

AEO-2 (Chapter 1)

Thematic Area/ (NEPAD programme area - PA)	NEPAD Priorities	Priority Issues	Lead Indicator(s)	Type of Indicator (D, P, S, I, R, O)	Data Types/ parameter/Variable	Units	Global or Regional sources (to be replaced by national sources during the AEIN Initiative)
Socio-economic issues	Sustainable development, Economic well being, Social well being	Human development	<ul style="list-style-type: none"> Population growth rate; Economic growth rate (GDP) Education rate(illiteracy/literacy) by gender; Human development index; Improved drinking water coverage - total population; 	<ul style="list-style-type: none"> S S O S O 	<ul style="list-style-type: none"> Population density; Unemployment rate; Education level (level by gender); Child/Maternal mortality; No. of people affected by water brone diseases; 	<ul style="list-style-type: none"> %, No. % %, No. % No. 	UNDP, WB, AfDB (regional), WRI, UNAIDS, Human Development report, WHO
			<ul style="list-style-type: none"> % of literate adults (per of total population); % age of population in primary education(by gender); % age of population in secondary education(by gender); 	<ul style="list-style-type: none"> S S S 	<ul style="list-style-type: none"> No. of literate adults; Total population; No. of children in primary schools; Total population; No. of children in secondary schools; Total population; 	<ul style="list-style-type: none"> %, No. %, No. %, No. 	

Type of Indicator: D: Driving forces, P: Pressure, S: State, I: Impact, R: Response, O: Opportunity

NOTE: All the data should be dis-aggregated to show gender disparities. Gender data should be presented for all the themes.



AEO-2 (Chapter 2)

Thematic Area/ (NEPAD programme area - PA)	NEPAD Priorities	Priority Issues	Lead Indicator(s)	Type of Indicator (D, P, S, I, R, O)	Data Types/ parameter/Variable	Units	Global or Regional sources (to be replaced by national sources during the AEIN Initiative)
Air (Atmosphere)	[PA 5] Combating climate change Support measures to identify ecosystems, regions and peoples most vulnerable to climate change	· Air quality;	· Annual mean concentrations of sulphur dioxide (SO ₂) in ambient air;	S	· Total concentrations of SO ₂ (urban/rural)	ug/m ³	WMO, IPCC
			· Annual mean concentrations of Nitrogen Dioxide (NO ₂) in ambient air;	S	· Total concentration of NO ₂ (urban/rural);	ug/m ³	
			· Annual mean concentrations of suspended particulate matter (SPM ₁₀) in ambient air;	S	· Total concentrations of SPM ₁₀ ;	ug/m ³	
		· Climate variability (impact on health, food security, human settlement)	· Mortality Rate	I	· Mortality rate	%	
			· Life expectancy at birth	I	· Infant mortality rate	yr, %	
			· Maternal mortality	I	· Maternal mortality rate	No., %	
· Climate change	· Annual variability in temperature (at least last 30 years);	S	· Variability in temperature; Trend in temperature;				
	· Annual variability in rainfall (at least last 30 years);	S	· Variability in rainfall; Trend in rainfall;				
	· Frequency of extreme events (No. of people affected by droughts, floods);	I	· People affected by droughts, floods;	No.			
		I	· No of droughts, floods;	No.			
	· Emissions of greenhouse gases (SO ₂ , NO ₂ , CH ₄);	S	· Total volume of emissions (SO ₂ , NO ₂ , CH ₄);	1000 t			

