

More Peaceful Use and International Cooperation in Activities in Outer Space

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Abstract

In 1963 "Declaration on Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space" was adopted in the United Nations. Accordingly in 1969, the resolution on principles of exploration and exploitation of outer space was passed in the Japanese Diet. It clearly mentioned that any activity of launching space object into outer space and developing launching rocket should be exclusively for peaceful purpose. Japanese interpretations of 1963 Declaration and other related international space agreements have been qualified to more peaceful use and international cooperation.

Through more than forty years of development and experiences in space activities, technologies, and international cooperation among countries, it is important for us to analyze the present condition of implementing those principles and other related disciplines. Especially in close relation with international cooperation for developing countries, it would be very important matter for future development of space law to implement the principles adopted and agreed among states. In order to overcome the divide issues between the developed and the developing in the world, utilization of space resources and space technologies could bring and facilitate to bridge the divide among the states concerned.

It is very important for us to review and evaluate the 1963 Declaration and other related international space agreements in relation with space activities in order to develop new space law and more international cooperation for peaceful use of outer space.

1. Since the Millennium Year of 2000, many

international, regional and national declarations and policies have been elaborated in relation with alleviating the digital divide issues in the world. The digital divide issues are about differential access to information and communication technologies including satellite communication networks. Nowadays more than 600million people worldwide are using the Internet. As the Internet was rapidly popularized, the number of host computers increased by 15 times over the recent six years. Particularly the number of host computers in the US increased by 17times amounting more than 75% of the world. While Asia Pacific region including Japan shows the large growth by 20 odd times, which exceeds the world average, the share in the world still ranks low. In Asia Pacific region more than 100million people are using the Internet. Even among Asia Pacific countries there is wide gap for accessing the Internet. In order to overcome digital divide issues from global perspectives, recently mentioned in ITU as "The New Missing Link", we must pay attention to the several issues; 1) In rural area of developing countries there exists no telecommunication infrastructure for even voice telephone service and other social infrastructure such as electricity and road. 2) Needs of large investment for infrastructure building to have telecommunication networks in rural area. 3) Even though information and communication technologies developed evolutionally and rapidly, in the process of privatization and competition after WTO Agreement on liberalization of telecommunication service, it is rather difficult and concerned issue for developing countries to change their

policies of telecommunication infrastructure development by the financial aids from developed countries and other international financial institutions into private telecom carriers to invest on rural network development, which might not be profitable.

2. International organizations made several proposals, action plans and hold international conferences for bridging digital divide issues between rural areas and urban areas in developing countries since the year of 2000.

1) UN ICT high-level panel made report on digital divide and proposal to provide all the people in the world, not yet connected, the Internet access by 2004. UN also established DOT Force for implementation of action plans.

2) G8 Okinawa Summit in its Okinawa Charter they agreed to alleviate the digital divide for every one to enjoy accessing to information and communication networks. Several projects have been implementing for bridging international information gap with Japanese government fund 15 billion US\$ over five years.

3) ITU has developed several action plans for rural information and communication network infrastructure. These plans include; (1) establishment of Multi-purpose Community Telecenter (MCT), (2) development of appropriate service and application for rural area, (3) establishment of Center of Excellence for human resource development of cyber space based on the Internet, (4) E-Commerce Initiative for developing countries for small scale industries and farmers, (5) support for NGO to achieve its development goals with utilization of telecommunications.

4) In Asia Pacific Telecommunity Summit on the Information Society in 2000 also adopted the Declaration entitled "Asia Pacific Renaissance through ICT in the 21st Century and

Action Plan". It includes common themes such as forming a shared vision for ICT, bridging digital divide, development information and communication infrastructure, essential applications for the information society, human resource development and enhancement of ICT literacy and regional cooperation and global coordination.

5) The World Summit on Information Society Asia Pacific Region Conference in Tokyo, 2003 also adopted the proposal of alleviating digital divide issues and more initiatives to utilize ICT, to the WSIS Conference in Geneva in December this year. It also includes the proposal for Asia Broadband Plan to implement the proposal.

3. In order to bridging digital divide in Asia Pacific region, developing information and communication infrastructure should be most important and urgent for the improvement of universal service including the Internet. It is important for each country to introduce mobile and satellite systems and to adopt new technologies into access networks such as FTTH (fiber to the home), ADSL, as well as FWA (fixed wireless access), and the development of broadband networks. However the private sector finds little incentive for investment, the participation of the public sector is necessary in developing vital infrastructure in the field of public service telecommunications, such as telemedicine, e-learning, e-government, library, weather, crisis management, environment protection, agriculture, market information systems. In such cases, it is essential for governments to take the lead in promoting infrastructure development, with international support, if required. In the meantime, international cooperation is essential in such field as standardization or management of radio frequencies and satellite orbital slots that are needed for cost effective and efficient development of information and

communication infrastructure, including satellite communications. It is also necessary for developing countries to develop nation wide basic network, improvement of advanced infrastructure like broadband network in urban areas and of basic infrastructure in rural areas with support from developed countries and with international cooperation.

