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SPACE RELATED ACTIVITIES IN KENYA

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1.0 INTRODUCTION

It is acknowledged that space science and technology can enhance socio-economic development and has potential to provide cost effective solutions to many humanity's pressing needs. Today all parts of the world are being united by communication satellites while space based sensor systems are continually monitoring the globe. These technologies are providing the support needed for sustainable development.

Kenya's involvement in space technology is still very nascent, so far, the involvement has been at the level of application of the technology as already developed by others. Some of the areas of application of space technology in Kenya so far include the following: Communications, resource survey, land use/land cover mapping, management and monitoring of the environment, weather analysis, navigation, Geographic Information Systems (GIS) and geodetic positioning.

2.0 KENYAN INSTITUTIONS INVOLVED IN SPACE RELATED ACTIVITIES.

The applications of space technology in Kenya are spread over a number of institutions, organizations and agencies each one of them specializing in some particular aspect of application. Such organizations include the Department of Resource Surveys and Remote Sensing, the Kenya Meteorological Department, the Regional Centre for Mapping of Resources for Development, IGAD Climate Prediction and Application Centre, the San Marco Project, National universities and the National Council for Science and Technology (NCST). The following is a brief description of the above-mentioned institutions.

i. Department of Resources Surveys and Remote Sensing (DRSRS)

This department was formed in 1976 with funding from the Government of Kenya and support from the Canadian International Development Agency (CIDA).

DRSRS is mandated with the collection, storage, analysis and dissemination of geospatial information on natural resources to facilitate informed decision making for sustainable development with the aim of alleviating poverty and land degradation. The data collected by this department forms the basis for preparation of policies and development plans for decision making in Kenya.

ii. **The Kenya Meteorological Department.**

The meteorological department (KMD) is a pillar in the worldwide efforts to monitor, understand and predict weather and climate for the implementation of reliable and sustainable development initiative.

The KMD also provides oceanographic and other environmental data including vegetation-monitoring services. Public services include daily weather forecasts for public welfare, aviation and marine users and weather related hazards. Short range, medium and long range weather forecasts are integrated into the national economic planning and management programmes.

iii. **The Regional Centre for Mapping of Resources for Development (RCMRD)**

The RCMRD was established in 1975 in Nairobi, Kenya under the auspices of the United Nations Economic Commission for Africa. It is an inter-governmental organization and is managed by its fifteen (15) contracting member states.

The objectives of the RCMRD are: to develop and constantly update harmonized and standardized land resources and urban development digital data and information infrastructure for the region based on demand; to develop a regional early warning system for food security, environmental monitoring and disaster management using mainly satellite data; to undertake projects for creation of spatial information

system suitable for development planning at regional level and community level; to strengthen and harmonized the fragmented regional and African data using accurate geodetic GPS techniques; and to develop capacity and capability in the maintenance of surveying and mapping equipment and offer advisory and maintenance services to the member states.

iv. **IGAD Climate Prediction and Application Centre (ICPAC)**

The major goal of the ICPAC includes providing improved and enhanced sub-regional and national capacities for the use of climate knowledge. The centre provides climate information, prediction products and services and early warning and related applications

v. **The San Marco Project, Malindi**

The San Marco Launching Range was established in 1964 following the signing of a memorandum of understanding between the university college, Nairobi on behalf of the Kenya Government and the Italian Space Commission on cooperation in the peaceful exploration of the Outer Space. Part of the agreement was the establishment of the San Marco Launching range. The first satellite was successfully launched in 1967

The San Marco Project has the following segments:

- i. The sea segment with five platforms (three are floatable while two are fixed).

The sea segment is equipped with launch facilities able to accomplish orbital and sub-orbital (sounding rockets) launch for scientific payloads.

ii. The Land Segment

The land segment has three ground stations for satellite data acquisition, receiving and recording and real-time, relay transmission.

One of the three stations is dedicated to remote sensing data acquisition and processing

vi. National Universities

National Universities (five in number) offer courses in the following areas: remote sensing, surveying and mapping, GIS, meteorology geomatics while space law will be incorporated in due course.

vii. National Council for Science and Technology (NCST)

The NCST was created in 1977 by an Act of Parliament Chapter 250 of the Laws of Kenya to provide machinery for making available to the Government of Kenya advice upon all matters related to scientific and technological activities and research necessary for development including research and experimental development. The NCST is spearheading Kenya's participation in the African Resource and environmental management satellite constellation (ARM), committee. The Governments of Algeria, Kenya, Nigeria and South Africa are working together in the context of ARM towards the launch and

operation of low earth orbiting satellites in order to meet user requirements in these countries.

The NCST has drafted a Kenya Space Science Policy and will soon be presented to the parliament for debate. The purpose of the space policy is to guide Research and Development, capacity building and application of space science and technology for national development.

3.0 STATUS OF RATIFICATION OF INTERNATIONAL AGREEMENTS RELATING TO ACTIVITIES IN OUTER SPACE

Kenya has so far ratified the following international United Nations agreements relating to activities in Outer Space:

- i. 1967 Treaty in Principles Governing the Activities of States in the Exploration and use of Outer Space, including the Moon and Other Celestial Bodies (Outer Space Treaty)
- ii. 1972 LIAB- Convention on International Liability for Damage caused by Space Objects (Liability Convention)

Other Agreement which Kenya has acceded to include the following:

- i. 1963 NTB: Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water.
- ii. 1971 ITSO: Agreement Relating to the International Telecommunications Satellite Organization (ITSO)

- iii. 1976 IMSO: Convention on the International Mobile Satellite Organization
- iv. 1992 ITU: International Telecommunications Constitution and Convention.

4.0 CONCLUSION

Kenya is an active member of the United Nations and is also a member of the committee on the Peaceful Users of Outer Space. Efforts are being made to ensure that Kenya ratifies all the Treaties and agreements relating to activities in Outer Space.

Thank you.