NEPAD/AEO-2 Themes-Issues-Indicator-Data Matrix

		<ul style="list-style-type: none"> · Emissions of greenhouse gases (CO₂); · Annual mean emissions of lead (Pb); · Frequency of extreme events (No. of people affected by droughts, floods); 	<p>S</p> <p>S</p> <p>I</p> <p>I</p>	<ul style="list-style-type: none"> · Total volume of CO₂ emissions; · Total volume of annual emissions of lead (Pb); · People affected by droughts, floods; · No of droughts, floods; 	<p><i>mio t</i></p> <p><i>1000 t</i></p> <p><i>No.</i></p> <p><i>No.</i></p>		
Land	<p>[PAI] Combating Land degradation, drought and desertification</p> <p>Implement <i>objectives of the UNCCD</i> and at the same time improve livelihoods and contribute to food security on the continent through:</p>						
	Sustainable land use	<ul style="list-style-type: none"> · Land tenure/ownership 	<ul style="list-style-type: none"> · %age of population who own land by group. · per capita food available; 	<p>S</p> <p>O</p> <p>P</p>	<ul style="list-style-type: none"> · Distribution of tenure types. · Access to land by groups (gender minorities and other minority groups – Youth, people with disabilities. Etc.) · Population growth rate 	<p><i>%, 000 ton/ha</i></p> <p><i>%, 000 ha</i></p> <p><i>%</i></p>	
		<ul style="list-style-type: none"> · Land Quality (degradation) 	<ul style="list-style-type: none"> (%)Proportion of land lost per year; 	<p>S</p>	<ul style="list-style-type: none"> Area of land lost per year; Total area of land; 	<p><i>% p/y, 000 ha, km₂</i></p>	
		<ul style="list-style-type: none"> o Soil erosion (000 ton/ha) 	<ul style="list-style-type: none"> · (%) proportion of land/area effected by soil erosion; 	<p>S</p>	<ul style="list-style-type: none"> · Total area of land affected by soil erosion; 	<p><i>% p/y, 000 ha, km₂</i></p>	
		<ul style="list-style-type: none"> o Wind erosion (000 ton/ha) 	<ul style="list-style-type: none"> · (%) proportion of land/area effected by wind erosion; 	<p>S</p>	<ul style="list-style-type: none"> · Total area of land affected by wind erosion; 	<p><i>% p/y, 000 ha, km₂</i></p>	<p>UNEP/ FAO, ISRIC:GLASOD, FAO, FAOSTAT.FRA, SOFO, Global Forest Watch, World Development Indicators, WRI</p>
		<ul style="list-style-type: none"> o Desertification 	<ul style="list-style-type: none"> · (%) proportion of land/area effected by desertification; 	<p>S</p>	<ul style="list-style-type: none"> · Total area of land affected by desertification; 	<p><i>% p/y, 000 ha, km₂</i></p>	
		<ul style="list-style-type: none"> o Salinization 	<ul style="list-style-type: none"> · (%) proportion of land/area effected by salinization; 	<p>S</p>	<ul style="list-style-type: none"> · Total area of land affected by salinization; 	<p><i>% p/y, 000 ha, km₂</i></p>	
			<ul style="list-style-type: none"> · Agricultural production index; 	<p>I</p>	<ul style="list-style-type: none"> · Total area under agriculture; 	<p><i>000 ha, km₂</i></p>	
		<ul style="list-style-type: none"> · Land Use (settlements) 					
		<ul style="list-style-type: none"> o Urban (incl peri-urban); 	<ul style="list-style-type: none"> · % area of urban formal and informal settlements (built up and related land); 	<p>S</p>	<ul style="list-style-type: none"> · Area of land in urban and peri-urban areas; 	<p><i>% p/y, 000 ha, km₂</i></p>	

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	o Rural;	· % area of land in rural areas;	S	· Area of land in rural areas;	% p/y, 000 ha, km ₂	
	o displaced people;	· % area occupied by displaced people/refugees;	S	· Area of land occupied by migration/refugees/displaced people;	% p/y, 000 ha, km ₂	
Development of sustainable agriculture	o Land Use (appropriate and sustainable farming systems)					UNEP/ FAO
	o Agriculture;	· Agricultural production index;	R	· Total area under agriculture;	000 ha, km ₂	ISRIC:GLASOD
	o Arable;	· (%)Proportion of arable land and permanent crops · Δ area of arable land	S P,S	· Area of arable land and permanent crops Total land area; · Total arable land;	% p/y, 000 ha, km ₂ 000 ha, km ₂	•FAO: FAOSTAT,FRA /
	o Forest and other wooded land;	· (%) proportion of land covered with forests and other wooded land; · Forest area as a percentage of land area;	S S	· Area of forests and other woody lands · Area of forests and other woody lands; Total land area;	% p/y, 000 ha, km ₂ % p/y, 000 ha, km ₂	SOFO SOFO
	o Soils;	· (%)Proportion of soils degraded by irrigation, erosion, use of pesticides/fertilizers etc;	S		% p/y, 000 ha, km ₂	Global Forest Watch
	o Vegetation;	· (%)Proportion of land covered with vegetation;	S	· Area of of land covered with vegetation; Total land area;	% p/y, 000 ha, km ₂	
		· Δ change in vegetation cover;	S	· Area of of land covered with vegetation;	% p/y, 000 ha, km ₂	
	o Irrigation;	· Agricultral production index;	O O	· Area of soils degraded by irrigation, Erosion etc) · Ground & surface water use, availability & used for irrigation;	000 ha, km ₂	
	o Use of pesticides/fertilizers;	· (%)Proportion of areas contaminated with toxic substances;	D	· Area of land contaminated with toxic substances	% p/y, 000 ha, km ₂	

