Chairperson's Summary

The Sixth Conference of the Science Council of Asia (SCA)
April 17 – 19, 2006
Delhi

The Science Council of Asia (SCA) was established in May 2000, with the following purposes: to exchange information on the current status of science among Asian countries; to promote collaboration and cooperation in a wide range of field of science in the Asian region, and to advance mutual understanding and trust among scientists in Asia. The activities of SCA have focused and will stay on focus "Sustainable Development: A prosperous, harmonious and greener Asia".

We assembled in Delhi for our annual Conference which was held between April 17 and 19, 2006. Ten member countries (China, India, Indonesia, Japan, Republic of Korea, Malaysia, Mongolia, the Philippines, Singapore and Vietnam) and 17 international, regional or national organizations participated in the Conference (Thailand was absent).

The main theme of this Conference was "Institution and Capacity Building for Rural Development and Role of Science for Sustainable Development." The discussion centered around finding solutions which can strengthen regional cooperation in Asia.

All the participants agreed that the significance of the role of science for sustainable development should be more emphasized and that scientists have a specific role for fulfillment of Sustainable Development, which is to support our understanding, to disseminate their knowledge, to develop cooperative networks in regional and international communities, and to make our recommendations to policy makers.

Ⅰ Management Board Meetings and General Assemblies

In the Management Board Meetings and the General Assemblies, the following participants made a presentation and the following business matters of SCA items were discussed and determined.

1) In the General Assembly Ⅰ on April 17, Professor Goverdhan Mehta, President of ICSU, gave a speech as an invited speaker of the General Assembly. He introduced International Council of Science (ICSU) about its composition, role and goals. This organization is working with a vision of a world where science will be used for the benefit of all, and scientific knowledge is very effectively linked to policy making. Professor Mehta made a valuable recommendation when he said that there was an urgent need for actions to come together with a policy framework. He also recommended that to achieve fortunate goals of sustainability and to fully harness the benefits of Science and Technology for development of all, active engagement with policy makers was of paramount importance in the context of 'science policy' and 'policy for science'.

2) While presenting the Agenda, Professor Kiyoshi Kurokawa observed that SCA should also cover various aspects of social science to make its scope more broad-based.

3) In the General Assembly Ⅰ on April 17, Mr. Wataru Nishigahiro, Director-General of SCJ, gave a brief about "G8 Academies' Meeting and the Role of Human Science".

4) We discussed about The 7th SCA Conference in Okinawa, Japan and approved that the conference would be held from June 14 to 16 2007 in cooperation with the 21st Pacific Science Congress in order to enhance mutual synergy-effect. Dr. Nancy Lewis, Secretary-General of Pacific Science Association (PSA), made a presentation for the activities of PSA and the Congress. There was a suggestion that the core theme of this Conference would be "Energy and Environment"

5) As to the subsequent Conferences, China, the host country of the 8th Conference, reported that the Conference would be held in Quing Dao and that the theme would be focused on "Ocean Science". The Philippines said that the 10th Conference to be held in the Philippines in 2010 would be in Manila.

6) Two SCA Joint Projects just submitted the reports on "A Comparative Study of the Research Conditions of Women Scientists and the Present States of Women's/Gender Studies in Asian Countries Towards the Human Centered Sustainable Development" and "Natural Hazard Reduction: Recommendations for Collaboration" following the first report "Science and Technology for Sustainability in Asia" presented by Malaysia in Hanoi 2005, and was highly

evaluated. In connection with this project, Professor Emeritus Mohd Nordin Hasan, Council Member of Academy of Science Malaysia and Professor Mazlin Mokhtar, LESTARI-UKM, made a joint presentation about the project.

7) There was a discussion on Membership-fees with tentative budget plan; and had many members express their opinion on this. It was suggested that these opinions and proposals should be invited from member organizations/countries for discussions in the next Conference at Okinawa.

Ⅱ Workshops

On April 17, several scientific sessions were held in parallel which attracted a wide variety of audience.

1) SCA Joint Project Workshop: A Comparative Study of the Research Conditions of Women Scientists and the Present States of Women's/Gender Studies in Asian Countries Towards the Human Centered Sustainable Development (Gender)

The workshop was jointly organized by Dr. Hiroko Hara, SCJ / Professor Josai International University, and Ms. Sjamsiah Achmad, Gender Advisor, Indonesian Institute of Sciences (LIPI).

