

## Global partnerships towards creation of knowledge societies – A way forward\*

Critical development issues today are being approached from both global and local perspectives through the joint participation of private and public institutions, non-governmental organizations (NGOs) and members of civil society. If participatory action is not taken, a substantial majority of people, especially in developing countries and more women than men will be excluded from contributing to, and benefiting from a wide range of social and economic activities that affect their lives. It is this new development paradigm with a focus on the role of knowledge in the development process, facilitated through the use of Information and Communication Technology (ICT) that Global Knowledge Partnership (GKP) seeks.

GKP emerged from a process initiated at the Global Knowledge Conference-I (GK-I), an initiative by Canada and the World Bank, held in Toronto, Canada in June 1997 to overcome the emerging digital divide and the hurdles in creating knowledge societies. This learning exercise, through various electronic discussions and meetings over a period of three years, culminated in the Global Knowledge Conference-II (GK-II).

GKP, an evolving informal global network of organizations – large and small, public and private, commercial and non-profit – is committed to sharing information, experience and resources in order to promote broad access to, and effective use of knowledge and information as tools for sustainable and equitable development. GKP's unique features are its global and holistic approach to development, its focus on knowledge as the key driver in development, and its open and inclusive membership.

The three themes identified for the Second Global Knowledge Conference (GK-II), hosted by the Malaysian Government were – Access, Empowerment

and Governance with four cross-cutting areas – gender (including equality, empowerment of women, improved gender programme and policy), youth (access, education and improved systems within the global economy), local knowledge (including the integration of local knowledge systems within the global economy), and media (including issues of convergence, cultural diversity and identity, democracy, media freedoms, access and empowerment, ownership and control of the media, and education).

GK-II was organized into a forum, with representation from a global audience of more than 1000 from public, private and civil society organizations, where participants discussed the best ways to promote knowledge for development and especially to address the challenges and opportunities of working in partnerships. The summit, which followed the forum, brought together about 300 individuals from current and prospective GKP member organizations to discuss the issues and challenges posed by the three themes and to develop an Action Plan, which was voted upon at the market place to guide the GKP's programme for the next several years. The conference was designed to stimulate partnership and joint action within GKP as a whole, and among smaller groups of partners for providing opportunities for brokering ideas and resources. Finally, there was a knowledge fair session for sharing best practices, lessons learnt from the field, new technologies and tools, and innovative strategies that use knowledge and information to address developmental challenges.

James Wolfenson, President of World Bank, in his inaugural address, stated that social justice and equity can be achieved only if knowledge is properly transferred and on improved management of information. This set the note for the conference. Discussions on access revolved around ensuring universal access to strategies and tools for the effective use of knowledge and information, access by all to all the world's diverse riches of knowledge and infor-

mation, including the knowledge of marginalized and traditional communities for sustainable development. There was increasing awareness of overlapping concerns, jurisdictions, and needs for more equitable distribution of the outcome of governance processes involving representatives of all sectors of society.

Much discussion took place on effective knowledge transfers. It was felt that too little regard is being given at present to the role and potential of local, traditional and indigenous knowledge. As a part of including the excluded, the National Council of Women of Malaysia along with the UNDP, Malaysia, and UNIFEM coordinated a Women's Forum, which debated at length on ways and means to transcend the gender information divide. Recommendations were made to ensure a gender perspective in the formation of projects that may have differential impact on women and men and ways and means to empower women to skills to use, select and integrate ICT in their day-to-day life.

Learning from successful activities that rely on information sharing and new sources of knowledge, and which involve a high degree of participation (access), democratic decision-making (empowerment), and new forms of governance can help to ensure that the process of building knowledge societies has a positive impact on people's lives. The fair was the place to see this. About 70 innovative activities related to these themes that are taking place around the world were identified for the knowledge sharing session. These activities included a telecentre in Mali, an agricultural information centre in Benin, a mobile community health telecentre providing health information in rural Nigeria, an NGO in India using the Internet to help rural women market their handicrafts, an NGO in Peru using Linux to make old computers useful to poor communities and a web-based system for sharing knowledge about participatory natural resource management in four countries in the Lower Mekong Basin.

\*A report on the Second Global Knowledge Conference (GK-II) held at Kuala Lumpur, Malaysia during 5–10 March 2000. Details regarding GK-II can be found in the website: [www.globalknowledge.org.my](http://www.globalknowledge.org.my).

