

prominent gravity high, despite the fact that a number of sedimentary basins (end-Neoproterozoic Marwar sequence, and Mesozoic-Cenozoic sequences) have developed in this terrain. Does this imply that the continental crust in the Marwar terrain has been attenuated because of extension during rift-related Malani volcanism (*ca.* 750 Ma) and subsequent sedimentary basin formation?

The patterns depicted by the gravity image can be better understood and interpreted, and the questions posed here better addressed if an aeromagnetic image map of India is prepared and studied along with the gravity image.

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### *Response*

I thank Sinha-Roy for his keen interest and critical appraisal of the gravity image of India published in *Current Science*. He pointed out several interesting features of the gravity image that were not mentioned by me. My main intention was to show the visual advantage of

the colour image rather than the conventional contour map. Obviously, the questions raised are trivial and are directed to the scientific community in general. A lot more geophysical and geological data pertaining to the individual geological provinces need to be examined to answer these questions; and of course, the aeromagnetic image may be of great help.

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## NEWS

### World conference on science

An end-of-the-millennium mega event concerning science, jointly sponsored by UNESCO and the International Council for Science (ICSU), was organized at Budapest from 26 June to 1 July 1999. The aim of this conference was to bring together representatives of the scientific community, policy makers, government officials and non-governmental organizations, to take a comprehensive view of the achievements of modern science (including technology) and to establish new guidelines for science policy for the next century, with a view to developing a new social contract for science. The conference was planned by a very distinguished International Scientific Organizing Committee and its preparations extended over two years. Two draft documents, 'World declaration on science and the use of scientific knowledge' and 'Science agenda - Framework for action' were widely circulated well in advance for detailed discussions, debates, comments and suggestions by the concerned organizations globally. For this purpose a series of regional conferences were held and their proceedings and recommendations were submitted to the International Organizing Committee for consideration.

One such regional conference was held at the National Institute of Ad-

vanced Studies, Bangalore, in January 1999. It appears that these inputs from all over the world were duly considered and made use of to modify the draft declaration, several versions of which were circulated from time to time preceding the Budapest Conference. On behalf of the Government of India, the Department of Science and Technology was assigned the responsibility of providing studied responses in advance and ultimately present the same during the Conference. India was a member of the Drafting Committee and was duly represented by an official delegation led by Murali Manohar Joshi. There were a number of others from India who participated in their individual capacity as invited speakers, chairpersons of various thematic meetings and 'forums' which dealt with diverse subjects like 'The nature of science', 'The universal value of fundamental science', 'Science in response to basic human needs', 'The gender mainstreaming in science and technology', 'Science for development', 'Science education', etc. on one hand and 'The biological revolution and its implications for health', 'Science and energy', 'Joining force for sustainable development' to name a few, on the other.

The last two days were devoted to the formal presentations by the leaders of

the country delegations, nearly 120 of whom participated. It was expected that the final declaration and the agenda-framework for action would be ratified by the respective countries like any other UN declarations.

The stated purpose of this Conference could be gleaned from some of the statements made by the key players involved in organizing it. Maurizio Iaccarino, Assistant Director General, UNESCO, felt, 'We need now a new commitment of politicians to science, and of scientists to society. Our idea is to put scientists and politicians together to discuss these issues'. Jean-Francois Stuyck-Taillandier, Executive Director, ICS(U) wished, 'to try to increase the understanding of science on the part of policy makers'. However, the Director General of UNESCO, Federico Mayor had more ambitious expectations: 'One major purpose of the meeting will be to see that the benefits of science go primarily to all those who have hitherto been unreached'. He hoped that, this meeting, the first at this level for 20 years, would enable 'Scientists, decision makers and other stake-holders to address the major issues at the interface between science and society together and negotiate a new social contract'. For the President of ICS(U), Werner Arber, the subtitle of the conference



'Science for the Twenty-First Century, a New Commitment' 'indicates that a deep reflection on science and its multiple impacts on the human society is intended'.