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		<ul style="list-style-type: none"> · Use of agricultural pesticides; · Use of fertilizers 	<ul style="list-style-type: none"> D D 	<ul style="list-style-type: none"> · Volume of pesticides used for farming; · Inputs to feed production (fuel, fertilizer); Volume of fertilizers used; 	<ul style="list-style-type: none"> <i>% p/y, 000 ha, km₂</i> 	
	Rational use of rangelands	<ul style="list-style-type: none"> · Rangeland carrying capacity; 				
Forests and Woodlands	[PA 6] Cross-border conservation or management of natural resources					
	Protect and sustainably manage Africa's <i>forest resources</i> through:					
	Strengthening national programmes for forest management, inventory and monitoring	<ul style="list-style-type: none"> · Forest change (loss/degradation); 	<ul style="list-style-type: none"> · Forest average annual change - rate; 	<ul style="list-style-type: none"> S 	<ul style="list-style-type: none"> · Forest change / domestication by sector (to agric, urban); Total forest cover; 	<ul style="list-style-type: none"> <i>10³ hectares</i>
			<ul style="list-style-type: none"> · Rate of afforestation/ deforestation; 	<ul style="list-style-type: none"> S 	<ul style="list-style-type: none"> · Forest area change (open, closed, natural forests); Total forest cover; 	<ul style="list-style-type: none"> <i>10³ hectares</i>
			<ul style="list-style-type: none"> · proportion of land area covered by forest and woodland; · Total forest area as a percentage of total land area (%); 	<ul style="list-style-type: none"> O,P 	<ul style="list-style-type: none"> · Afforestation/deforestation rate (open, closed, natural forests); 	<ul style="list-style-type: none"> <i>10³ hectares, (%)</i>
			<ul style="list-style-type: none"> · Forest resources management; · Biodiversity loss/degradation; 	<ul style="list-style-type: none"> S,O S,O 	<ul style="list-style-type: none"> · Area of forest and woodland; Total land area · Total forest area; Total land area; 	<ul style="list-style-type: none"> <i>%, 10³ hectares</i> <i>%, 10³ hectares</i>
			<ul style="list-style-type: none"> · % of exports of forestry products; 	<ul style="list-style-type: none"> O 	<ul style="list-style-type: none"> · Reforestation, natural and total; 	<ul style="list-style-type: none"> <i>%, 10³ hectares</i>
	Maintaining protected forest areas	<ul style="list-style-type: none"> · Established protected areas (forests, etc). 	<ul style="list-style-type: none"> · No. of protected areas; 	<ul style="list-style-type: none"> S 	<ul style="list-style-type: none"> · No. of protected areas; 	<ul style="list-style-type: none"> <i>no.</i>
			<ul style="list-style-type: none"> · Protected forest area; 	<ul style="list-style-type: none"> S 	<ul style="list-style-type: none"> · Protected forest area; 	<ul style="list-style-type: none"> <i>10³ hectares</i>
						<p>FAO: FAOSTAT, FRA/SOFO, Global Forest Information System, IUCN, IUFRO, Global Forest Watch, WWF, CONFAK</p>

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			· Ration of protected forest area to surface area;	O,S	· Protected forest area; Total surface area	<i>% , 10³ hectares</i>	
Fresh water	<i>[PAI] Combating Land degradation, drought and desertification</i>						
Integrated management of water resources	· Water availability;	· Internal renewable water resources available per capita or per year; · Fresh water availability for use (household, agriculture, industry, etc); · Urban water supply from dams; · Abstraction from boreholes for domestic use in rural/urban settings (per capita yield); · Annual water use/consumption per capita per day);	S,D S R,S D P	· Ground and surface water use, availability and distribution; · Amount of available fresh water for use (household, agriculture, industries, etc); · Amount of fresh water for population (rural/urban);	<i>km³ per yr, mg/l</i> <i>mg/l, no./100 ml, µg/l,</i> <i>no./100 ml,</i>	·	GEMS/Water: Atlas of Global Water Quality, WRI, FAOSTAT, AOAD, ACSAD, ICARDA, IFAD
	· Water Accessibility;	· % of population with access to safe drinking water; · Improved drinking water coverage - total population; · Number (density) of boreholes per capita unit area (rural); · % of population connected to public water supply;	S R O R	· Population with access to safe drinking water; Amount of safe drinking water available; · Amount of fresh water for the industries; Total freshwater available; · Number of boreholes; · No. of public water points; No. of boreholes; Total population;	<i>http://ww w.manyone.net/</i> <i>%, no., km³ per yr, mg/l</i> <i>no.</i> <i>%</i>	·	GEMS/Water: Atlas of Global Water Quality, WRI, FAOSTAT, AOAD, ACSAD, ICARDA, IFAD
	· Water Quantity;	· Annual withdrawal of ground and surface water as percentage of total available water; · Change in surface water discharge; · Improved drinking water coverage - total population; · Change in recharge rates;	S P R P	· Amount/volume of fresh water for populations; · Amount/volume annual surface water discharged; · Amount of fresh water for the industries; Total freshwater available; · Volume of available fresh water resources;			GEMS/Water: Atlas of Global Water Quality, WRI, FAOSTAT, AOAD, ACSAD, ICARDA, IFAD

