

SPACE SECURITY AND SATELLITE APPLICATIONS IN HUMANITARIAN AID

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INTRODUCTION

The UN Operational Satellite Applications Programme (UNOSAT) is a programme of the UN Institute for Training and Research, operated in collaboration with the United Nations Office of Project Services (UNOPS) and the European Organization for Nuclear Research (CERN). UNOSAT was called to present the experience and point of view of the United Nations on the use of satellite technology in various areas of work including humanitarian relief coordination, risk management and development.

While it is being debated whether more space actors may cause more insecurity in outer space, from the view point of view of civilian applications of Earth observation, the multiplication of actors and providers is rather beneficial to the development of Earth observation and integrated solutions in the emergency response and development fields.

The inherent vulnerability of satellites and the issue of security in outer space is of course of relevance when trying to evaluate the sustainability of Earth-observation-based solutions in support of the international agenda. UNOSAT underlined that space security, a matter typically of interest to the disarmament community, is of increasing importance to the international community at large even though the general public and development experts are not fully aware of its implications.

It was underlined that more space security means more options of peaceful uses of satellite applications and the hope of the UNOSAT community is that space security is not jeopardized in future.

EVOLUTION OF SATELLITE APPLICATIONS IN THE UNITED NATIONS

The evolution of the use of satellite applications in the UN family is relatively short yet it has rapidly increased since the launch in 2000 of the UNOSAT project. This project became a full programme a few years later, having successfully demonstrated in cooperation with the European Space Agency and a number of UN users that solutions based on satellite technology are beneficial to carrying out the mission of the United Nations in several areas of work.

The next phase of the programme was to develop tailored solutions meeting the specific requirements of various UN actors. In parallel, UNOSAT has established itself as a technical pole within the United Nations, able to keep pace with the rapid technological development in the area of satellites. This was a distinct benefit brought about by UNOSAT due to the simple fact that this is the only UN programme entirely dedicated to research and development in satellite applications. As the range of Earth observation and information and communication technology applications developed, the United Nations was able to remain in sync with the space community and abreast of new solutions being developed in public and private space domains. Today, the United Nations has virtually no lag in the area of space applications for humanitarian aid, risk reduction and development support. This is an asset that UNOSAT strives to maintain for the long term.

What is eventually at stake is the capacity of the UN system to support and monitor the implementation of the Millennium Development Goals, which need to find their realization at the regional and local levels to be able to percolate from the state of policy declarations of intent to that of tangible reality in the daily life of millions. Satellites offer today a range of investigation, assessment and monitoring solutions that, if and when applied correctly, represent millions of dollars in savings and substantially shorter implementation time. Countries and communities that could not otherwise afford it can now reasonably rely on the United Nations to gain access to technologies that are already pervasive in industrialized countries but still too scarce in developing countries, where the needs are far greater.

ROLE OF UNOSAT

The initial idea of UNOSAT is based on the emerging geographic information needs in UN projects in post-crisis countries. These needs were evident already at the end of the 1980s but the UN system was not in a position to respond to them. Today it is self-evident that Earth observation data and geographic information systems (GIS) are useful tools for effective decision-making. The environment, human security, vulnerability reduction, adaptation to climate change, emergency response and recovery are all areas in which these tools are becoming common requirements and the effects of their introduction in current practices are largely felt already.

UNOSAT is entirely dedicated to developing and applying, together with an ever-growing number of partners, the entire range of satellite solutions, including integrated ones, to the entire range of UN goals and objectives. The UNOSAT approach is innovative in that it suggests a new paradigm combining technical soundness with a constant focus on users and needs. The result is a number of activities and methodologies entirely aimed at producing concrete solutions with high impact at low cost.

UNOSAT has been not only an experimental lab for techniques to be used in achieving the mandate of the United Nations, but also a precursor in policy matters relating to the integration of Earth observation tools in international development and emergency response. Like in previous similar cases, the UN system has had to behave with caution, taking the time to understand the advantages brought about by technological innovation, test them and absorb the relevant practices gradually. A large number of space applications are emanating from the private sector. These represent globally the state of the art of the underpinning technology but are not tailored on the requirements of the UN family. While many satellite programmes have adopted labels indicating that they are “user driven”, it is nonetheless a reality that the whole sector of data procurement is driven by commercial interests. The response to this state of affairs should be one of constructive collaboration between the United Nations and the private/public sector in charge of outer space, not one of closure, not one of entrusting to the space sector the entire burden of creating solutions for the international community.

By taking the lead in developing technical solutions and implementing them in support of a number of sister agencies, UNOSAT has become

visible to and recognized by private sector entities and space agencies. The result is that UN needs and requirements are today taken into account in various large international programmes, among these being the European Space Agency, the Global Monitoring for Environment and Security of the European Union, the Global Earth Observation System of Systems, and International Charter—Space and Major Disasters.

As the capabilities grow within the UN system itself and more solutions become available, UNOSAT is also contributing to better coordination among various UN users thus decreasing duplication and parallel efforts that are frequent when new tools are being developed.

CONCLUSION

Recognizing the international challenges linked to the world of geographic information is important. The main ones are the growing population of internally displaced persons, water resources and their management, adaptation to climate change, the struggle for information management and exchange, and the security threats linked to seeking information superiority. Others are less glamorous but equally important in the pursuit of the Millennium Development Goals.

Faced with these challenges, providing the United Nations with sound and independent capabilities is a choice that will have to be made sooner or later.