During the various presentations and discussions, it was obvious that the tacit contract between science and society that emerged after the Second World War, wherein the scientists and governments could say to the citizens, 'Leave it to us. We are working on your behalf for your security and prosperity' has had its day. There is a growing distrust about science in the mind of the public who demand the answer to the basic question of what and who it is for. There seemed to be constant undercurrents in many presentations and discussions, cutting across the rich-poor, north-south divide, as also between policy makers and scientists, to question the role of science in the changing global environment of WTO/TRIP/IPR regimes. The Draft Science Agenda-Framework for Action unequivocally emphasized, 'We commit ourselves to the advancement of knowledge. We want this knowledge to be at the service of humanity as a whole, and to produce a better quality of life for present and future generations', and recommended that 'countries that have the necessary expertise should promote the sharing and transfer of knowledge, and in particular through support to specific programmes set up for training world wide'. And more specifically, 'Industrialized countries should cooperate with developing countries through jointly defined Science & Technology projects that address the basic problems of the majority of the population in the latter'. This is in sharp contrast to the prevailing doubts that in an environment in which the main pre-occupation of science is increasingly concerned with the private sector interest, which these days fund and carry out two-thirds of all research in some industrialized countries and is being viewed as a commercial resource, how would these pious resolutions be implemented? Questions were therefore raised, but not answered, that by trying to make science serve the market, is there not a risk of depriving most of humanity of its benefits? Or by forcing universities and state-funded laboratories to generate funds for their survival, might we not

kill off basic research? Notwithstanding all efforts on the part of UN agencies, and promises by the haves, in recent years, the percentage of GNP devoted to international cooperation, particularly with developing countries, has – with certain exceptions – stagnated or decreased. In this regard it is worth mentioning that the Minister of Science, UK, Lord Sainsbury, in his presentation expressed the determination of his country to enhance his country's contribution significantly in the next 2–3 years. There were many such uncomfortable questions and contradictions, freely expressed. And even though there might not have been solutions forthcoming, at least these no doubt impinged upon the consciousness of the concerned parties participating in the conference.

From the point of view of the developing countries, there was much, in the deliberations, as also the final declaration and the agenda-framework for action to be satisfied. Now, it is not just they, but even the representatives of the developed countries – both policy makers and the scientists – who recognized the urgency of directing Science and Technology efforts for eradication of poverty and existing inequities, advancing the objectives of international peace and the common welfare of human kind, aiming at enhancing regional and international collaboration and efforts to catalyse international mobility of Science and Technology personnel for pursuing higher studies, advanced research and training in centres of excellence for this purpose. Preservation, utilization and promotion of indigenous knowledge specially in the developing countries found strong support. Similarly, the farmer's right to seeds, the consequences of genetically modified plants, a serious concern for ethical, social, cultural, environmental, economic and health issues of production and consumption patterns in the developed world were freely and frankly discussed. Amongst other things the declaration proposes, 'Mechanisms for pooling the Science and Technology efforts of different nations should be established to tackle common issues in a cost effective way. Networks for human resources interchange, both North-South and South-South, should be set up in all countries'. It recommended, 'Industri-

alized countries should cooperate with developing countries through jointly defined Science and Technology projects that address the basic problems of the majority of population in the latter'. And 'Donor-countries, non-governmental and intergovernmental organizations and United Nations agencies should revise and promote their programmes involving science to address pressing developmental problems'. Time only will tell whether these were platitudes or expressions of sincere concern leading to remedial efforts.

One is reminded that in 1979, an Intergovernmental Advisory Committee on Science and Development proposed what was called the Vienna Plan of Action. One of the chief recommendations of the plan was 'technology blending' that would enable developing countries to absorb modern technologies and adapt them to the varying social and cultural context of nations so that their endogenous capacities get strengthened. The committee had asked for a 'minimum amount' of about \$12–15 million to implement the plan but even this minimum sum never came. Ten years later, a panel of eminent persons convened by the UN Secretary General issued a statement under the aegis of the UN Centre for Science and Technology Development pleading for implementation on the Vienna Action Plan. Not much seems to have come out of that statement either. One can sincerely hope that the efforts invested in planning and organizing this end of the millennium conference in the beautiful city of Budapest will have better results. It must be stated that the conference was well organized and provided a vast array of thought-provoking talks. It managed to establish that there is increasing convergence between the thinking of diverse groups of participants, representing various cultures, developmental status, fields of activity and professional affiliations (scientists, technologists, administrators and politicians), which if converted into a 'minimum common programme' (to use a political cliché) could benefit both science and society.

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