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<ul style="list-style-type: none"> · Water Quality (Pollution); 	<ul style="list-style-type: none"> · Biochemical oxygen demand (BOD5) for rivers; · Emissions of organic water pollutants (BOD) total/per worker; · Average annual concentrations of total phosphorus in lakes and rivers; · Annual total dissolved solids/sediment flux in lakes and rivers; · Average annual concentrations of total nitrogen in lakes and rivers; · Average change in oxygen levels in lakes and rivers; · No of people affected by water borne diseases; 	<ul style="list-style-type: none"> P,D P P,D P,D P,D P,D I 	<ul style="list-style-type: none"> · Measures of BOD5 concentrations for a selected lakes/rivers; · Measures of concentrations phosphorus for a selected lakes/rivers; · Measures of concentrations phosphorus for a selected lakes/rivers; · Volume of solids/sediment for a selected lakes/rivers; · Measures of nitrogen concentrations for a selected lakes/rivers; · Measures of oxygen levels for a selected lakes/rivers; 		<p>GEMS/Water: Atlas of Global Water Quality, WRI, FAOSTAT, AOAD, ACSAD, ICARDA, IFAD</p>
<ul style="list-style-type: none"> · Water usage; 	<ul style="list-style-type: none"> · Water use per capita; · Improved drinking water coverage - total population; · % of (change in amount/volume) freshwater used for domestic use, irrigation, industry; · Water use a percentage of renewable resources; 	<ul style="list-style-type: none"> S R R R 	<ul style="list-style-type: none"> · Amount of fresh water for agriculture; Total freshwater available; · Amount of fresh water for the industries; Total freshwater available; · Amount of fresh water for population (rural/urban)/irrigation/industry; Total freshwater available; · Amount of freshwater available; Total renewable freshwater available; 		<p>GEMS/Water: Atlas of Global Water Quality, WRI, FAOSTAT, AOAD, ACSAD, ICARDA, IFAD</p>
<ul style="list-style-type: none"> · Water Mgt issues; 	<ul style="list-style-type: none"> · Per capita annual renewable water resources; · % of land area for irrigation; 	<ul style="list-style-type: none"> S S 	<ul style="list-style-type: none"> · Annual internal renewable water resources; Total population; Coverage area (people) · Total area of irrigated land; 	<p><i>% p/y, 000 ha, km₂</i></p>	<p>GEMS/Water: Atlas of Global Water Quality, WRI, FAOSTAT, AOAD, ACSAD, ICARDA, IFAD</p>

