

**United Nations/Zambia /European Space Agency Regional Workshop on the Applications
of Global Navigation Satellite System Technologies in Sub-Saharan Africa**

26 – 30 June 2006, Zambia, Lusaka

PROGRAMME

Monday, 26 June

- 0800 – 1000 Registration of Participants
- 1000 – 1100 **Opening Ceremony**
- Welcome remarks by the Permanent Secretary, Ministry of Health –
Dr. Simon S.K. MITI
- Statement by UN OOSA – Ms. Alice LEE
- Statement by ESA - Ms. Micheline TABACHE (Represented by Mr. Alexandre
STECIW)
- Remarks by the Honourable Minister of Health
- Opening of the workshop – His Honour the Vice President Mr. Lupando MWAPE MP
- 1100 – 1130 Coffee Break
- 1130 – 1230 **Session 1 – Overview: GNSS-based application areas**
- Chairperson: Graciela METTERNICHT (ICA, Australia)
Rapporteur: Harvey Gabriel LEKAMISY (ENEAM, Madagascar)
- Alan MILLER (Farmers Union, Zambia) – Agriculture and management of environment
- Tackson LAMBART (UTH, Zambia) – Telehealth and landscape epidemiology
- Kenneth ALEXANDER (National Space based PNT Coordination Office, USA) –
Transportation Applications: Now and Future
- 1230 – 1330 Lunch
- 1330 – 1530 **Session 2 – Policies and strategies for promoting sustainable development**
- Chairperson: Gerd ROSENTHAL (EUPOS Steering Committee, Germany)
Rapporteur: Sharafat GADIMOVA (UN OOSA)
- Alice LEE and Sharafat GADIMOVA (UN OOSA) – United Nations Programme on
Space Applications
- Alexandre STECIW (ESA/EC Galileo Joint Undertaking) – EGNOS/GALILEO
Cooperation Initiatives with Africa
- Sergey REVNIVYKH (Federal Space Agency, the Russian Federation) – GLONASS
status update
- Kenneth ALEXANDER (National Space based PNT Coordination Office, USA) - US
Space based PNT Policy and GPS Status
- Paul ZAMBEZI (Zambia) – Follow up activities since the 2002 Regional Workshop in
Zambia

- 1530 – 1600 Coffee Break
- 1600 – 1800 **Session 3 – International initiatives/experiences on GNSS implementation and uses**
- Chairperson: Alexandre STECIW (ESA/EC Galileo Joint Undertaking)
Rapporteur: Peter Kuria WANYOIKE (Institute of Surveying and Mapping, Kenya)
- Gerd ROSENTHAL (EUPOS Steering Committee, Germany) – EUPOS: Developing a full scale accuracy ground based regional DGNS infrastructure
- Luigi BRAGAGNINI (CTT, Italy) – GALILEO initiatives in Piedmont and Turin
- Harvey Gabriel LEKAMISY (ENEAM, Madagascar) – Extension of EGNOS in Africa (case of Madagascar)
- Erastus MWENCHA (COMESA, Zambia) – Support of GNSS activities by the regional and African bodies
- Sergey REVNIVYKH (Federal Space Agency, the Russian Federation) – GNSS applications for the city service transport management and ecology monitoring

Tuesday, 27 June

- 0900 – 1030 **Session 4 – GNSS implementation and uses in agriculture and management of environment**
- Chairperson: Sergey REVNIVYKH (Federal Space Agency, the Russian Federation)
Rapporteur: Margaret GICHUHI (Kenya Polytechnic, Kenya)
- Graciela METTERNICHT (ICA, Australia) – Use of remote sensing and GNSS in precision agriculture
- Elizabeth MAEDA (Ministry of Agriculture, Food and Cooperatives Farming Systems Research, Tanzania) – The role of innovative technologies in increasing agricultural productivity in Tanzania
- James CHIMPHAMBA (University of Malawi, Malawi) – Assessment of cut-and-burn farming system on the management of Songwe river: a trans-boundary river between Malawi, Tanzania and Zambia
- Hyacinth VAATYOUGH (NASRDA, Nigeria) – Current efforts at applications of GNSS technology in agriculture and environment management in Nigeria
- 1030 – 1100 Coffee Break
- 1100 – 1230 **Session 4 – GNSS implementation and uses in agriculture and management of environment (continued)**
- Chairperson: Mary KRATZ (Telemedicine Advanced Technology Research Centre, USA)
Rapporteur: Souleye WADE (Institute of Earth Science, Senegal)
- Kenneth ALEXANDER (National Space based PNT Coordination Office, USA) – Current Services for Agriculture and Environment
- Margaret GICHUHI (Kenya Polytechnic, Kenya) – The use of GPS and GIS in identifying and assessing the impact of the changing land uses on the migratory corridors of Nairobi National park

Graciela METTERNICHT (ICA, Australia) – Current developments of remote sensing for mapping and monitoring land degradation at regional scale

1230 – 1330 Lunch

1330 – 1800 **Technical Visit**

Wednesday, 28 June

0900 – 1040 **Session 5 – GNSS implementation and uses in tele-health and landscape epidemiology**

Chairperson: Luigi BRAGAGNINI (CTT, Italy)

Rapporteur: Catherine MULINDE (Makerere University Kampala, Uganda)

Lynette MOLEFI (Medical Research Council, South Africa) – Telemedicine and eHealth, the South African Experience

Mary KRATZ (Telemedicine Advanced Technology Research Centre, USA) – Health grid: Grid technologies for Biomedicine

