

Emerging Approaches in Development Efforts: Chinese Perspective on Space and Sustainable Development

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Introduction (I)

- Sustainable Development: a broad concept difficult to define, covering a wide range of issues
- Space sustainability: to be understood broadly
 - Traditional areas: environmental protection, space debris mitigation, etc.
 - All states have equal access to space and the ability of benefit from space
- As a result, international cooperation as a way to realize space sustainability
 - Mutually beneficial
 - Voluntary contribution with the end result benefiting international society as a whole

Introduction (II)

- China as an example for the examination of financial and non-financial aspects of sustainable development (official development assistance)
- Changing roles of former recipient countries in development strategies, in the end leading to common development
- As a result, official development assistance to developing countries will lead to common development—sharing common resources and value—in the end peaceful use of outer space, which is in the common interests of the international society

LTS Working Group

- “Terms of Reference and Methods of Work of the WG on the LTS of Outer Space Activities of the Scientific and Technical Subcommittee”
- International cooperation, taking into account the concerns and interests of all states, in particular those of developing countries
- Consideration should be given to “acceptable and reasonable financial and other connotations”
- Ensure that all countries are able to have equitable access to outer space and resources and benefits associated with it.
- China believes that it is important to help developing countries with their capacity building

International Cooperation

- An important principle in space law
- It is a means to realize peaceful uses of outer space
- From the start of the space age, international society emphasized its importance and put down in the UNGA resolutions and the 1967 Outer Space Treaty
- 1996 UNGA Resolution elaborated on the use of this principle, encouraging various form of cooperation in a wide range of areas of space activities

International Cooperation: UNGA Resolution

- Formal requirements: the states to decide on the effectiveness and appropriateness of a specific mode of cooperation
 - Governmental and non-governmental
 - Commercial and non-commercial
 - Global, multilateral, regional or bilateral
 - Between countries at all levels of development (space-faring and non-space-faring; developing and developed countries)
- Substantive requirement: Party autonomy, but with minimum standards to protect rights and legitimate interests of the states
 - carried out on a mutually acceptable basis, showing real intention of the states; terms and conditions through negotiation
 - Conducted on an equitable basis; terms and conditions to be fair and reasonable, not only to the two parties, but to the international society as a whole
 - Special needs of developing countries

Special needs of developing countries

- Developed countries should be encouraged to offer assistance to developing countries in advancing their space capabilities
- Certain preferential treatment means real fairness and reasonableness to developing countries
- In the end, mutually beneficial and lead to common development
- China as an example to study the approaches for space sustainability

China's position

- Long-term sustainability of outer space activities is an issue that occurred during the development of space industry, and issues in the development process should be resolved by means of development
- International society needs to further achieve consensus, attain synergetic development and build common capacities in the monitoring and forecasting of space weather as well as the prevention of space weather hazards (which are the common threats facing States in space activities)
- China is ready to develop practical collaborations with States and advocates enhancing mutual trust and understanding through collaboration
 - Providing technical and financial assistance to achieve common development
 - on the basis of equality and mutual benefit

China's Foreign Aid

- As the world's largest developing country, providing assistance to other developing countries within the framework of South-South cooperation.
- Principles: mutual respect, equality, keeping promise, mutual benefits and win-win.
- Foreign assistance budget under unified management of the Ministry of Finance
- Official Development Assistance (ODA)--Financial Resources for Foreign Assistance (3 major types): grant (aid gratis), interest-free loan and concessional loan (fixed-rate, low-interest, as financial subsidies; raised by Export-Import Bank of China on the market); (also debt relief)
- Other Official Flows (OOF): including non-concessional loans, such as preferential export credits, market-rate export buyers' credits, and commercial loans from Chinese banks
- Major form of assistance: complete projects and goods and materials, technical cooperation and human resources development cooperation

Promoting Economic and Social Development in developing countries

- Improving Infrastructure: Promoting the development of information-based societies: assisted building IT-related projects, including optical cable telecom networks, e-government websites, and radio and television frequency modulation transmitters (such as in Turkmenistan, Togo and Eritrea)
- Strengthening capacity building:
 - human resources cooperation: such as training sessions for technical personnel in the area of telecoms, disaster relief and prevention
 - Technical cooperation: send experts to transfer applicable technique, and help improve technical management capacity in radio and television
- Strengthening environmental protection
 - Assisting construction projects: in the area of meteorological information service
 - Providing assistance in capacity building: training sessions in early warning of meteorological disasters

Foreign Assistance under Regional Cooperation Mechanism

- Regional cooperation mechanisms and platforms, such as Forum on China-Africa Cooperation (FOCAC) and China-ASEAN Summit, etc.
 - Help African countries improve their ability to cope with climate change, and strengthen cooperation in meteorological satellite monitoring; build for African countries meteorological stations and high-altitude observation radar stations, personnel training and exchange, etc.
 - Training courses in the establishment of earthquake and tsunami early warning and monitoring system (Caribbean countries)

Examples:

- 2015 providing broadcasting and telecommunications facilities to African countries
- 2014 maintenance of data processing and broadcasting system, and training session for Pakistan Observatory Center
- 3 October 2008 Launching telecommunications satellite for Venezuela
- Brazil-China Cooperation

China-Brazil Cooperation (I)

- The China-Brazil Earth Resource Satellite (CBERS) project was set up in 1986; the Protocol on Research and Production of the Earth Resource Satellite was signed in 1988. The CBERS-1 was launched in 1999. several protocols were signed later for more satellites.
- Areas for cooperation: facilitating the entry and exit of equipment and materials required for the implementation of the project, as well as for the provision of appropriate documentation for citizens to enter, exist and reside in order to carry out relevant activities
- Mode of cooperation: earlier stage China took up 70% of the cost; in 2002, an equal sharing of the total investment; launching CBERS-3 from China and CBERS-4 from Brazil

China-Brazil Cooperation (II)

- Launching of CBERS-4 from Alcantara Launch Centre in Maranhao, Brazil: a test of viability of the center as a future commercial launch site—far-reaching effects on satellite launch among developing countries
- Both parties have equal benefits from the satellites
- Domestic use of CBERS Data
 - 2006, the COSTIND declared a free online distribution policy
 - 2007, COSTIND document: the data is owned by the state, which authorizes the Centre for resources Satellite Data and Applications (CRESDA) to process, archive, and distribute the data. Etc.
 - 2007, COSTIND Administrative Rules on CBERS-01/02/02B Domestic Data (Trial Version): regulations over acquisition, storage, distribution and use of CBERS data.

China-Brazil Cooperation (III)

- Use of CBERS Data outside China and Brazil
 - Data policy for the use of CBERS data outside both territories in 2004
 - The downlink data are accessible to all countries and IOs; but the onboard data recorder shall be exclusively operated by the two countries.
 - The annual fee to be determined by the conditions of ground stations
 - Agreement on international price list for images
 - Equally sharing the revenues from distribution of data
 - Later (2008), all Latin American countries and some African countries can obtain images for free
 - 2010 consensus: free and open access of data for all developing countries

New approaches of developing countries

- Limiting space debris, promoting peaceful uses of outer space as key sustainability concerns for a long time.
- Role of equal access
 - spectrum and orbit as limited natural resources
 - The ability to use space or their freedom of action in space
- ODA to developing countries
 - Acknowledging each state's unique priorities and interests
 - Requiring justification and accountability for the ODA to both donors and developing countries
- International cooperation, in particular regional engagement
 - Balancing bilateral and multilateral cooperation
 - Taking into account regional perspectives and solidarities
 - Strengthening space development of the regional as a whole and a consistent regional voice in the international arena