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Space law And Science For Sustainable Peace And Biosphere Management Through Earth Observation Satellites, Especially in Developing SAARC Countries

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Abstracts

The theme of 60th IAC is “Space for Sustainable Peace and Progress”. The IAF President Mr. Berndt Feuerbacher has said in his message that we are building a future in an evolving space industry, and evolution is not possible without cooperation, understanding and enthusiasm. He points out that there are elements like IAA, IISL, COPUOUS, COSPAR and UNESCO that share commonly our goals. The IAC theme is therefore very inspiring as it promises to bring sustainable economic and social development, as also ensuring global peace. Indeed, the world can be an exciting and joyful place to live if space exploration is used to help remove global poverty, improve global environment, and make peace sustainable for a long, long period of time. My paper makes an attempt here to provide briefly a road map to improve in general the dignity and worth of the people, and the ecological – geographical landscape of SAARC region, a region that needs utmost attention of humankind. This region has some of the poorest population, has presently some areas of grave social conflict, has trends for deterioration of environmental resources. But it has

fantastic natural global resources like water, minerals, energy resources, forests, river valleys, land and beautiful mountain areas, and some outstanding historical monuments and wealth of ideas from its history and culture. What is needed is harmonization of ideas, international cooperation, new integrated science that space exploration has provided in general since the IGY programme in 1957 that also gave birth to space exploration in 1957. Today, after fifty years experience of space uses, humankind is at threshold of new world order when with wisdom we can use total knowledge for better ecological and economic life, and free ourselves from useless conflicts. We need new magnificent vision all over the globe to harness the great promise that new science and new space law can provide effortlessly to humankind. We need new international understanding that our President of IAF has called for. Earth Observation satellites for remote sensing (RS) that have provided a new chapter for space benefits for humankind. RS promises all that humankind needs for new ecological economics. It can ensure a new roadmap for space exploration based on ecologically maintained Biosphere without global warming. We are grateful to jurists like Madam

Professor Joanne Irene Gabrynowicz who has added great knowledge and understanding to the subject of RS by holding the First International Conference on the State of Remote Sensing Law in 2002. This new paradigm for RS is like Madam Barbara Ward and Rene Dubos writing the Report to Stockholm Conference for Human Environment in 1972 – Only One Earth. That UN report started the global environment. Here and now we have opportunity to design an economic and ecological world order of RS using global natural resources with new insight available by integrated science, law and economics based on needs of world and the people in general. Enough thinking has already been done on renewable and non-renewable natural resources. Some natural resources can be multiplied like forests, foods, depending upon photosynthesis natural processes. Our major quest NOW is for a biological and ecological outlook of world order The UNESCO declared so in the symposium on “Science and Synthesis” held in 1971 on the anniversary of Einstein and biologist Chardin. In the case of laws of physics, Prof Stephen Hawking says in his book A Brief History of Time:” A complete , consistent , unified theory is only the first step :our goal is a complete understanding of the events around us, and of our own existence.” Biology is much more called upon in contemporary era to understand the global ecological balance, issues connected with global warming, and psycho-social evolution of humankind. It may be said at the outset that in the case of SAARC countries, enough ground has been prepared by scientists and jurists for understanding and cooperation to look for an economically prosperous and happy SAARC region. The politicians

have to show the overall new vision for international cooperation. The fragmented approach of the past has to be given up. The time has come to implement the agenda for progress.

Remote Sensing Law

After fifty years of life of space law, we have an assessment of some leading ideas and legal principles that humankind has been following. Prof. Myres McDougal from Yale Law School and some of his colleagues have defined international law as based on community expectations. These jurists have made it clear that law is not a litany of permissions and prohibitions, but a means for creative action for the community. What we are concerned is not with the theory of law, but with the theory about law. International law is concerned about global welfare, peace, economic development, removal of poverty, the protection of global environment, and harmony with nature. There are enough provisions in the Outer Space Treaty (OST) of 1967 to promote above objectives for remote- sensing law. The OST provides for uses of space-based resources for common interests and benefits of humankind. It calls for international cooperation, international consultations, peaceful uses of space, avoidance of contamination of space etc. It is not possible to make long and detailed study of RS law in this paper. We hope to provide the general outline of a road map for cooperation in RS in an economically underdeveloped region of SAARC where a bright future waits for teeming millions. Nature can provide enough to sustain a life of dignity. The next after OST, the UN has set out in 1986 “Principles Relating to Remote Sensing of the Earth from Outer

Space". These are Principles adopted by the General Assembly that some jurists call instant customary law, as they contain the opinion of states and state practice. Much of modern international law has taken shape in the form of UN Declarations especially when the intent is to lay down procedures and principles for conduct of international relations in a particular humankind activity. Besides, such principles help shape world order more quickly than the cumbersome route followed in treaty making. They are more flexible to suit on various situations.