Godheart AYENIKA (OGSI, Cameroon) – Geographic Information System and Public health diseases

1040 – 1100 Coffee Break

1100 – 1230 **Session 5 – GNSS implementation and uses in tele-health and landscape epidemiology (continued)**

Chairperson: Frederic KOSSAM (Malawi Meteorological Services, Malawi)

Rapporteur: Florence MURUNGWENI (Surveyor-General's Department, Zimbabwe)

Chali TUMELO (ITU, Ethiopia) – Improving access to health services

Francis OHEMENG (Irrigation Development Authority, Ghana) – Modelling the spatial distribution of the anopheles mosquito for malaria risk zoning using RS/GIS: A case study in Zimbabwe

Souleye WADE (Institute of Earth Science, Senegal) – Monitoring climatic and environmental conditions of Dengue-2 virus emergency in the Kedougou area using Earth Observation data and GIS: Preliminary results

Albert MUGENYI (COCTU, Uganda) – Application of Spatial decision support tools in prioritizing areas of sleeping sickness and Nagana control in Uganda

1230 – 1330 Lunch

1330 – 1530 **Discussion Session 1**

Chairperson: Alice LEE (UN OOSA)

Co-Chair: Sharafat GADIMOVA (UN OOSA)

Rapporteur: tbd

(Regional cooperation in applying GNSS technologies to the areas of agriculture and management of environment, tele-health and landscape epidemiology, and civil aviation and land transportation. Issues and concerns of application, requirements of implementing, possibilities of success, mechanisms and resources of implementing.)

1530 – 1600 Coffee Break

1600 – 1800 **Discussion Session 2**
Chairperson: Alice LEE (UN OOSA)
Co-Chair: Sharafat GADIMOVA (UN OOSA)
Rapporteur: tbd
(Discuss plans, framework for a mechanism of regional cooperation; follow-up projects and initiatives. Result will be presented at the closing session.)

Thursday, 29 June

0900 – 1040 **Session 6 – GNSS implementation and uses in civil aviation and land transportation**

Chairperson: Ken ALEXANDER (National Space based PNT Coordination Office, USA)
Rapporteur: Albert MUGENYI (COCTU, Uganda)

David MZEKA (Department of Civil Aviation, Zambia) – Civil aviation

Anthony ADEOYE (AAC Consulting, Nigeria) – Satellite imagery and GIS as an innovative technology for aviation management

Florence MURUNGWENI (Surveyor-General’s Department, Zimbabwe) – Use of GNSS application in transport sector in conjunction with RS and GIS

Emmanuel KARIKURUBU (Department of Transport, Burundi) – Opportunity and expectations of Sub Saharan Africa with application of Global Navigation Satellite System Technologies

1040 – 1100 Coffee Break

1100 – 1230 **Session 7 – Education and training in the use and application of GNSS technologies**

Chairperson: Sharafat GADIMOVA (UN OOSA)
Rapporteur: Daniel LAGO OKOMO (Forest Conservation Society, Kenya)

Letizia LO PRESTI (Politecnico Torino, Italy) – Education by research in GNSS in Turin

Nuredeen SULEIMAN (SANSRDA, Nigeria) – The activities of national space research and development agency in the area of GNSS

Oliver MUDENDA (University College of Lands and Architectural Studies, Tanzania) – Zambia’s experiences on GNSS application in RS

Peter Kuria WANYOIKE (Institute of Surveying and Mapping, Kenya) – Training in the field of application of GNSS in the establishment of AFREF at the Kenya institute of surveying and mapping

1230 – 1330 Lunch

1330 – 1540 **Session 8 – GNSS applications and case studies**

Chairperson: Francis OHEMENG (Irrigation Development Authority, Ghana)
Rapporteur: Sydney SIMELANE (Surveyor’s General Department, Swaziland)

Joseph KANYANGA (Department of Meteorology, Zambia) – GNSS application to meteorology

Frederic KOSSAM (Malawi Meteorological Services, Malawi) – Application of satellite information in disaster management and emergency response in Malawi

Daniel LAGO OKOMO (Forest Conservation Society, Kenya) – Policies and strategies for promoting sustainable development

1540 – 1600 Coffee Break

1600 – 1800 **Session 8 - GNSS applications and case studies (continued)**

Chairperson: Godheart AYENIKA (OGSI, Cameroon)

Rapporteur: Elizabeth MAEDA (Ministry of Agriculture, Food and Cooperatives Farming Systems Research, Tanzania)

Catherine MULINDE (Makerere University Kampala, Uganda) – Lake Victoria levels, catchments rainfall and power production

Sydney SIMELANE (Surveyor's General Department, Swaziland) – GPS Applications for GIS purposes in Swaziland

Olabinjo ADEOFUN (National Centre for RS, Nigeria) – Application of GNSS and RS for Environmental sustainability: a case study of Tin Mining Region of Nigeria

S.M. MWALIMU and Gerald MWILA (Zambia) – GNSS Application to Mineral Exploration in Zambia

Henry MWIMA (African Wildlife Foundation, Zambia) – Analysis of the vegetation of Kafue National Park using RS and land-based techniques

Friday, 30 June

0900 – 1030 **Wrap-up Session**

Summary reports of presentation sessions

Summary report of discussion sessions

1030 – 1100 Coffee Break

1100 – 1230 **Closing remarks**

Zambia

European Space Agency

United Nations Office for Outer Space Affairs