The Nile Basin agro-ecology base constitutes a fundamental common source of living and livelihood for growing population engaging diverse institutions and stakeholders. It is facing challenges ranging from growing demography, the sprawling urbanization, the trans-boundary risk and hazards and climate change. These challenges and threats are coupled with untapped opportunities and a poorly planned way forward, ranging from the improbable agri-food systems, smart urbanization, better managed demography, controlled, surveyed and monitored trans-boundary risk and hazards, significant mitigation and adaptation measures to the climate change, and responsible investments in agriculture and sustainable family farming.

The Nile Basin is home to more than 464 million inhabitants (40% of the total population in Africa, with a projection of more than 888 million in 2050).

The Nile Basin as macro agroecological system consists of many fundamental agro-ecosystems extending from the Nile Delta in the Mediterranean Egypt, to Sudd Wetlands in Sudan and South Sudan, Lake Victoria Basin, Great Lakes Basins, Tana Lake Basin, Ethiopian highlands, Southern Agricultural corridor in Tanzania, other critical geographies which do not exclude the whole Nile River Basin as basic non separable agro-ecological unit.

The Nile Basin Water governance evolves through the 1929 (Italy - Britain), 1959 (Sudan - Egypt) agreements and currently negotiated within the Nile Basin Initiative (NBI) and the 1999 -2009 Cooperation Framework Agreement (CFA) signed by six Nile River riparian members excluding the newly independent South Sudan and Eritrea which is categorized as observer within that multistakeholders initiative. The Nile Basin could benefit from sharing experiences and knowledge implemented within the frames of the COMPACTS of the Great Lakes - St. Lawrence River Basin Sustainable Water Resources agreement, Upper Colorado River Basin Compact, and Delaware River Basin Compact, among others. The Nile Basin Development Partners are capable in facilitating and creating enabling environment for Basin Wide sustainable water resource management, provided the political will and partner driven and transboundary spirit.

The Agroecology is intended as the integrative study of the ecology of the entire food systems, encompassing ecological, economic and social dimensions, (Francis et al. 2003). Or, the science of applying ecological concepts and principles to the design and management of sustainable food systems, (Gilessman 2007). The study of the interactions between plants, animals, humans and the environment within agricultural systems; ... integrative studies within agronomy, ecology, sociology and economics, (Dalgaard et al 2003). The Nile basin Agroecology encompasses the ecological processes that operate in the basin-wide agri-food production systems.

Thus, the Nile Basin Agro-ecology base has huge opportunities in:

- Integrating ecosystem, science and evidence-based solutions into principles, policies, plans, projects, and responsible investments to accompany its ongoing growth and development priorities.
- Regenerating depredated/agricultural ecosystems and agro-ecology
- Sustainably increasing land and water productivity while wisely manage the Agro-ecology and avoid the environmental damages.
- Recovering, reusing and recycling resources in urbanizing ecosystems and Agro-ecology
- Sustainably managing resources variability and competing uses
- Strengthening decision and risk analysis and improving information and data systems.
- Building upon valuable local experiences and knowledge in traditional farming practices, taking advantage of recent scientific findings in agroecology and ecosystem health for appropriate conservation and agrobiodiversity enhancement.
- Dealing sustainably with food and nutrition security, also by preventing and reducing the food wastage and manage the urban solid and liquid waste.

Lake Victoria Basin, Tana Delta, and Nile Delta Agroecological aerial views

- The Nile Basin Agroecology is a fundamental ecological foundation and supporting ecosystems for the food security and Nutrition of its living fauna, flora and inhabitants and beyond.

Some References

- CGIIAR Research Program on Water, Land and Ecosystem (WLE Nile) IWMI project guidelines.
- Nile Basin Initiative (one river, one people, one vision) [http://www.nile-basin.org/]

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