other forms of knowledge generation. As a result, science-based technologies are steadily

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replacing or improving those that developed through trial and error. At the same time, our understanding of the potentials and limitations of modern science and its applications has increased considerably.

4. Paradoxically, progress in material well-being for a growing fraction of the world's population coexists with stagnation and even deterioration in standards of living for the majority of poor people. Deprivation of food, health, education and gainful employment besets a sizeable part of humanity, giving rise to new stresses on the environment which, in turn, undermine the basis for future development. The clash between rising aspirations and the realities of omnipresent poverty, largely triggered by growing awareness of the life styles of the affluent, has become a source of social tension, intolerance and violence.

5. The now enormous potential for human advancement coexists with gross inequalities, possible ominous threats to the global commons (such as the greenhouse effect and stratospheric ozone depletion), and with the diversion of significant proportion of the world's highest intellectual talent to develop technologies of destruction so awesome as to threaten human survival. This paradox puts in sharp relief the critical problem of our age: our scientific knowledge and technological mastery have outstripped our collective capacity to manage advances in science and technology so as to enhance the opportunities and reduce the threats they create. A bold and imaginative effort in social and institutional innovation at all levels - from local to international - is now essential for survival and progress.

6. The 1980s have been through many changes and surprises: the reversal of capital flows between North and South as a consequence of the debt crisis, the information revolution and the proliferation of personal computers, significant advances in biotechnology, the tragic emergence of the AIDS pandemic, the explosive growth of megacities in the third world, and a major redistribution of world economic power, among many others. A new and as yet fluid world order has been in the making in the decade since the United Nations Conference on Science and Technology for Development was held at Vienna in 1979.

7. In this rapidly evolving global context, the 1990s may offer historic opportunities for broader international co-operation in science and technology. After four decades of antagonism and mistrust, the bipolar division of the world - East/West and North/South - are giving way to a pluralistic international environment. This creates a unique opportunity for more equitable and pragmatic distribution of the costs and benefits of scientific and technological progress, casting aside the ideological blinders that constrained the visions of statesmen for nearly half a century. Our enormous and increasing stock of scientific knowledge and technological skills can become a key resource for easing international tensions.

8. We propose three guiding principles for a renewed mobilization of science and technology in the service of development. The international community of statesmen, scientists, policy makers, scholars, professionals, managers, workers and citizens - within which the United Nations system should play a leading role - must in our view:

(a) Evolve a broad new strategy to ensure equality of access for all people to modern scientific and technological knowledge essential to alleviating poverty, reducing population pressures, achieving minimum standards of health and nutrition, improving educational opportunities, and promoting economic growth. Without sacrificing the incentives for individual creativity and practical imagination, we must evolve a common view that scientific and technological progress should directly foster global equity, both within and between generations;

(b) Undertake a concerted effort to build the human and institutional capacities developing countries need to make independent decisions on the critical science and technology issues which will confront them. International co-operation will play a major role in this essential task, particularly because of the huge and growing disparities in scientific and technological capabilities between the industrialized and the developing countries - disparities that dwarf all other indicators of global inequality;

(c) Forge new international partnerships to achieve environmentally sustainable development. The times when humanity could act on the physical and biological environment with impunity - blindly trusting in the regenerative powers of ecosystems - are forever gone. New approaches in which humanity and nature jointly enhance each other's capacities are imperative. This will demand a re-evaluation of the many ways in which different cultures relate to the natural world, using science to build constructively on this diversity, rather than seeking to universalize some single over-arching view of the interactions between human activities and the environment.

9. We believe a successful collective search for social innovations during the last decade of the twentieth century will require a climate of openness and participation at all levels. Imposed solutions or visions - however well conceived - will lack authority and legitimacy in today's increasingly pluralistic political communities. Tolerance for cultural and religious diversity, respect for human rights, active encouragement of individual freedom and creativity, and sensitivity to the damaging effects of inequalities of knowledge and power are essential for linking science and technology to the preservation and advancement of humanity.

10. We reaffirm our belief in international co-operation as the most effective way to transcend the conditions which deny the power and benefits of science and technology to those most in need. International co-operation and development assistance must evolve beyond charity, or narrowly conceived national interests, into expressions of collective responsibility for the well-being of all humanity in present and future generations.

11. We strongly encourage the international community to develop during the next decade a multiplicity of innovative approaches to bilateral, regional and global co-operation in science and technology for development. The United Nations should monitor these initiatives, fostering the exchange of experiences, and when this century comes to an end, 20 years after the 1979 Vienna Conference, should arrange an international gathering to evaluate progress and chart the course for science and technology for development in the new century.

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