5th International Workshop on Enhancing Change through Science Centres, Johannesburg (South Africa), 25-28 February 2008

PARTICIPATING COUNTRIES: **22 COUNTRIES (INCLUDING 16 MEMBER COUNTRIES AND 2 INDUSTRY NETWORK MEMBER OF THE CENTRE**

NUMBER OF PARTICIPANTS: **MORE THAN 45 HEADS AND SENIOR EXPERTS ON SCIENCE CENTRES AND SCIENCE MUSEUMS AND POLICY MAKERS FROM 22 COUNTRIES**

In recent years we have been witnessing unprecedented growth in various fields of science and technology, such as nanotechnology, information and communications technology, genomics, genetic engineering and space science, which have thoroughly influenced or are about to transform our lives. In addition, in our rapidly changing world, there is a great need for the public understanding of Science & Technology to create more science literate society, at all age levels. It has become clear that every community needs to complement their formal education system with more experimental and enjoyable learning. Science Centres provide one unique and critical response to these needs.

Science is a part of our culture and society, and science centres and museums provide a distinctive network between the community, the school and the home giving them a unique niche in the educational infrastructure. The public in the developing countries is well educated, emancipated and demanding and expects authenticity, scientific integrity and social relevance. Planning a viable science centre or museum therefore requires an appreciation of the historical past, as well as an analysis of the environment in which it is supposed to operate, including its public and its stakeholders.

In order to address some of the pertinent issues and review the latest status of development related to science centres, science museums, science popularisation and science education, the Centre for Science and Technology of the Non-Aligned and other Developing Countries (NAM S&T Centre) organised its 5th international workshop titled 'Enhancing Change through Science Centres' during 25-28 February 2008 at Birchwood Hotel, Johannesburg, South Africa jointly with the Department of Science and Technology (DST), Government of South Africa. This workshop was intended as a forum for the scientists, technologists, innovators, industry representatives and policy makers to brainstorm on the importance and functionality of science centres, an issue of vital significance for the sustainable growth of their countries.

The workshop was inaugurated by His Excellency Mr. Mosibudi Mangena, the Honourable Minister of Science & Technology, South Africa. During the inaugural address, he mentioned that in South Africa, science centres were identified as an appropriate infrastructure to deliver the Youth into Science Strategy to enhance science literacy and nurture talent among the youth as approved by the Cabinet in March 2007. However, a major challenge facing the science centres throughout the world is to prove their worth to the government, potential sponsors and societies in general. The Minister hoped that the present workshop would enable the participants to share experiences and exchange views on how to communicate the societal changes to the decision makers, stakeholders and the public in general. Thanking the NAM S&T Centre for jointly organising this workshop with the Department of Science and Technology, he mentioned that the event would provide South Africa with an impetus to accelerate efforts to improve the performance of both the education and science systems of South Africa.

Earlier, during the Inaugural Session, Ms. Lindiwe Lusenga, Chief Director, Multilateral Cooperation & Africa in DST gave her opening remarks, besides organising an introduction of all the participants. Prof. Arun P. Kulshreshtha, Director, NAM S&T Centre in his address mentioned about the contributions made by the Centre in promoting South-South and North-South cooperation in the fields of science and technology. He said that the Centre had earlier organised workshops on the same theme in Kolkata, India; Bogotá, Colombia; Hanoi, Vietnam; and Lusaka, Zambia and hoped that the level of

science and technology in the developing countries would be reinforced and the popularisation of science as part of culture and community in these countries would be appropriately driven through the brainstorming and scientific exchanges during the Johannesburg workshop. Mr. K. M. Lebs Mphahlele, Manager (Science and Youth) in DST, South Africa presented the Vote of Thanks.

