

**NETWORK OF AFRICAN SCIENCE ACADEMIES
(NASAC)**

&

**INTERAMERICAN NETWORK OF ACADEMIES OF
SCIENCE (IANAS)**

***IMPROVING WATER RESOURCES MANAGEMENT FOR
SUSTAINABLE DEVELOPMENT IN AFRICA AND THE AMERICAS***

Nairobi, Kenya

12th - 15th October 2015

CONCEPT NOTE

(Improving the Management of Water Resources for Sustainable Development in Africa and the Americas)

Freshwater is a necessary input for drinking, industry and mining, hydropower generation, tourism, subsistence and commercial agriculture, fisheries and livestock production, and tourism. Water contributes enormously to economic productivity and social well being of the human populace as both social and economic activities rely heavily on the quantity and quality of water. With the increasing growth in population and the subsequent socio-economic pursuits (including urbanization, industrial production, tourism and agricultural activities) demand for water has increased rapidly.

During the IANAS-NASAC meeting that was held in Panama City, Panama in October 2014, which focused on the theme "Bridging Science and Policy to Enhance Water Security in Africa and the Americas", it was recognised that there were four key areas that needed further studies in the two regions in order to provide a science-evidence base for problem resolution. These areas were:

- Eutrophication and Wastewater management;
- Water and Climate Change Adaptation; and
- Water and Energy

Sub-theme 1: Eutrophication and Wastewater management. The increasing large-scale modification and disturbance of the landscape is resulting in increased erosion and sedimentation, which is a dominant cause of the ongoing eutrophication in many large and small water bodies, including man-made reservoirs. Nutrient loads from atmospheric deposition, originating from biomass burning, are being increasing recognised as being very important in altering the N and P cycles in lakes and creating conditions for eutrophication. Nutrient loading has already significantly affected some aquatic systems and water quality. Better and integrated management of watersheds and surrounding areas in both urban and rural regions is necessary to preserve the ecosystems goods and services that are provided by aquatic systems. The mining and industrial sectors produce high concentrations of wastes and effluents that act as point and non-point sources of water quality degradation and acid mine drainage, and as such water treatment technologies are required. Deteriorating water quality is a transcending problem needing better management. Water purification technologies now exist to purify water from industry and mining in quantities large enough to support, for example, municipal water supplies.

Sub-theme 2: Water and climate change adaptation. Climate variability and increasing demand for water as a result of development and population pressure are factors that have increased water demand. The growing population increases the demand for water for domestic use, food security and industrial development. In some areas, due to variable and unreliable resources, conflicts have arisen over the resource. Further, hydrological extremes are becoming more prevalent, with severe droughts and floods having widespread undesirable direct and indirect impacts on peoples well-being, food security, health, and national economies. In addition, existing water infrastructure is expected to come under increased pressure from climate changes, for example, storm water and drainage system reforms may be required to better cope with extreme climate change events. The issue of resilience to changing quantity and quality of water are pervasive in both rural and urban areas, and will become more pertinent as climate continues to change and to modify the hydrological cycle.

Sub-theme 3: Water, agriculture and energy. Many developing countries economic growth and food security is strongly linked to hydrological variability, as has been demonstrated in Ethiopia, for example. Sub-Saharan Africa and Latin America still has a large potential for development of their water resources for energy, agriculture, municipal, domestic and industrial supplies, though this may be constrained by geographical distribution. In SSA, for example, there is enormous potential for hydroelectric power production, but only three per cent of its renewable water is used, against 52 per cent in Asia. Access to electricity is uneven; only one in four people in Africa has access to electricity. Options to improve technologies to exploit renewable resources including geothermal energy can also be enhanced.

AGENDA

Notes:

1. We need to identify speakers. There is one keynote speaker for Day 1, and for the rest of the sessions (covering the four sub-themes), there will be four speakers per session. For each of these sessions, two speakers will be from the Americas and two from Africa.
2. Field trip day. We need to decide what exactly to do during the field trip and which organisations to contact to take us around.
3. For the Panel Discussion on Day 4, we need to identify discussants (from industry, academia, government, practitioners) and decide on what key issues need to be discussed.
4. The presentations should be focused on key options for solutions (for sustainable development); but also how to move for better implementation and best use of available technologies for socio-economic development of Africa and the Americas.

October 12th – DAY 1

Time	Item	Speaker(s)	Session Chair
09:00 - 10:00	Opening ceremony		
10:00 - 10:30	Keynote Address:		
10:30 - 11:00	Health Break		
Session 1: Eutrophication and Wastewater Management			
11:00 - 11:20	Presentation		
11:20 - 11:40	Presentation		
11:40 - 12:00	Presentation		
12:00 - 12:40	Presentation		
12:40 - 13:00	Plenary Discussions on Wastewater management		

13:00 - 14:00	Lunch Break		
Session 2: Water and Climate Change Adaptation			
14:00 - 14:20	Presentation		
14:20 - 14:40	Presentation		
14:40-15:00	Presentation		
15:00 - 15:20	Presentation		
15:20 - 16:00	Plenary Discussions on Water and Climate Change Adaptation		
16:00 - 16:30	Health Break		
16:30 - 17:30	General Discussion and Development of Conclusions for the Day		
17:30	Adjourn for the day		

October 13th – Day Two

Time	Item	Speaker	Session Chair
Session 3: Water, Agriculture and Energy			
08:30 - 08:40	Presentation		
08:40 - 09:00	Presentation		
09:00 - 09:20	Presentation		
09:20 - 09:40	Presentation		
09:40 - 10:00	Plenary discussions on Water, Agriculture and Energy		

10:00 - 10:30	Health Break		
Session 4: [we can have a spillover of papers from the three sessions here]			
10:30 - 10:50	Presentation		
10:50 - 11:10	Presentation		
11:10 - 11:30	Presentation		
11:30 - 11:50	Presentation		
11:50 - 12:30	Plenary discussions		
12:30 - 14:00	Lunch Break		
Breakout Group Sessions			
14:00 - 16:00	Break-out group discussions		
16:00 - 16:30	Health Break		
16:30 - 17:30	Break-out group presentations and Wrap-up for Day 2		
17:30	Adjourn for the day		

October 14th – Day Three

Field Trip to Lake Naivasha

October 16th – Day Four

Time	Item	Speaker	Session Chair
Session 6: Panel Discussions			
08:30 - 10:30	Panel Discussions		
10:30 - 11:00	Health Break		

Session 7: Summary, Way Forward and Closing Ceremony			
11:00 - 11:30	Summary of workshop outcomes		
11:30 - 12:00	Way Forward		
12:00 - 12:30	Closing Ceremony		
12:30 - 14:00	Lunch Break		
14:00	Workshop adjourns		