4. In relation with bridging digital divide, one of the very important and concerned issues will be how to implement universal service in the changing environment of technology and information and communication regime. In 1980s we still had a dream to realize that every one in the world could access to telephone by any means within walking distance. However there have been very rapid developments in analog technologies or information and communication, developing countries could catch up with analog technology. In 1990s it became clear that wishful suggestion in "the Missing Link" of the ITU could not be realized by the year of 2000. In the development of digital technologies, implications of information and communication technology have made digital divide wider than before. After liberalization and privatization of information and communication services in both domestic and international markets, operators could hardly implement universal service without any incentive or public policy, especially in the developing countries. Under these circumstances, ITU has elaborated new approach to overcome the digital divide issues with concurrent international and regional conferences as "the New Missing Link". In order to alleviate emerging digital divide issues especially in the developing countries, it should be necessary for us to consider the role of government and international institutions to have more appropriate functions for solutions including more peaceful use and international cooperation of outer space, especially satellite communications.
5. As we have discussed about the importance of bridging digital divide issues, especially to improve information and communication network infrastructure in the developing countries, one of the effective and useful technologies could be satellite communication system recognized both developed and developing countries and regions. There are several successful cases in the developing countries to introduce the satellite communication systems for their improvement of digital divide issues including rural and urban gaps. One of the interesting cases utilizing satellite networks for rural area is the one in Thailand. There have been more than 3000 Vsat stations in the rural area connected via satellites. The satellite networks cover small villages and all the people could access to the phone within walking distance. In the case of Vietnam small village connected via satellite networks with Hanoi and village homes are connected by Wireless Local Loop from Vsat stations for voice, data and the Internet. In the case of the USPnet in the South Pacific Island Countries, they established their own satellite communication networks for their distance education systems among 12 countries via Intelsat. More than 10,000 young students enrolled in the higher education institutions scattered over thousand miles away in the Pacific Ocean, could follow many courses and get degree through distance education mode utilizing audio, video conference with intranet and Internet media. These cases are some of success stories, which showed good examples of solution for digital divides through more peaceful use and international cooperation in space activities. You could find these success stories in the ITU home page, which covers e-learning, e-health, e-commerce and e-government services in the developing countries.
6. Within a few years' information and communication networks could be

digitalized and IP based communication networks with broadband service in the developed countries. It could be also realized for the developing countries to be digitalized and IP based services within ten years utilizing wired and wireless communication networks including satellite.

7. As we discussed about the many proposals and action plans within the framework of "the New Missing Link" of ITU, Japanese government proposed Asia Broadband Plan during the WSIS Asia Pacific region conference in Tokyo this year. According to the Action Plan, they start the experiments for Asia Broadband network among Asian countries via satellite network. We have had more than ten years international cooperation among Asia Pacific countries for R/D and experiments of satellite communication through Partners and Post-Partners projects using Japanese communication satellites. Through this international cooperation among Asia Pacific countries including developing countries, we establish human networks, cooperation and collaboration schemes among us for more peaceful use and international cooperation in satellite communication. This kind of international cooperation in space activities shall be based on the principles and international agreements of space activities.
8. It would be very interesting for us to refer two Japanese experiment and demonstration satellites for future developments of satellite communication network systems. First one is Wideband InterNetworking engineering test and Demonstration Satellite (WINDS). Second one is Quasi-Zenith satellite system. WINDS is the research and development project to establish the world's most advanced information and telecommunication network. It is part of "e-Japan Priority Program" which was established by the Information Technology Strategy Headquarters. WINDS project aims at developing and verifying the main technology for future ultra high-speed satellite communications. It also aims to create and demonstrate new utilizations for satellite communications through various experiments such as Asia Broadband Project. WINDS project is open for international cooperation including both developed and developing countries in Asia Pacific for also implementing alleviation of digital divide issues. We are sure this kind of experiments and demonstrations among regional countries Partnership to be good example for peaceful use and international cooperation in space activities.
9. In order to gap the digital divide between the developed and the developing and between urban and rural area in the developing countries, it would be very important and useful to develop more peaceful use and international cooperation in space activities including especially satellite communications. In order to facilitate this kind of peaceful use and international/regional cooperation for bridging digital divide, the UN and ITU's role should be more functional to develop above mentioned projects with much more involvements with technology transfer and financial support. Environment of satellite communication technologies and business has changed into more private sectors and many more players involved. Particularly, ITU should have a new role of effective and practical management of limited resources, which could be regarded as common heritage of mankind according to the principles of space law. It would be appropriate for ITU to facilitate those functions for developing world to bridge the digital divide into digital opportunity and to give priority right of utilizations of those resources on the basis of international cooperation scheme.
10. Information and Communication Technology would be a powerful engine for development in 21st Century. We

should recognize that ICT, including satellite communications brings about enormous changes in every sector of the economy and society and also great benefits for us. However, there happens the digital divide between those who could access and utilize the Internet services and those not, and it brings us wider gap of income and quality of life, and also gaps between countries and between urban and rural areas and other sectors. It is very important for all to cooperate in finding solutions to ICT issues in both regional and international cooperation through international institutions with common goals of sharing benefits through more peaceful use and international cooperation in space activities within the framework of principles and international agreements.

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