The overall technical programme of the workshop was coordinated by Mr. Isaac Ramovha from the Science & Youth Unit of DST jointly with Prof. Kulshreshtha. The workshop was attended by more than 45 heads and senior experts on science centres and science museums and policy makers from 22 Countries. The overseas participants were from Argentina [Mr. Joaquin Fargas, Director, Art, Science and Technology], Colombia [Dr. Elizabeth Hoyos, Executive Director, MALOKA], Cuba [Dr. Lilliam Alvarez Diaz, Director of Sciences, Ministry of Science, Technology and Environment (CITMA)], Ghana [Mr. Nakano Hideo, JICA Senior Volunteer at Wesley College of Education], India [Mr. Ingit K. Mukhopadhyay, Director General, National Council of Science Museums; Dr. V. B. Kamble, Director, Vigyan Prasar and Adviser Department of Science and Technology; Mr. K.G. Kumar, Director, National Council of Science Museums, Kolkata; and Dr. R.S. Khandpur, Director General, Pushpa Gujral Science City, Chandigarh], Indonesia [Mr Iskandar Iskandar, Deputy Director Operation, PPIPTEK Science-Technology Centre, Jakarta], Iran [Ms. Tahmineh Shaverdi, Professor Assistant, Iranian Academic Center for Education, Cultural & Research (ACECR) and Ms. Akram Ghadimi from the Institute of National Research for Science Policy], Lesotho [Mrs. Mpho Sekhosana Nyenye, Inspector Science, Ministry of Education and Training], Malawi [Mr. R. M. Kanjedza, Principal Science & Technology Officer, Department of Science & Technology; Mr. Mike Gondwe, Museum Education Coordinator, Museums of Malawi; and Ms. Muza Gondwe, Associate Editor, Malawi Medical Journal], Malaysia [Ms. Tengku Nasariah Tg Syed Ibrahim, CEO, Petrosains Sdn Bhd and Ms. Phyllis Lam Li Wan, Chief Assistant Director (Exhibition), National Science Centre under the Ministry of Science, Technology and Innovation], Mauritius [Dr. Aman Kumar Maulloo, Director, Rajiv Gandhi Science Centre], Namibia [Mr. Lesley L. Losper, Science and Technology Officer, National Research, Science, Technology and Innovation, Ministry of Education], Nigeria [Dr Moyosore Adedapo Jolaoso, Deputy Director, Raw Material Research & Development Council], Pakistan [Dr. S. Azhar Hasan, Member Science, Pakistan Science Foundation and Mr. Tajammul Hussain, Director General, International Affairs, COMSATS Headquarters], Serbia [Prof. Mladjen Curic, Institute of Meteorology, University of Belgrade], Sri Lanka [Dr. M.C.N. Jayasuriya, Director, National Science Foundation], Tanzania [Mr. Gwakisa Bapala, Science and Technology Policy Officer, Ministry of Higher Education, Science and Technology], Turkey [Ms. Kubra Fatma Gokdemir and Ms. Ilay Celik,, Scientific Expert Assistants in the Scientific and Technological Research Council of Turkey (Tubitak)], Vietnam [Dr. Thai Van Tan, Deputy Director General, Ministry of Science & Technology; Ms. Ngo Thi Loan, Vice Head of Project Department, Centre for Regional Research & Development, Ministry of Science & Technology; Mr. Tran Dung Tien, Programme Deputy Director cum Programme Coordinator, Office of the Vietnam-Sweden Research Cooperation Programme (MOST-Sarec\PMU), Ministry of Science & Technology; and Mr. Luc Gia Thai, Programme Office, MOST-Sarec\PMU], Zambia **[**Mrs. Yvonne Ruwe Mulala, Assistant Education Officer, Lusaka National Museum] and Zimbabwe [Mrs. Susan Muzite Nee Tsikwa, Executive Director, Research Council].

The workshop was conducted in 6 technical sessions respectively co-chaired by Dr. I.K. Mukhopadhyay (India) and Dr. Derek Fish (Unizul Science Centre, South Africa); Dr. E. Hoyos (Colombia) and Mr. Alfred Tsipa (South African Agency for Science and Technology Advancement (SAASTA); Mr. Nakano Hideo (Ghana/Japan) and Ms. Rudy Hurak (Manager, Sci-Enza, Pretoria); Ms. Tengku Nasariah Ibrahim (Malaysia) and Ms. Julie Claverdon (Sciencentre, Cape Town); Mr. J. Fargas (Argentina) and Dr. Rufus Wesi (Boitjhorisong Resource Centre, Sasolburg); and Dr. A. K. Maulloo (Mauritius) and Dr. Michael Peter (Chief Operating Officer, Sci-Bono, Johannesburg). All the overseas speakers presented the status of the science centres, science museums and science popularisation related efforts in their respective countries. Mr. Nakano Hideo, JICA Senior Volunteer from Ghana gave a talk with demonstration of several inexpensive science education materials. The speakers from South Africa were Mr. K. M. Lebs Mphahlele, Manager (Science and Youth), DST and Mr. Alfred Tsipa of SAASTA. Dr. Derek Fish of Unizul Science Centre and Dr. Stuart Hopwood, Manager: Exhibitry, Sci-Bono made a highly entertaining joint presentation.

