Paper ID: 13132
oral
student

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

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DESERT MOVEMENT PREDICTOR AND FORMA-BOOTHS: TWO EARTH OBSERVATION BASED APPLICATIONS FOR PAN-AFRICAN DEVELOPMENT

Abstract

Developing and developed countries on the African continent can greatly benefit from space-based Earth Observation applications, in areas as diverse as combating desertification, and in their general agricultural administration and development. However, can these Earth Observation applications assist countries with little or no space infrastructure? As an outcome of the Space and Africa Team Project at International Space University's 2012 Master's Program in Strasbourg, France, this paper will present two innovative applications based on Earth Observation and geared towards implementation throughout Africa.

There are clear fields where Earth Observation presents interesting applications to help local communities for agricultural administration and development, and in combating desertification. Self-sustaining communities rely on agriculture and cannot rely on external sources. Desertification is a widespread problem in the African continent caused by a combination of human activities and natural factors. Agriculture and desertification are reciprocally related. Desertification has consequences that directly affects agriculture, health, urban planning, and water scarcity. On the other hand, increasing population, food demand, and short term economic interests lead to overexploitation of resources and unsustainable agricultural practices which further contribute to soil degradation and destruction of the ecosystem.

The IDentifying Effective Applications of Space for Africa (IDEAS for Africa) team at ISU's 2012 MSc program assessed two possible Earth Observation applications, and using three different African countries as examples, how these activities can best be used to promote development. South Africa, Morocco, and Liberia were selected not only based on their respective levels of space development, but also because they differ geographically, socially, economically, and politically. Consequently, a broad comparative analysis can be performed - and due to the dissimilarity of these three countries, analogies can be drawn to other African nations at comparable levels of development. The paper will attempt to show how space and the innovations of the space industry can benefit Africa, to further development across the African continent, and improve the lives and opportunities of those who live there.