

VIII. SUSTAINABLE DEVELOPMENT FOR AFRICA

Action items in the Plan of Implementation (A/CONF.199/20, Resolution 2)		Relevant space applications	Space-related initiatives and programmes that could support the implementation of the action		Web-site(s) for further information
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62(b)	Support the implementation of the vision of NEPAD and other established regional and subregional efforts, including through financing, technical cooperation and institutional cooperation and human and institutional capacity-building at the regional, subregional and national levels, consistent with national policies, programmes and nationally owned and led strategies for poverty reduction and sustainable development, such as, where applicable, poverty reduction strategy papers	Human and institutional capacity building in the use of space applications	Ministry for Regional Planning and the Environment (Algeria)	Action Plan for the New Partnership for Africa's Development (NEPAD) Environment Initiative, and the associated programme for the development of human and institutional capacities	
CNES - GDTA			Support to staff training by the African Regional Centre Space Sciences and Technology in French Language (CRASTELF) in remote sensing and observation of the Earth for the Maghreb and French-speaking Black Africa		
OOSA			Activities in natural resources management and environmental monitoring, basic space science, and satellite communications	http://www.oosa.unvienna.org/sapidx.html , oosa@unvienna.org	
			Regional Centres for Space Science and Technology Education		
UNESCO		Space Hydrology International Partnership (SHIP) in cooperation with European Space Agency's TIGER project	http://www.unesco.org/water		
UNESCO	RS and GIS information as decision making tools for policy makers and managers;	Cross-cutting project "Application of Remote Sensing for Integrated Management of Ecosystems and Water Resources in Africa"	http://ioc.unesco.org/goos/africa/cross-cutting.htm		

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		development of forecasting and management models; training and research as a key to poverty alleviation		IOC's "Regional Ocean Observing and Forecasting Systems for Integrated Management of Ocean and Coastal Environment and Natural Disasters in Africa" (ROOFS-AFRICA) project	http://ioc.unesco.org/goos/africa/ROOFS-AFRICA.htm
62(c)	Promote technology development, transfer and diffusion to Africa and further develop technology and knowledge available in African centres of excellence	Development of space technology in Africa	EUMETSAT	PUMA, to provide access to data from Meteosat second generation satellites for national meteorological services in Africa	
			WMO	WMO Space Programme	http://www.wmo.ch/hinsman/satsun.html
			OOSA	Activities in natural resources management and environmental monitoring, basic space science, and satellite communications Regional Centres for Space Science and Technology Education	http://www.oosa.unvienna.org/sapidx.html , ooasa@unvienna.org
			UNESCO	Space Hydrology International Partnership (SHIP) in cooperation with European Space Agency's TIGER project	http://www.unesco.org/water
				Space Education Programme (SEP)	http://www.unesco.org/science/earthsciences/sep.htm
Cross-cutting project "Application of Remote Sensing for Integrated Management of Ecosystems and Water Resources in Africa"	http://ioc.unesco.org/goos/africa/cross-cutting.htm				
62(d)	Support African countries in developing effective science and technology institutions and research activities capable of developing and adapting to world class technologies	Development of space science and technology institutions in Africa	MétéoFrance, IRD, INSU	African Monsoon Multidisciplinary Analysis (AMMA)	
			WMO	WMO Space Programme	http://www.wmo.ch/hinsman/satsun.html
			OOSA	Activities in basic space science Regional Centres for Space Science and Technology Education	http://www.oosa.unvienna.org/sapidx.html , ooasa@unvienna.org
UNESCO	Space Education Programme (SEP)				

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		RS and GIS information as decision making tools for policy makers and managers; development of forecasting and management models; training and research as a key to poverty alleviation	UNESCO	Cross-cutting project "Application of Remote Sensing for Integrated Management of Ecosystems and Water Resources in Africa"	http://ioc.unesco.org/goos/africa/cross-cutting.htm
				IOC's "Regional Ocean Observing and Forecasting Systems for Integrated Management of Ocean and Coastal Environment and Natural Disasters in Africa" (ROOFS-AFRICA) project	http://ioc.unesco.org/goos/africa/ROOFS-AFRICA.htm
62(e)	Support the development of national programmes and strategies to promote education within the context of nationally owned and led strategies for poverty reduction and strengthen research institutions in education in order to increase the capacity to fully support the achievement of internationally agreed development goals related to education, including those contained in the Millennium Declaration on ensuring that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling and that girls and boys will have equal access to all levels of education relevant to national needs	Satellite communications for tele-education	CNES, French, Indian and Tunisian universities, ministries of education and research	Satel-IT projects French Medical Virtual University French-Indian Cyber-University in Sciences (FICUS)	
			UNESCO	Programme for Community Multimedia Centres	
62(f)	Enhance the industrial productivity, diversity and competitiveness of	Access to space technology in	MétéoFrance	RETIM Africa: Meteorological information system for professional end-users in Africa	