The Workshop was well attended with about 30 engaged participants and eight thought provoking speakers, followed by incisive and thoughtful comments and questions.

Devaki Jain, Development Economist, made a presentation on "Women's Economic Reasoning and Development Economics: A Discussion on Some Intersections". Her presentation provided a provocative framework based on development economics which looks at how an understanding of gender issues has urged a reexamination of all kinds of differences in not only gender, but age, class, caste, etc. She argued that theories of development must be reexamined and suggested to use Ghandi's framework in the reexamination.

Yasuko Muramatsu, Professor Emeritus at Tokyo Woman's Christian University made a presentation on "Gender and Economics in Japan --- Japanese Women's Position in Economics

and Activities of Japan Association for Feminist Economics to Advance Gender Perspective ---". She argued, quoting Devaki Jain's paper, that social reproduction is not well integrated into economic analysis and that we need a human centered economic development paradigm and more women in economics.

Takako Sodei, Professor Emeritus at Ochanomizu University, made a presentation on "Gender Mainstreaming in Recent Japan: Women in Science and Technology". She described recent gender mainstreaming in Japanese government policy, and noted that the number of women in the Science Council of Japan has grown rapidly in the past several years, with 42 women of 210 members appointed for the 2005-2008 term.

Wati Hermawati, Program Coordinator of the RESGEST, UNESCO Office, Jakarta and Researcher of the Indonesian Institute of Sciences (LIPI), made a presentation on "Innovative Grass-Roots Technology for Women's Empowerment and Sustainable Development: Experience from the Asia-Pacific Countries". She shifted the focus on the advantage of S&T for women by taking the experiences of APGEST in the five key technology areas: Biotechnology, Renewable Energy, Water and Sanitation, Green Health, and Information Technology.

Achie Sudiari Luhulima, Gender Advisor at Indonesian Institute of Sciences (LIPI), made a presentation on "Science and Technology for the Enhancement of the Quality of Life of Women: The Role of the Women's/Gender Studies in Indonesia". She continued by looking at the role of Women's/Gender Studies in enhancing the quality of life of women in Indonesia.

Since Carolyn Sobritchea, Professor, Center for Women's Studies at University of the Philippines, was unable to attend, Dr. H. Hara presented the key findings of her paper "The Education and Research in Advancing Women's Status in the Philippines" with the inclusion of women's perspectives in academia in the Philippines.

Lipi Mukhopadhyay, Associate Professor at Indian Institute of Public Administration, made a presentation on "Social Policy and Gender in India". She discussed social policy and gender in India stressing the need to explore institutionalized gender roles in South Asia.

Takashi Kurosaki, Professor of Institute of Economic Research at Hitotsubashi University, made a presentation on "Intrahousehold Resource Allocation and its Unequal Gender-based Distribution in Andhra Pradesh, India". He presented his research in progress in "Andhra Pradesh on Intrahousehold Resource Allocation" and its "Unequal Gender-based Distribution in Andhra Pradesh, India".

Overall, the need to increase better understanding of the ultimate goals of gender equality and justice "sustainable quality of life of all- women and men, young and old", and to enhance the role of all disciplines of sciences and technology in achieving these goals are major challenges.

2) SCA Joint Project Workshop: Management of Sustainable Aquatic Environment (Water)

The workshop was jointly organized by the following three presenters; Dr. Tetsuya Kusuda, SCJ/ Professor at Kyushu University, Dr. Tadashi Yamada SCJ/ Professor at Chuo University, and Dr. Naoyuki Funamizu SCJ/ Professor at Hokkaido University. The workshop consisted on three sub-sessions.

The first session "Developing Sustainable Sanitation System: How can we contribute to achieving MDG ?" was presented by Professor Naoyuki Funamizu, in which a new system of toilet, "Bio-toilet", was proposed for every country including advanced countries. The concept of the system is "not to mix", "not to collect", "not to dispose resources", and "to be safe." This project is expected to be approved as an independent SCA Joint Project in the next GA.

The second session "Recent Development of Water Resources and Hydrology" was presented by Professor Tadashi Yamada. Several models on hydrology and flood control and activities relevant to flood control were explained.

