

EARTH OBSERVATION SYMPOSIUM (B1)  
Earth Observation Applications and Economic Benefits (5)

Author: Dr. Ray A. Williamson  
Secure World Foundation, United States

EARTH OBSERVATIONS AND HUMAN SECURITY: OPPORTUNITIES AND CHALLENGES

**Abstract**

Now as never before the world community operates sufficient numbers and varieties of Earth observations satellite systems to contribute to human security and to make an enormous positive difference in the lives of billions of people around the world. The benefits to society worldwide are potentially very great. Yet in order to deliver these benefits efficiently and effectively, space system operators will have to be better organized, and they will have to develop the appropriate tools to turn data into useful information and appropriate services inexpensively and expeditiously. They will also have to collaborate more deeply and effectively with ground system operators and value added organizations around the world.

Human security is a concept that was developed out of the experiences of the Cold War in which major power politics very often rode roughshod over the needs of individuals, communities, and small states. Proponents of this approach assert that in tackling security, rather than focusing effort and wealth on territorial security, development efforts should instead focus on the direct needs of people, individually and in community. As articulated in a major 1994 United Nations Development Program (UNDP) report [<http://hdr.undp.org/en/reports/global/hdr1994/>], the concept involves seven aspects of human existence: economic security; food security; health security; environmental security; community security; personal security; political security. None of these loosely-defined concepts is independent of the others. Indeed, each relies upon the others in complex, sometimes surprising, ways.

Earth observing, telecommunications, and satellite position, navigation, and timing (PNT) systems (e.g., the U.S. Global Positioning System) all have a role in improving human security throughout the world. These space systems are most effective in supporting the first five security aspects: economic security; food security; health security; environmental security; and community security. This paper examines the role of Earth observing systems for serving human security needs as defined by the UNDP and explores solutions to some of the current hurdles that impede the delivery of services to people. For example, the paper discusses the role of data policies either in promoting or impeding the efficient and prompt delivery of services, and the sometimes broken chain of processes from data collection to the end user of information. Finally, the paper examines the importance of involving International Non-Governmental Organizations (INGOs) in the delivery of services and ways in which to make that process more efficient.