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New Developments in National and International Space Policies and Programmes II (1B)

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SPACE APPLICATIONS FOR INTERNATIONAL DEVELOPMENT

**Abstract**

Global space-related activities generated \$257 billion in 2009 and are often thought of as the domain of wealthy and technologically advanced nations. This perspective is misleading, however, as science and technology increasingly help address many of the challenges faced by developing countries. Space systems, particularly communications satellites and remote sensing satellites, have the potential to play a large role in these efforts.

Communications satellites play an important role in increasing the information and communication technology infrastructure of developing nations. A high percentage of the population in many developing nations is located in remote, rural areas that are least likely to have access to terrestrial communication infrastructure. Satellites can provide voice and data broadband service, and the market for satellite communications is high due to the lack of traditional alternatives in rural areas.

Remote sensing satellites are well-suited to addressing some of the challenges faced in developing nations. These satellites provide the ability to observe large areas without the need for data collection on the ground. This may be the only cost-effective way to collect data about large, sparsely populated areas. Governments can use satellite imagery to understand environmental conditions and develop applications for land-use planning, disaster early warning, and other vital issues.

The ability of a nation to drive innovation and economic progress depends on its science and technology capacity. Investing in the space sector is a productive method for nations to begin growing their capacity and addressing these issues. At a minimum, nations may cultivate space experts to help understand how space assets can be applied to national priorities. This knowledge would allow the country to have a voice in international efforts related to space and to take full advantage of international space application programs that already exist.

Recognizing how space assets benefit developing nations helps to illuminate areas where progress can be made. Efforts must be undertaken to increase awareness of the benefits of space assets to developing nations and the specific challenges that they face. Research should be done to develop applications for small scale entrepreneurial and agricultural uses. Research should address simpler, more automated applications for tele-education, telemedicine, and telebusiness. The developed world should provide support in building indigenous science and technology capacity in developing nations through increased cooperation in the space sector. By taking steps such as these, the benefit of space applications can be realized by developing nations.