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		<ul style="list-style-type: none"> · % of waste water treated/collected; · Cost per cubic meter produced by source; · Developed national & river basin IWRM plans; 	<ul style="list-style-type: none"> R I R R I 	<ul style="list-style-type: none"> · Total volume of waste water treated;/total waste water collected; · Location of water source (distance) from dependants · Level of supply at a given period e.g. dry and wet seasons or times of high and low demand · # of maintenance to source of supply · # of conflicts over supply 		<ul style="list-style-type: none"> GEMS/Water: Atlas of Global Water Quality, WRI, FAOSTAT, AOAD, ACSAD, ICARDA, IFAD
	<ul style="list-style-type: none"> · Water borne diseases (bilhazia, river blindness, sleeping sickness, etc); 	<ul style="list-style-type: none"> · No of people affected (Incidence of) water borne diseases; · Change in No. of water treatment plants; · Change in sewerage/waste disposal & water supply infrastructure; 	<ul style="list-style-type: none"> I R R 	<ul style="list-style-type: none"> · No. of people affected by water borne diseases; · No. of water treatment plants; · No. of sewerage/waste/water disposal points/plants; 		<ul style="list-style-type: none"> GEMS/Water: Atlas of Global Water Quality, WRI, FAOSTAT, AOAD, ACSAD, ICARDA,
	<ul style="list-style-type: none"> · Biodiversity; 	<ul style="list-style-type: none"> · Total & per cap marine fish catch (fisheries loss) · Loss of biodiversity 	<ul style="list-style-type: none"> S P 	<ul style="list-style-type: none"> · Fish catch (inland, freshwater & marine) · Changes in aquatic species 		<ul style="list-style-type: none"> GEMS/Water: Atlas of Global Water Quality, WRI, FAOSTAT, AOAD, ACSAD, ICARDA,
	<ul style="list-style-type: none"> · River daming; 	<ul style="list-style-type: none"> · salinization/siltation · Loss of soil fertility 				<ul style="list-style-type: none"> GEMS/Water: Atlas of Global Water Quality, WRI, FAOSTAT, AOAD, ACSAD, ICARDA, IFAD
[PA 4] Conservation, sustainable use of marine, coastal and freshwater resources:						
<ul style="list-style-type: none"> Ensure access of Africa's peoples to clean, safe drinking water 		<ul style="list-style-type: none"> · Annual internal renewable water resources per cap; · Total renewable water resources; · Annual internal groundwater recharge per capita; · Annual freshwater consumption per cap; 	<ul style="list-style-type: none"> S S S P 	<ul style="list-style-type: none"> · Annual internal renewable water resources; · Annual groundwater withdrawals; · Annual groundwater recharge; · Annual consumption by sector (domestic, industry, agric); 	<ul style="list-style-type: none"> Km³/yr, m³/cap/ye ar Km³/yr, m³/cap/ye ar 	<ul style="list-style-type: none"> · FAO: AquaStat · WRI: World Resources Database · UNESCO: World Water Resources · UNH/GRDC: Runoff Fields
	<ul style="list-style-type: none"> Population with access to Freshwater resources 					

			· Change in No of boreholes per unit (pop dependent);			<i>No.</i>	· Univ. of Kassel: WaterGap · IGRAC (Int Groundwater Resources Ass. Centre) GGIS
Wetlands	[PA 2] Conserving Africa's wetlands:						
	Build capacity to conserve Africa's <i>wetlands and watersheds</i> so that they can support human needs such as <i>clean water</i> , appropriate sanitation, food security and economic development through:						
establishment of plans and policies to promote <i>wise use of wetlands</i>	· Wetlands degradation	· Amount/volume of disposal of wastewater into wetlands. · No. of species (plant/animals) threatened, endangered and extinct; · % of treated wastewater produced from wetlands;	D,P S,I R	· Volume/amount of disposals of wastewater produced; · Total area covered in wetlands; · Volume/amount of treated wastewater produced;	<i>1000 m³ /d</i> <i>1000 m³ /d</i> <i>%</i>		· Ramsar, WRI
demonstration of approaches for <i>wetland restoration and rehabilitation</i>	· Strategies to conserve wetlands.	· % of rehabilitated/total areas. · Number of restored wetlands sites	R,O R,O	· No. of restored/rehabilitated wetlands; Total area covered by restored/rehabilitated wetlands · Number of restored wetlands sites	<i>%</i> <i>No.</i>		· Ramsar, WRI
	· Assessment of main factors of significant impacts on the present wetlands.	· No. of wetlands of international importance;	S		<i>No.</i>		