The draft action plans were drawn from women, youth and media from suggestions made by the six forum parallel round table sessions as well as the GK-II plenary sessions. Essentially the recommendations were for development of standards and guidelines for *increasing access* using new technologies integrating with existing ones for content management, free flow of information and knowledge and regulation, policy and innovative financing to create an enabling environment for this to happen; creating education to employment strategies and promoting domestic and international ICT interships and establishing electronic alert networks as a means to *empowerment* and providing training and education in *governance* and sharing this knowledge. With reference to sharing local knowledge it was recommended that a national

strategy be supported to use local knowledge in the development process. A discussion list for the youth and ICT replication and learning funds for women entrepreneurs and finally for effective dissemination community media and community media networks also need to be supported.

GK-II provided an excellent opportunity to share the experience that has already been accumulated and learn from each other's failures as well as successes. Participation from the Indian side was hardly felt. Except for a few partners who were present (mostly the NGOs), participation from the government and private sectors was meagre. To exploit the opportunities, which this vibrant field offers, it should be realized that the assembling of such tools is only part of the tasks for the countries as they design new or improved National

ICT strategies. Unless social reforms are introduced and reinforced with supportive measures that enable all strata of society to be included in this revolution, technological innovations actually work against the development goal of breaking down inequalities. The recent Vision Statement jointly issued by the Prime Minister of India and the President of the United States of America, emphasized the need to harness knowledge for meeting basic needs of poverty alleviation and health. This might be just the beginning towards such partnerships to focus on issues of common concern and activities.

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## Biology today: Urgent need for an integrative approach\*

The need for re-integration of the various sub-divisions of biology with each other and of biology with other branches of science has begun to be increasingly felt, particularly during the past one decade or so. The International Union of Biological Sciences (IUBS) has, accordingly, adopted a new initiative called 'Towards an Integrative Biology' (TAIB).

The Indian National Science Academy organized a seminar with a view to involve a wider section of our academic community to understand what is integrative biology and how this approach can be implemented in our research and teaching programmes.

The two sessions on 13 March were devoted to research while the sessions on 14 March concentrated on aspects of teaching biology. S. C. Lakhota (BHU, Varanasi) introduced the theme of the seminar and explained that integrative biology is not a new discipline but a philosophy as well as a mechanism to integrate not only the various sub-

disciplines within biology but also to integrate biology with other branches of science in research and teaching. Although integrative biology may have different meanings in different contexts, essentially it aims to incorporate 'organismic biology' and 'molecular biology' with each other and with other branches of science, conceptually as well as methodologically, so that a holistic view of life processes can be obtained.

In the first session on 'Integrative Biology in Research', N. R. Jaganathan (AIIMS, New Delhi) and M. Vijayan (IISc, Bangalore) illustrated the integrative approach inherent in biophysical methods. Vijayan emphasized that although the reductionist approach has already been providing some integration, parochialism that seems to exist in some areas of biology needs to be avoided. As he stated, different areas of biology are complementary rather than competitive.

In the second session, Anupam Varma (IARI, New Delhi) highlighted the success of an integrative approach being practiced in agricultural sciences. U. Bhalla (NCBS, Bangalore) and S.

Rama Kumar (IISc, Bangalore) emphasized the role of computational biology and bioinformatics in contributing to the integrative nature of today's biology. Bhalla proposed some novel and practical ideas to tap the Indian advantage in software to promote non-classroom teaching of biology: the expertise available in some of the leading research and teaching institutions in the country can be utilized to develop illustrative materials for distribution to even remote areas through CDs and the internet. Speakers as well as the discussants all emphasized the need for developing more interactive research programmes. R. Gadagkar (IISc, Bangalore) pointed out that the Central Board of Secondary Education has, of late, stopped providing opportunity for biology stream students to study computer science and vice versa. Given the significant role of computers and bio-informatics in biology, such exclusiveness is detrimental. N. K. Ganguly (ICMR, New Delhi) in his summing-up remarks, pointed out that a major cause for the present unsatisfactory situation in biological research was the 'straight-jacketed' university system with restricted employment

\*Report on a Seminar on Integrative Biology at the Indian National Science Academy, New Delhi, during 13-14 March 2000.