The third was a poster presentation, where eight papers on sanitation were shown. Professor Naoyuki Funamizu and his colleagues exhibited on "Development of sustainable Sanitation System and Its Implementation to Asian Countries – An Interdisciplinary Research Project – on Poster Session (organized by Dr. Tetsuya Kusuda)". They introduced their study and research on the environment of sanitation system in Asia. They showed many suggestive findings

and fruits of their research on the development and expansion of Bio-Toilet and Waste Water Treatment System, and on how to utilize them effectively through case studies in a variety of places in Asia, such as. “Case study in Slum Area of Indonesia practical test of Bio-Toilet In Indonesia”, “Carrying Out process of Compost material produced by Sawdust Toilet - A case study in Manila-” , “Application of the Slanted Soil Treatment System for Domestic Gray Water treatment Combined with Bio-Toilet”, and “Integrated Assessment for environmental impacts of sanitation systems”.

In all sessions, scientific problems and affordability on each technology were discussed and some collaborative research projects between Japan and India toward the future are expected.

3) SCA Joint Project Workshop: International Cooperation for the Safety of Maritime Navigation in Asia (Ocean Security)

The Third Workshop’s theme was “Security of Ocean in Asia.” At the outset, Dr. Tadao Kuribayashi, Professor at Toyo Eiwa University and Professor Emeritus at Keio University, who chaired the session, explained the concept of “Securing the Ocean” citing the Tokyo Declaration which was adopted in 2004 by an conference organized by Ocean Policy Research Foundation (OPRF) , held in Tokyo. It contains much broader issues than traditional military security, safety of navigation, sea piracy, terrorism, but also includes sustainable ocean development, marine environment, etc. He stressed that those subjects should be treated in an integrated manner and in relation to the quality of life on land.

The first speaker, Mr. John C. DeSilva, Vice Admiral (Rtd) of the Indian Navy, discussed the concept of Ecologically Sustainable Development (ESD) and suggested the importance of raising public awareness of the importance of ESD.

The Second speaker, Professor Robert Beckman at National University of Singapore, took up two special subjects with regard to international shipping and marine biodiversity. He discussed on practice of creating particularly sensitive sea areas (PSSA) of IMO and pointed out there is no PSSA proposed in Asian region as yet. He also addressed to the problem of degradation of biodiversity by invasive marine species, and explained the development of ballast water regulations.

Finally, Professor Naoya Okuwaki at University of Tokyo, discussed how to influence states to act towards good ocean governance in Asian semi-enclosed seas. He pointed out that the relationship between the needs for life on land and sustainable development as well as security of the ocean should be reconsidered within the framework of the UNCLOS. He proposed to set up an independent institution in Asia which takes the responsibility, with collaboration between social and natural scientists, to collect and integrate the information and data and to make them easily accessible by the public for educational purposes.

After the presentations, some twenty participants exchanged their views and opinions. In the concluding session, Dr. Kuribayashi promised to make a specific proposal at the 7th SCA Okinawa Conference.

III Keynote Speech

The highlights of the Second day of the Conference covered keynote speeches by three scholars followed by three Symposia. The Keynote speakers were Professor A. Vaidyanathan, Professor N. Nagasaki and Professor Dipankar Gupta. Professor Andre Beteille and Professor Kurokawa presided over the session.

Professor Vaidyanathan, a distinguished social scientist, delivered the first key note speech on the role of institutional reforms to decentralised power and authority. He talked about the unavailability of technology and technology adaptability to local conditions in terms of affordability in cost and benefit. He was of the view that the centralized planning by bureaucracy without rural participation brings in high costs.

Professor Vaidyanathan observed that Rural Infrastructure is very important for rural development. Rural infrastructure, such as transport and communication, educational institutions and healthcare facility has direct bearing on quality of life and productivity.

The second keynote speaker Professor Nagasaki, an eminent historian, spoke on "Development of Education – Gandhi on India and Japan".

Professor Nagasaki drew reference from Gandhi's lectures and writings on value need and philosophy of education. She also described in her paper, Gandhi's ideas on education in India and Japan and how Gandhi amalgamated his ideas of education with political development. Gandhi mobilized independence movement without violence.

Professor Nagasaki also observed that for Gandhi civilization is a moral concept. Gandhi rejected the Western ideas of civilization. According to her, India and Japan are two great civilizations from which Japan formed its own.

She concluded her paper by highlighting Gandhi's and Nehru's impressions on Japan which she classified into five categories, namely, unity, ethics and cost of money, education system and Anglo-Japanese alliance.