Coastal and marine	<i>[PA 4] Conservation, sustainable use of marine, coastal and freshwater resources</i>						
	Support implementation of <i>Abidjan and Nairobi Conventions</i> and the <i>African Process for the management of Africa's coastal and marine resources</i> [initiatives which] seek to control pollution and coastal erosion	<ul style="list-style-type: none"> Urbanization of coastal zones 	<ul style="list-style-type: none"> % of urban population living in coastal areas Human settlement within 100km of coast; % of urban population living in coastal areas 	<ul style="list-style-type: none"> P P 	<ul style="list-style-type: none"> Coastal population (growth, urban share) Coastal population (growth, urban share) 	<ul style="list-style-type: none"> <i>%, No.</i> <i>No.</i> 	<ul style="list-style-type: none"> UNEP Regional Seas Programme and Global Programme of Action (GPA) UNEP Regional Seas Programme and Global Programme of Action (GPA) IMO: Global Waste Survey UNSTAT: UN Common Database ICLARM: ReefBase, FishBase WRI: Reefs at Risk G3OS (GOOS, Africa GTOS, GCOS) ODINAFRICA and NODCs
	<ul style="list-style-type: none"> Coastal and Marine pollution 	<ul style="list-style-type: none"> Proportion of coastal areas affected by pollution; Marine resources loss Algae concentration in coastal waters; 	<ul style="list-style-type: none"> I P I S D,P D,P D D 	<ul style="list-style-type: none"> Concentrations of HMs (Hg, Pb, Cd, Cu, Fe, Mn, Ni, Co) Concentration of PCBs Average annual sediment load Average annual untreated waste disposal by sector (dom. Ind. and agric – fertilizers, pesticides/insecticides) Share of pollution caused by sector (domestic, industrial, urban, coastal, transport, refineries) Discharge of oil into coastal waters (000 ton) Tourist arrival in coastal marine areas (million/year) Number of hotels/resorts in coastal areas (000) 	<ul style="list-style-type: none"> <i>%</i> <i>ton/year</i> <i>ton/year</i> <i>ton/year</i> <i>ton/year</i> <i>ton/year</i> 		

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	<ul style="list-style-type: none"> Coastal erosion/sedimentation 	<ul style="list-style-type: none"> % of coastal area lost; 	<ul style="list-style-type: none"> S 	<ul style="list-style-type: none"> Shoreline change; Loss of land Average annual sediment load Average annual untreated waste disposal by sector (dom. Ind. and agric – fertilizers, pesticides/insecticides) Discharge of oil into coastal waters (000 ton) Share of pollution caused by sector (domestic, industrial, urban, coastal, transport, refineries) 	<ul style="list-style-type: none"> <i>%, Km</i> <i>10³ hectares</i> <i>ton/year</i> <i>ton/year</i> <i>ton/year</i> <i>ton/year</i> 	
	<ul style="list-style-type: none"> Climate change – Sea level rise 	<ul style="list-style-type: none"> % of coastal area lost; 	<ul style="list-style-type: none"> S S 	<ul style="list-style-type: none"> Land loss Shoreline change 	<ul style="list-style-type: none"> <i>%, 10³ hectares</i> <i>Km</i> 	
	<ul style="list-style-type: none"> Marine Biodiversity; 	<ul style="list-style-type: none"> Number of marine species (mangroves, fisheries) threatened and extinct; mangrove forest extent - total area; Marine protected areas (number, area); Loss of biodiversity; 	<ul style="list-style-type: none"> S S R I 	<ul style="list-style-type: none"> No. of marine species threatened/extinct;; Marine resources/fisheries loss 	<ul style="list-style-type: none"> <i>No.</i> <i>10³ hectares</i> <i>10³ hectares,</i> <i>No.</i> 	<ul style="list-style-type: none"> FAO, WCD, WTO, MAP, PERSGA, AOAD, UNEP, GPA, IMO, IPCC, IGAD

Other Themes							
Biodiversity	<i>Component of WEHAB</i>						
		· Loss of species	· Threatened plant species as % of total known plant species	I	· No. of plant species known (number); No. of threatened plant species;	%	IUCN/WCMC, USGS/EDC, WWF, FAO: FAOSTAT
			· Threatened animal species as % of total known animal species	I	· No. of animal species known (number); No. of threatened animal species for Mammals, Birds, Amphibians, Reptiles, Fresh water fishes	%	
		· Loss of habitat	· Total areas of wetlands/marshes	S	· Recorded wildlife habitats by ecosystem, for Forests (dry, moist, all forest), Wetlands, Mangroves, Grassland/savannah, Deserts/scrubland	000ha	
			· Total mangrove area	S		000ha	
		· Over fishing	· Total and per capita marine fish catch	P,D	· Total inland, fresh water and marine fish catch, production, consumption and trade	000 tons/year	
· Total fish catch in inland waters (including aquaculture)			P,D	· Total inland, fresh water and marine fish catch, production, consumption and trade	000 tons/year		
	· Protected areas	· Total protected areas (number, size, area) and % of total land	R	· National, international and local parks & protected areas: Biosphere reserves (terr. And marine), wetlands of international importance, World heritage sites	Number, Km2, %	IUCN/WCMC, UNESCO World Heritage List	
<i>[PA 3] Preventing and controlling invasive alien species (or proliferation of?)</i>							
	Prevention of invasive species (trade and development aid; entry through airports; risk assessment)	· Pathways of introduction of alien invasive species (travel, trade, transport, tourism);	· No of native versus established and alien & invasive species;	S	· No of alien & invasive species;		
			· Changes in No.s of recognized aliens which are known invasives;		· Total no. of known species;		
			· National & regional floras/vegetation;	S	· Number of threatened species;		