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	African countries through a combination of financial and technological support for the development of key infrastructure, access to technology, networking of research centres, adding value to export products, skills development and enhancing market access in support of sustainable development	Africa	OOSA	Activities in natural resources management and environmental monitoring, basic space science, and satellite communications Regional Centres for Space Science and Technology Education	http://www.oosa.unvienna.org/sapidx.html , ooasa@unvienna.org
62(h)	Provide financial and technical support to strengthen the capacity of African countries to undertake environmental legislative policy and institutional reform for sustainable development and to undertake environmental impact assessments and, as appropriate, to negotiate and implement multilateral environment agreements	RS and GIS for environment impact assessment	UNEP	Global Resource Information Database (GRID)	
62(i)	Develop projects, programmes and partnerships with relevant stakeholders and mobilize resources for the effective implementation of the outcome of the African Process for the Protection and Development of the Marine and Coastal Environment	RS and GIS for monitoring of marine and coastal environment	BRGM, BRLI, CNES, CIRAD, Ifremer, SCOT, Ministry of Research and New Technologies (France)	AGIL project: assistance for integrated coastal management. Development of services.	
			UNESCO, WMO, UNEP	Intergovernmental Oceanographic Commission's Regional Ocean Observing and Forecasting System for Africa (ROOFS-Africa) initiative of the GOOS-Africa programme in the context of NEPAD's coastal programme	
			UNESCO	IOC's "Regional Ocean Observing and Forecasting Systems for Integrated Management of Ocean and Coastal Environment and Natural Disasters in Africa" (ROOFS-AFRICA) project	http://ioc.unesco.org/goos/africa/ROOFS-AFRICA.htm

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62(k)	Assist African countries in mobilizing adequate resources for their adaptation needs relating to the adverse effects of climate change, extreme weather events, sea level rise and climate variability, and assist in developing national climate change strategies and mitigation programmes, and continue to take actions to mitigate the adverse effects on climate change in Africa, consistent with the United Nations Framework Convention on Climate Change	EO satellites for monitoring climate change and early warning for extreme weather events	WMO	World Climate Programme	http://www.wmo.ch/web/wcp/wcp_prog.htm
			UNESCO	Space Hydrology International Partnership (SHIP) in cooperation with European Space Agency's TIGER project	http://www.unesco.org/water
			UNESCO, WMO, UNEP	Intergovernmental Oceanographic Commission's Regional Ocean Observing and Forecasting System for Africa (ROOFS-Africa) initiative of the GOOS-Africa programme in the context of NEPAD's coastal programme	
			UNEP	Global Resource Information Database (GRID)	
			UNESCO	IOC's "Regional Ocean Observing and Forecasting Systems for Integrated Management of Ocean and Coastal Environment and Natural Disasters in Africa" (ROOFS-AFRICA) project	http://ioc.unesco.org/goos/africa/ROOFS-AFRICA.htm
62(n)	Provide financial and technical support for afforestation and reforestation in Africa and to build capacity for sustainable forest management, including combating deforestation and measures to improve the policy and legal framework of the forest sector	RS and GIS for monitoring deforestation	EADS – Geomatics – Cemagref – CESBIO – ONF – MétéoFrance - Ministry of Research and New Technologies (France)	METIS: Forest management and monitoring project	
			FAO, WFP, UNEP	GeoNetwork	www.fao.org/geonetwork
			OOSA	Activities in natural resources management and environment monitoring Regional Centres for Space Science and Technology Education	http://www.oosa.unvienna.org/sapidx.html , oosa@unvienna.org
			UNOPS, UNEP	Activities in support to post-conflict assessments	www.unosat.org , http://postconflict.unep.ch/