The third keynote address was delivered by Professor Dipankar Gupta on Rural-Urban Disparity. He succinctly narrated the areas of Rural Urban disparity. The village in India, where life appeared to be unchanging and idyllic, has in recent decades seen profound changes. Caste and agriculture no longer exercised their vigorous hold. There is greater fluidity in occupation choices primarily because there is hardly any room for agricultural labour in today's family farms. For this reason, vote bank politics and the power of the dominant caste have both become things of the past. Villages are changing no doubt because of urban influence, but also, in large measures because agriculture is now unrewarding occupation.

IV Symposia

Symposium I: Rural Urban Disparity

The moderator for this symposium was Professor Dipankar Gupta.

The first symposium was on the theme of Rural-Urban Disparity. In this symposium, there were two speakers namely Professor Sudershan Iyengar and Professor T. Kurosaki. Professor Sudershan Iyengar, Vice-Chancellor at Gujarat Vidyapeeth, Ahmedabad, Gujarat, observed that conventional approach to comment on the rural-urban disparity is to argue that urban areas have better life, better opportunities and better resource allocation for development. Urban areas and people are forward knowledgeable and comfortable. In contrast, people in rural India are backward, poor, and less educated. Income earning opportunities are low, and access to basic amenities and

prospects for comfortable life are highly restricted. As a method for correction, more biased public investment in rural areas is recommended.

In his understanding, the growing urbanization is a sense for concern. It is taking place largely as a result of push migration. Forty percent of urban population in India lives in slums. In fact, there is no rural-urban disparity as such. Rural rich and urban rich have some disparity between them, but the poor in both the regions have to face hell that has some different characteristics. In urban areas, income earning opportunity is better than in rural areas. If people do not push out to urban areas from rural areas, they would starve and die. But once in urban areas people suffer severely on quality of life. Thus, for a large proportion of the population in developing countries, it is to choose between two hells.

The way out is to create better income earning opportunity in rural areas. But this will happen only when people change preferences and mindset. Local product will have to be bought. Neighbours are to be supported. Decency has to return to rural areas. Once this happens, we will continue to have two worlds, but they would be more tolerable and sustainable.

The second speaker was Professor T. Kurosaki, Professor at Hitotsubashi University, Japan, and the title of his paper was Human Development and Rural-Urban Disparity in India. The main focus of his paper was to review the MDGs process in India, to identify factors underlying the unsatisfactory progress with huge rural-urban disparity, and to derive policy implications to reduce the rural-urban disparity in human development.

In conclusion, he made some recommendations on policy issues. He suggested that there is need for combining community and incentive.

Symposium II: Rural Infrastructure

The moderator for this Symposium was Professor L. S. Bhat.

Professor Y. Fukagawa and Professor Kanchan Chopra made their presentations in this session. Professor Kanchan Chopra's paper was on Institutions for Rural Infrastructure.

In the opening remarks, Professor L. S. Bhat emphasized that rural infrastructure development related to technology and institution, transport, social infrastructure and production facilities is important to differentiate and use the areal, locational and line dimensions for their spatial integration. Clustering of social and production facilities increases efficiency in their utilization. Agro-climatic regions adopted in planning for agricultural development can serve the preparation of area specific policies and identifications of projects/schemes that have ground truth in the context of decentralized planning in India. There is a need to strengthen the involvement of different agencies such as of elected representative on line Departments, NGOs and the people. Training modules appropriate to these agencies need to be prepared and operationalized. In order to strengthen the involvement of educational institutions for developing inter-disciplinary training the role of 27+ sponsored research institutes of the ICSSR and technical institutes such as IARI, Forest Research, Arid Zone Research Institutions is very crucial.

Role of Public and Private investment in rural development was elaborated by Professor Fukagawa. Benefits of highways connecting large areas of the country are vital for integration of development in different regions. It would require identification and prioritization of areas within the preview of public and private domain Gandhian approach to rural development and scope for public investment was discussed. Likewise, there is a need to integrate investments in public and private investment should keep in view the differential impact on regions with varied resource structure and levels of development to maximize integration of infrastructure with economic development.

In her paper, Professor Chopra emphasized the existence of an imperative for investing in rural infrastructure. She observed that a variety of institutional structures are available to ensure accountability such as span of markets, civil society organizations and communities. Elaborating the theme on Institutions for Rural Infrastructure, Professor Kanchan Chopra highlighted the imperative for investing in rural infrastructure for the benefit of the people-their life and living conditions. Among the variety of institutional structures and models, most important ones are investments in roads, schools, primary health center and investment in natural resource use and management. There is a need for providing a successful delivery system for hastening the process integration and benefits that could accrue to the people. For development of land and water resources, watershed has been considered as an ideal unit for their efficient utilization. These efforts seem to introduce horizontal integration on various programme and investment unlike vertical integration by line Departments.