Purposes of Remote Sensing Law in 1986 Principles

It is necessary to locate main ideas and wisdom in 1986 Principles that can help humankind. The purposes of RS are to improve natural resources management, land use, and the protection of environment. The important principles contained in the Declaration are: that RS shall be carried out for the benefit and interest of all countries irrespective of their degree of economic, social and scientific development. RS shall be done in accordance with international law and the Charter of the UN. RS shall be carried in accordance with article 1 of OST and respect for permanent national sovereignty over natural resources. States shall promote international for RS. States shall provide data storage arrangement and processing and interpretation facilities. The UN shall promote international cooperation and provide technical assistance. Article x says that "RS shall promote the protection of the Earths environment". RS shall protect mankind from natural disasters {xi}. Article xiii provides for international consultations between concerned states to enhance mutual

benefits. In all, there are all the ideas needed for cooperative efforts for states and geographical regions, and for the global ecological system of the Biosphere. There is insufficient space here to describe detailed state practice in RS. Some useful references are available in Prof. Gabrynowicz edited book referred earlier. US has an enacted a code for remote-sensing. India may go ahead with some legislation in future. The entry of private enterprise in space exploration has thrown a new need to draft an international private law convention to include rights and duties of states, as also matters like IPR etc. Air law has many analogies that can be made use of in space law.

RS In SAARC Countries and Immense Potential Benefits Available

SAARC countries comprise of Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka. As said earlier, this is one of the poorest regions with huge population to hold. It meets with large number of natural disasters like floods, famines, etc. It has come to contain largely global terrorism due primarily because of poverty and lack of scientific uses of natural resources. It has some states that need modern governance, democracy and the rule of law. It is posing serious threat to its own environment, as that of global environment by reckless use of its resources like waters, forests etc. Global warming is having its effect to melt glaciers and flood coastal areas. Only fifty years ago, this region contained some of the most beautiful geographical areas that are now den for terrorism and lawlessness with mob rule. In some countries, the military has taken away

power of the people for long years with no economic progress.

Yet there is new hope to turn a new leaf in the history of SAARC countries. The West is helping to remove terrorism. In some areas, democracy is taking roots like in Sri Lanka, Bangladesh and Nepal after periods of turmoil. India has emerged as a global economic state to help this region grow economically. India has lately launched satellites for educational purposes, for improving food output, for water resources management. India is using RS for rural development and making new habitats of population in villages, thus following the dream of Mahatma Gandhi. The SAARC Charter drawn in 8 December 1985 by Heads of States need fresh look for progress. It has to be made into a front rank agenda for the SAARC countries by politicians, scholars and decision makers. Economic cooperation through modern science can make this region like European Union. History is recalled that in the 19th century Europe has had number of wars forgotten now. History is at a new turning point in SAARC region. There are prospects for following common approach to disasters management for cyclones, floods. More positively, scientists from all countries in this region are taking steps to remove poverty and terrorism by seminars and discussions. The UN has important role to promote cooperation. The US Secretary had a successful visit to this region recently to promote common interests of SAARC states and control terrorism and help remove poverty.

The SAARC Declaration mentioned above has some laudable general principles of international law and environmental law and cooperation.

These are in great harmony with the RS principles of UN. The Declaration calls for solving common problems of the region keeping due respect with national sovereignties of states. It calls for economic and cultural cooperation and promoting common welfare of people in this region. The nature of environmental problems have been listed by some scholars taking part in the deliberations of SAARC countries. (See for example C. Surya Kumaran, in *South Asia Journal* 1989 3, 1 & 2, Sage Publications, New Delhi). The list by Kumaran includes: environment impact assessment and cost/benefit analysis, environment quality standards, conservation of ecosystems, solid waste management, social forestry, conservation of montane ecosystems and watersheds, wildlife protection, island ecosystem conservation, desertification, energy and environment, regional seas programme, environmental education, and environmental legislation.

In a perceptive article for the SAARC conference, an eminent scientist and former Secretary Environment and Forests Dr T.N. Khoshoo have outlined some urgent areas where remote sensing can be very useful tool for implementation. These areas include the following: Population stabilization, integrated land-use planning, healthy grasslands and croplands, conservation of forests, conservational of biological diversity, control of water and air pollution, developing nonpolluting sources of energy, recycling of waste, ecologically compatible human settlements, environmental education, updating environmental law, new dimension to national security. Dr Khoshoo was the architect of sustainable development in India and delivered the

Annual Address to Indian Science Congress in 1986 on Sustainable Development. Another international contribution by an Indian scientist has been by Prof U.R.Rao former Chairman ISRO who chaired the UNISPACE III conference in Vienna in July 1999. The theme of that UN conference was Space Benefits for humankind. That made RS a global agenda for economic and social progress. The UN has produced a very informative document for the conference called "Space Benefits for Humanity in the Twenty-First Century This document is very useful for space applications through RS. India has submitted a nice national paper for UNISPACE III conference that outlines the multiple benefits that space applications provide for India. Indeed even the documents for 60th IAC conference show that France has planned all the national planning through space monitoring and applications.

Summary

In brief, we see a new bright future ahead for humankind when earth observation satellites and remote-sensing will help entire ecological planning of natural resources. The states and people all over the world including the SAARC countries have to move with hope and cooperation to remove poverty and ensure a creative and peaceful life on this planet earth.

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