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63	Provide financial and technical support for Africa's efforts to implement the Convention to Combat Desertification at the national level and integrate indigenous knowledge systems into land and natural resources management practices, as appropriate, and improve extension services to rural communities and promote better land and watershed management practices, including through improved agricultural practices that address land degradation, in order to develop capacity for the implementation of national programmes	RS and GIS for land and watershed management	UNESCO	World Water Assessment Programme (WWAP)	http://www.unesco.org/water/wwap/
64(a)	Promote equitable access to health-care services	Satellite communications for tele-health, satellite images for assessment to health care	CNES, MEDES, CLS, CONAE, French and African hospital centres, Airbus Industrie, Pasteur Institute, INRA, CEA	Teleconsultation programme in Guyana and the Arctic on board airline-operated aircraft. Tele-epidemiology programme in Senegal, Argentina, Guyana, Mali and Burkina Faso. "Projet S2E migrants": Space surveillance of epidemics introduced by migrating birds.	
			Communications and systems satellites, Praxim-CNES	Telesurgery programme; SMMAC	
			WHO	Development of a telehealth strategy	
64(b)	Make available necessary drugs and technology in a sustainable and affordable manner to fight and control communicable diseases, including HIV/AIDS, malaria and tuberculosis, and trypanosomiasis, as well as non-communicable diseases, including those caused by poverty	RS for detecting outbreaks of communicable diseases	CNES, MEDES, CLS, CONAE, French and African hospital centres, Airbus Industrie, Pasteur Institute, INRA, CEA	Teleconsultation programme in Guyana and the Arctic on board airline-operated aircraft. Tele-epidemiology programme in Senegal, Argentina, Guyana, Mali and Burkina Faso. "Projet S2E migrants": Space surveillance of epidemics introduced by migrating birds.	

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64(c)	Build capacity of medical and paramedical personnel	Satellite communications for tele-education/training in medicine and health information systems	CNES, French, Indian and Tunisian universities, ministries of education and research	Satel-IT project. French Medical Virtual University: French-Indian Cyber-University in Sciences (FICUS)	
			ITU	E-Strategy Programme	
			WHO	Development of a telehealth strategy	
64(e)	Research and control Ebola disease	Satellite communications for controlling Ebola outbreaks			
65(a)	Provide financial and technical assistance to strengthen the capacities of African countries, including institutional and human capacity, including at the local level, for effective disaster management, including observation and early warning systems, assessments, prevention, preparedness, response and recovery	Capacity building in the use of EO satellites and satellite communications for disaster management	OOSA	Space Technology and Disaster Management (STDM) Regional Centres for Space Science and Technology Education	http://www.oosa.unvienna.org/sapidx.html , oosa@unvienna.org
			OOSA, UNOPS	Serving the UN with satellite imagery and value adding products through the International Charter "Space and Major Disasters"	
			UNOPS	Global Mapping Grant Facility	www.unosat.org
		RS and GIS information as decision making tools for policy makers and managers; development of forecasting and management models	UNESCO	IOC's "Regional Ocean Observing and Forecasting Systems for Integrated Management of Ocean and Coastal Environment and Natural Disasters in Africa" (ROOFS-AFRICA) project	http://ioc.unesco.org/goos/africa/ROOFS-AFRICA.htm

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65(b)	Provide support to African countries to enable them to better deal with the displacement of people as a result of natural disasters and conflicts and put in place rapid response mechanisms	RS and GIS for planning for displacement of people	UNITAR, UNOPS, CNES, ESA, CERN - SPOT Image, Digitech, GAMMA remote sensing, Ministry of Foreign Affairs (France)	UNOSAT: Rapid response cartographic service and system for prevention and management of humanitarian crises	
			UNHCR	Partnership with Metria (improvement of the role that Very High Resolution Satellite (VHRS) imagery can play within refugee situations)	
			OOSA, UNOPS	Serving the UN with satellite imagery and value adding products through the International Charter "Space and Major Disasters"	www.unosat.org , www.disastercharter.org
			UNOPS	Global Mapping Grant Facility	www.unosat.org
65(c)	Support Africa's efforts for the prevention and resolution, management and mitigation of conflicts and its early response to emerging conflict situations to avert tragic humanitarian consequences	RS and GIS and satellite communications for early response to emerging conflict situations	UNITAR, UNOPS, CNES, ESA, CERN - SPOT Image, Digitech, GAMMA remote sensing, Ministry of Foreign Affairs (France)	UNOSAT: Rapid response cartographic service and system for prevention and management of humanitarian crises	
			UNHCR	Partnership with Metria (improvement of the role that Very High Resolution Satellite (VHRS) imagery can play within refugee situations)	
			OOSA, UNOPS	Serving the UN with satellite imagery and value adding products through the International Charter "Space and Major Disasters"	www.unosat.org , www.disastercharter.org
			UNOPS	Global Mapping Grant Facility	www.unosat.org
65(d)	Provide support to refugee host countries in rehabilitating infrastructure and environment, including ecosystems and habitats, that were damaged in the process of	RS and GIS for rehabilitating infrastructure and environment	UNITAR, UNOPS, CNES, ESA, CERN - SPOT Image, Digitech, GAMMA remote sensing, Ministry of Foreign Affairs (France)	UNOSAT: Rapid response cartographic service and system for prevention and management of humanitarian crises	