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		<ul style="list-style-type: none"> Impacts of invasion on ecosystem, species diversity (and development) including both wild & domestic biodiversity; 	<ul style="list-style-type: none"> Changes in ecosystem health; Changes on ecosystem services; Changes in species numbers; Changes in key species populations; Changes in wild caught/collected food items; Changes in key natural resource items; Changes in food & water supply; 	<ul style="list-style-type: none"> ? ? ? ? ? ? ? 	<ul style="list-style-type: none"> No. of species; Total no. of known species; Amount of catches; 		
		<ul style="list-style-type: none"> Threats and impacts of "unseen" alien invasive species; 	<ul style="list-style-type: none"> Changes in aquatic floras & faunas; Changes in levels of alien species in aquatic floras & faunas; Changes in native aquatic floras & faunas; 	<ul style="list-style-type: none"> ? ? ? 	<ul style="list-style-type: none"> No. of freshwater invasive species; Area occupied by freshwater invasive species; 		
Human Settlements (Urban areas/Rural areas)	Trends, impact on the environment	<ul style="list-style-type: none"> Urbanization 	<ul style="list-style-type: none"> % of urban population (urban population as a percentage of total population); % population with access to basic services (water, sanitation, health facilities, waste collection, etc); % of rural population (rural population as percentage of total population); 	<ul style="list-style-type: none"> S I S S 	<ul style="list-style-type: none"> Total population living in urban areas; Total population; No. of informal settlements; Number of households with access to waste collection services; Amount collected; Total population living in rural areas; Total population; 	<ul style="list-style-type: none"> <i>%, No.</i> <i>No.</i> <i>No., metric tons (mt)</i> <i>%, No.</i> 	
		<ul style="list-style-type: none"> Development & population growth 	<ul style="list-style-type: none"> Proportion of households with access to secure tenure; 	<ul style="list-style-type: none"> R 	<ul style="list-style-type: none"> Urban/rural population; Total population; 	<ul style="list-style-type: none"> <i>%</i> 	

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			<ul style="list-style-type: none"> · Solid waste collection (m3, t) by type (industrial, domestic, medical, agricultural); 	<ul style="list-style-type: none"> · Number of households with access to waste collection services; Amount collected; · No. of informal settlement areas with waste disposal and treatment; 	<ul style="list-style-type: none"> <i>metric tons (mt)</i> <i>No.</i> 		
Human health and environment							
	<i>[Cross-Cutting Issues]</i> Protection of human health						
	Strengthen the ability to manage pesticides and other toxic chemicals	<ul style="list-style-type: none"> · Pesticide use and management 	<ul style="list-style-type: none"> · Total hazardous waste generated; · Exposure to HMs, toxic chemicals 	<ul style="list-style-type: none"> P,D I 	<ul style="list-style-type: none"> · Amount of toxic chemicals; · Amounts of consumed/used pesticides; 	<ul style="list-style-type: none"> <i>tons</i> <i>%, tons</i> 	
	Strengthen waste management systems	<ul style="list-style-type: none"> · Appropriate and sound guidelines for waste management systems, appropriate for the environmental conditions of the region. 	<ul style="list-style-type: none"> · (% share of population served by municipal waste collection; · (% share of urban/rural population served by municipal waste collection; · per capita waste collected (safe disposal); · % of population with access to waste disposal service; 	<ul style="list-style-type: none"> S S R O S 	<ul style="list-style-type: none"> · Municipal waste production per cap (solids+water); Population; · Urban/rural municipal waste production per cap (solids+water); Population; · Total waste generated/collected; · Number of treatment plants; · Population with access to waste disposal; Total population; 	<ul style="list-style-type: none"> <i>%, 1000t, No.</i> <i>%, 1000t, No.</i> <i>1000t</i> <i>No.</i> <i>%, No.</i> 	<ul style="list-style-type: none"> · UNSTAT: UN Common Database · UNCEF; WHO
	Sanitation.		<ul style="list-style-type: none"> · % of population connected to sanitation networks (adequate sewage disposal facilities); 	S	<ul style="list-style-type: none"> · Population with access to sanitation networks; Total population; 	<ul style="list-style-type: none"> <i>%, 1000t, No.</i> 	<ul style="list-style-type: none"> · UNSTAT: UN Common Database
	Infant and child mortality		<ul style="list-style-type: none"> · Mortality Rate; · Infant mortality rate; · Maternal mortality rate; 	<ul style="list-style-type: none"> I I I 	<ul style="list-style-type: none"> · Mortality rate; · Life expectancy at birth; · Maternal mortality; 		<ul style="list-style-type: none"> UNDP; WHO, WB
	Burden of ill health		<ul style="list-style-type: none"> · % of pop with access to primary health care facilities; · Public expenditure in health (in % of GNP); 	<ul style="list-style-type: none"> S I 	<ul style="list-style-type: none"> · No. of Hospitals; Doctor to patient ratio; · Proportion of population suffering from water borne diseases; 	<ul style="list-style-type: none"> <i>%,No.</i> <i>%</i> 	<ul style="list-style-type: none"> UNDP; WHO,