Symposium III: Role of Science for Sustainable Development

This Symposium had two parts. The moderator for each part was Professor Ashok Jain and Professor Yoko Ishikura respectively.

In the first part of this symposium, Professor Pranav N. Desai at Centre for Science and Science Policy, Jawaharlal Nehru University, New Delhi, Professor Nordin Hasan of Malaysia and Professor Rochadi Abdulhadi of Indonesia were the speakers.

The paper of Professor P. N. Desai is on Emerging Technologies and Sustainable Development in Asia. Emerging Technologies like Bio-technologies, Information and Communication Technologies and Nano-technologies have co-evolved with institutions like liberalized economic policies, environmental movements, IPR, and so on. These technologies have raised many issues of social, economic, ethical and legal concerns. It is being debated whether these technologies will ameliorate or exacerbate the developments problems.

Agro-biotechnologies have promised reduction input cost, environmental degradation and enhancing nutritional qualities. However, it is due to the influence of commercial agriculture, new IPR systems that only the commercial crops are gaining greater significance and food crops are neglected. Food crops are important for food security and it is the public sector and universities that require to play greater role here. There are also examples where biotechnology and national socio-economic priorities were not dovetailed, and major economic disasters have taken place like massive labour displacement, etc.

The character of these technologies is also influenced by the liberalized policies and hence this has also affected "universal" nature of science and technology. Finally, it is concerted efforts by national and international communities to link science and technology and development concerns that Asia could move closer to sustainable development path.

The other paper was presented by Professor Nordin Hasan. He observed that science has been central to the development of societies over the centuries. It has contributed to the growth of societies the world over and humankind has derived tremendous benefits from science. However, he contends that the science that has led to this development is not the same as the science that is

needed to make development sustainable. Reductionist science that divides the world in to ever smaller specializations has been very successful in developing society thus far can not address the needs of sustainable development. While reductionist science has develop the knowledge by which human societies created wealth integrative science is needed to develop the wisdom to achieve development that is sustainable, that integrates social, economic, and environmental knowledge for the betterment of mankind.

Over the last decade, the institute for environment and development (LESTARI) of UKM has been involved in studies to find answers to the question; "How does knowledge become policy that is implementable."

This has been done through studies designed to understand the gaps between science and policy and the ways they are addressed in countries that not only have different resource endowments and levels of technological, scientific and economic development. The first such study is nearing completion and examines the use of science for sustainable development in Australia and Malaysia. A new study will examine how knowledge about geohazards, especially in relation to the Tsunami of December 2004 are converted policy and action to reduce the exposure of local communities disasters such as Tsunamis and landslides. This is a joint project on the SCA that will include studies of the process in Japan, Indonesia and Malaysia.

Professor Rochadi Abdulhadi made a presentation. The abstract of his presentation was as follows:

Indonesian Institute of Sciences (LIPI) in responding the Social Safety Net program of Indonesian government, in 1998 launched the Empowering Small-Medium Enterprises (SMEs) through Science and Technological Diffusion program called IPTEKDA-LIPI. The program aims to 1) Increase the ability and creating productive SMEs based on appropriate science and technology 2) Increase the knowledge base society in the rural area 3) Bridging the R&D results and SMEs and 4) Create employment opportunities. At least 3,553 SMEs have been empowered over 8 years' program by introducing various appropriate technologies, i.e. well proven, productive and environmental friendly technology, and 67% of them are successfully improved. In conclusion it can be said that : 1) The program has provided an access for researcher to implement the R&D results, 2) The program become one of the way to empower SMEs 3)The program created the

knowledge based SMEs and 4) The program has brought socio-economic effects in rural area. However, improvement of the program is still required to solve various problems in rural areas.

The second part focused on SCA joint project. There were four presentations for the projects, 'Gender' presented by Ms. Sjamsiah Achmad, 'Water' by Dr. Tetsuya Kusuda, 'Ocean Security' by Dr. Tadao Kuribayashi, and 'Natural Hazard' by Dr. Kenji Satake.

They introduced the summary and proceeding of each project. Especially in Gender and Natural Hazard, their brand new reports of the project were introduced by each presenter.

Professor Ishikura concluded that crucial issue is how we can maintain firm implementation of SCA joint projects, and encourage more members to join the project.