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	receiving and settling refugees		UNEP/UNHCR	Satellite images of the pre-conflict environment in order to assess the consequences in Iraq	
			UNOPS, UNEP	Activities in support to post-conflict assessments	www.unosat.org , http://postconflict.ch
66(b)	Develop and implement integrated river basin and watershed management strategies and plans for all major water bodies,...	RS and GIS for river basin and watershed management	SUPARCO, WAPDA	Snow Cover Estimation and runoff Assessment in Jhelum river Basin	
			WMO	Hydrology and Water Resources Programme	http://www.wmo.ch/web/homs/1stpage.html
			UNESCO	World Water Assessment Programme (WWAP)	http://www.unesco.org/water/wwap/index.shtml
		UNESCO	Cross-cutting project "Application of Remote Sensing for Integrated Management of Ecosystems and Water Resources in Africa"	http://ioc.unesco.org/goos/africa/cross-cutting.htm	
66(c)	Strengthen regional, subregional and national capacities for data collection and processing and for planning, research, monitoring, assessment and enforcement, as well as arrangements for water resource management	RS and GIS for water resources management	SUPARCO, WAPDA	Dam site selection. Siltation and Turbidity monitoring in Dams and reservoir	
			WMO	Hydrology and Water Resources Programme	http://www.wmo.ch/web/homs/1stpage.html
			UNESCO	World Water Assessment Programme (WWAP)	http://www.unesco.org/water/wwap/index.shtml
67(a)	Support the development and	Research	FAO, WFP, UNEP	GeoNetwork	www.fao.org/geonetwork

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	implementation of national policies and programmes, including research programmes and development plans of African countries to regenerate their agricultural sector and sustainably develop their fisheries, and increase investment in infrastructure, technology and extension services, according to country needs. African countries should be in the process of developing and implementing food security strategies, within the context of national poverty eradication programmes, by 2005	programmes and development plans for space technology in Africa	FAO, UNEP	AFRICOVER/Land Cover Mapping; Global Land Cover Network (GLCN) Initiative	www.africover.org
67(e)	Support livestock development programmes aimed at progressive and effective control of animal diseases	RS for control of animal diseases			
69	Bridge the digital divide and create digital opportunity in terms of access infrastructure and technology transfer and application through integrated initiatives for Africa. Create an enabling environment to attract investment, accelerate existing and new programmes and projects to connect essential institutions and stimulate the adoption of information communication technologies in government and commerce programmes and other aspects of national economic and social life	Satellite communications for bridging digital divide	CNES, France Télécom, La Poste, Worldspace	France's stand at WSIS presenting projects: to bridge the digital divide: "Communicating villages"; and La Poste and the Cyberkiosque of France Télécom on the subject of the Internet by satellite. Tele-education and telemedicine demonstrations. Direct digital radio broadcasting via Worldspace to Africa and Asia.	
			WMO	Technical Cooperation Programme	http://www.wmo.ch/web/tco/TCOHome.html
			UNOPS, UNITAR	UNOSAT web-portal and Grid data dissemination techniques	www.unosat.org
70(e)	Support the conservation of Africa's	RS and GIS	UNESCO	Cross-cutting project "Application of	http://ioc.unesco.org/goos/africa/cross

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	biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources, in accordance with commitments that countries have under biodiversity-related agreements to which they are parties, including such agreements as the Convention on Biological Diversity and the Convention on International Trade in Endangered Species of Wild Fauna and Flora, as well as regional biodiversity agreements	information as decision making tools for policy makers and managers; development of forecasting and management models; training and research as a key to poverty alleviation		Remote Sensing for Integrated Management of Ecosystems and Water Resources in Africa”	-cutting.htm
104.	World Summit on Sustainable Development – Plan of Implementation – specific references to Earth Observation	Study on Earth Observation Applications for Sustainable Development	ESA and Geoville (Austria)	Project in support for the Water Framework Directive and the Soil Protection Initiative	