The Concluding Session was mainly devoted to finalising and adoption of the Johannesburg Declaration, a copy of which is attached. The workshop ended with the distribution of participation certificates to the participants.

Study visits for the participants were organised to the Origins Centre, Sci-Bono Discovery Centre, Sci-Enza Science Centre and Sterkfontein Caves.

The participants thanked Mr. Lebs Mphahlele, Mr. Isaac Ramovha and other members of the organising committee for making excellent arrangements and for their generous hospitality and requested them to convey the deepest appreciation to H.E. Mosibudi Mangena, Honourable Minister of Science & Technology for taking such grand initiative. They unanimously hoped that more similar events would be held in future with a focus on South-South cooperation. The organizing committee of the host country and the participants expressed their grateful thanks to Prof. Arun Kulshreshtha for organising such a successful event, patient support and thoughtful care to all participants.

JOHANNESBURG DECLARATION

WHILE EXPRESSING gratitude to the Government of the Republic of South Africa, the hosts of the 5th international workshop on 'Enhancing Change through Science Centres in the Developing Countries', jointly held by the Department of Science and Technology, South Africa and the Centre for Science and Technology of the Non-Aligned and Other Developing Countries (NAM S&T Centre) during 25-28 February 2008, we, the participants of the workshop declare that:

1. **HAVING DELIBERATED** on different issues related to enhancement of valuable changes in personal, societal and economic spheres through science centre activities, the delegates confirmed that the workshop has been successful in bringing out relevant issues in the field and has been very useful in understanding them through rich interactions. The delegates felt that some of the follow-up action plans as charted according to the Kolkata (2002), Bogotá (2004), Hanoi (2004) and Lusaka (2006) Declarations/Recommendations have been pursued. However, there is a lot of ground to be covered as yet.

2. During the workshop, it became evident that while some of the developing countries have well-developed networks of science centres adding considerable value in terms of social appropriation, communication and popularisation of science, technology and innovation and inculcating such a culture within the communities they serve, some other countries do not have any such institutions at all. It also became clear that various sustainable models exist among developing countries and such centres have been important and active elements in nation building.

   Participants were unanimous in expressing that the developing economies they represent require the service of science centres for public dissemination of science and technology issues, building a knowledge-based culture among the people at large and encouraging innovation among all sections of the society, particularly among women and the youth.

   Delegates addressed their aspirations in proliferating non-formal science education in their countries with the ultimate aim of economic and social development and global equity. While doing so, participants referred to some of the barriers that hamper progress as follows:

   - Lower priority given by Governments to the importance of science centres - a change in the perception and commitment of the authorities and leaders is needed.
   - Lack of information - exposure to different sustainable models of science centre operations is required.
   - Lack of trained manpower.

   It was agreed that Government support and funding and/or corporate sponsorship, (if available) are necessary for setting up science centres. The business model for such centres could be non-profit making.

3. **IT WAS THEREFORE RESOLVED that:**

   - The developing countries having established science centre operations will welcome visits by stakeholders, including decision-making Government authorities from other countries.
   - Those who need to convince their Governments and/or the private sector about the necessity for setting up science centres through public and/or private funding may consider inviting experts from other countries to present a sustainable model to the authorities.

- Developing countries, through bilateral or multilateral collaborations, especially on Government to Government understanding, may assist and enrich each other in the establishment of new science centres and all related areas.
- Exchange of information, exhibitions and personnel between developing countries is encouraged. Cultural, educational, scientific and technical exchange programmes between countries should include exchange of personnel and exhibitions in the science centre field.

THUS DECLARED AND SIGNED IN JOHANNESBURG, SOUTH AFRICA ON THIS DAY, 27TH FEBRUARY 2008.