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			· % of pop with adequate sewage disposal facilities;	I	· Proportion of population suffering from chronic and/or terminal diseases, and communicable diseases;	%	WB
Energy							
[PAI] Combating Land degradation, drought and desertification							
Development of new and renewable energy sources	· Energy production	· Total annual energy production (by source);	S	· Total energy generated energy; Total energy generated;	tons oil equivalent		
		· Total annual renewable energy production (by source - from solar, wind, etc);	O	· Total renewable energy generated from (solar, wind, etc) energy;	?		
		· % of energy generated from solar, wind, tide, wave, etc energy (percentage of total energy);	O	· Total energy generated from solar energy; Total energy generated;	?		
		· Total primary energy supply - (combustible renewables and waste);	R	· Total energy generated from wind energy; Total energy generated;	tons oil equivalent		
		· % of wind generated energy (percentage of total energy);	R	· Total energy generated from wind energy; Total energy generated;	%, tons oil equivalent		
· Energy consumption.		· per capita total energy consumption;	S	· Total energy used; Total energy generated; Total population;	tons oil equivalent per person		
		· (%) share of consumption/use of renewable energy resources;	O	· Total renewable energy resources; Total energy generated;	%		
		· % of population with electricity;	R,O	· Total renewable energy resources; Total energy generated;	%		
		· % of traditional fuel energy use (% of energy consumption);	P,D	· Total fuel energy generated; Total energy generated;	%		
		· % of population with access to electricity;	S,O	· Total electricity consumption; Total energy generated; Total population;	%		

[Cross-Cutting Issues] Assessment and early warning for natural disasters]:							
Natural disasters & environmental performance	Support development of African programme of early warning including African Information Network	Causes of various types of natural hazards droughts, floods, volcanic eruptions, mass movements (landslides, etc), *earthquakes, etc.	<ul style="list-style-type: none"> · % of the population exposed to natural disasters(affected by natural disasters - droughts, floods, etc); · Frequencies of the extreme events; · No. of technological, geological accidents; · No. of sensitive sites/prone to disasters by zone for a given territory; 	<p>S</p> <p>S</p> <p>P,D</p>	<ul style="list-style-type: none"> · Total number of persons exposed/affected (dead, wounded, homeless, etc); Total population; · No. of natural disasters - droughts, floods, etc; · Number of persons exposed, affected; · Number of disasters - droughts,floods, etc (every 5yrs) · No. of technological, geological accidents; · No. of sensitive sites/prone to disasters by zone for a given territory; 	<p><i>%, No.</i></p> <p><i>No.</i></p> <p><i>No.</i></p> <p><i>No.</i></p> <p><i>No.</i></p>	
	Increase access to data and information to support vulnerability assessment and issuing of early warnings of environmental emergencies and threats	* Predicting the time, location and intensity (or severity) of future natural hazards.	<ul style="list-style-type: none"> · * Rates of occurrences of specified parameters which can lead to natural disasters; · Periodicities or “return periods” of each type of natural hazard and impacts on property and on the population; 	<p>R</p> <p>I</p>	<ul style="list-style-type: none"> · * Establishment of continuous databases, which can be used to predict future occurrences of natural hazards. 		
	Preparedness & mitigation	* Absence (or lack) of warning signals of natural disasters.	<ul style="list-style-type: none"> · Observed impacts of natural hazards and decisions on methods of reducing future impacts. 	<p>R</p>	<ul style="list-style-type: none"> · Regional and sub-regional collaborations of networks. 		
	Mitigation		<ul style="list-style-type: none"> · Efficient monitoring of parameters, which lead to natural hazards. · Effective modelling of parameters for predictive applications. 	<p>R</p> <p>R</p>			