



UNU-INRA Sparkle

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Enhancing Capacities for Managing Africa's Natural Resources

Vetiver Technology Offers Unique Window for Africa's Green Growth

Africa's quest to industrialize, produce enough food to bring hunger to zero level, implies continuous contamination of soil, surface and underground water from toxic effluents from industrial and domestic sources and Agrochemicals. This will continue to produce sick soil and water, sick food and sick people. A green, low-cost and effective solution is found in vetiver grass (*Chrysopogon spp*). Three *spps* are known and these are *Chrysopogon zizanioides*, native to India, *Chrysopogon nigritana*, native to Western and Southern Africa and *Chrysopogon nemoralis* native to Vietnam.

Vetiver makes society safer by removing toxic substances, agro-chemicals and pesticides as well as heavy metals from un-engineered landfills and garbage dumps. Vetiver acts as a windbreak and dust reduction in semiarid and arid regions. The use of vetiver will improve availability and quality of drinking water, waste-clean up and the stabilisation of infrastructure. Its direct farm benefits include: the use of vetiver biomass for mulching and substrate for mushroom production, thatching and rope making, as well as the use of the leaves and roots for handicrafts. It also provides biofuel for domestic use and community energy production, and forage production, among many others.

Comparative study of *zizanioides* and *nemoralis* shows the potentials of the different vetiver *spp*. The use of *nigritana spp* is not well known or documented, perhaps because the use of vetiver in Africa is still in its infancy.

It is in this light that the United Nations University Institute for Natural Resources in Africa (UNU-INRA) in collaboration with the Department of Applied Biology, Ebonyi State University, in Nigeria is taking up a detailed histological study of Africa's indigenous

nigritana spp, making inference to those adaptive features which could be of innovative value to the continent. The study will also assess the effectiveness of the grass in the treatment of sick water from industrial and domestic sources which are used for commercial purposes by industries and also domestically by urban and peri-urban farmers for irrigation; which has raised serious health concerns worldwide.



Researchers cutting Vetiver grass for experiment.

Already the comparative effectiveness of a *nigritana spp* in curtailing soil, water and plant nutrient losses and protection of agricultural high slopes has been confirmed through on-farm and on-station field trials in Nigeria, West Africa. In addition to the sustainability of increased crop yields, is the adaptation and mitigation of the consequences of climate change. A technical monograph and policy brief is being produced by UNU-INRA on this.

EVENTS

UNU-INRA Organized a Consultative Workshop on Green Growth in Rural Africa

UNU-INRA has organized a consultative workshop to launch a new project entitled

“Unleashing the potential of African Rural Economies through Green Growth”. The workshop brought together 27 resource persons from different countries across the globe. The two days’ workshop, which was held at the UNU-INRA’s Headquarters in Accra, Ghana from the 18th to the 19th November, 2013 provided a platform for researchers, policy makers and civil society organizations involved in environmental, natural resources and developmental issues in Africa, to exchange ideas on green growth for rural Africa. The participants undertook a critical review of the current state of green growth research and policy analysis for Africa, and also deliberated on key research areas, methodologies and data availability for undertaking green growth research in rural Africa. In addition, the participants evaluated the value addition of the project with regards to similar initiatives in Africa.



Participants at the Consultative Workshop on Green Economy

Based on the AfDB’s definition for Green Growth for Africa, four thematic areas were identified as keys for green growth research in rural Africa: (i) Green business opportunities; (ii) Resource efficiency, productivity and resilience; (iii) Ecosystem services and; (iv) Institutions and governance.

To be consistent with developmental challenges facing rural population in Africa, participants agreed that the project should give priority to research questions that address at least one of the following issues: (i) Employment; (ii) Income generation; (iii) Productivity (iv) Competitiveness and innovation such as enterprise development, Low Carbon Technology (LCT), and Information and Communication Technology (ICT). Participants also stressed on the fact that cross cutting issues such as gender, youth, leadership and governance, and human security should be

addressed where necessary during the project implementation.

Although all economic sectors have the potential to contribute to greening rural economies in Africa, it was recognized that some of these have a greater impact on rural population. These key green sectors include: (i) Infrastructure – Transport, Energy and Shelter; (ii) Health and Human Development; (iii) Land and Natural Resources - Agriculture, Forestry, Water and Mining; Fishery and Livestock.

The round table discussion allowed participants to identify many databases and methodologies that could be used to address green growth research issues in rural Africa. However, they stressed that data should be desegregated in a way that the impact of green growth strategies on rural communities in rural Africa can be captured. Additionally, it was suggested that methodologies and approaches used for green growth research should link green growth strategies to the welfare of the rural population in order to evaluate how different strategies could contribute to poverty reduction and improvement of wellbeing in rural Africa.

In his closing remarks, the Project Leader, Dr. Calvin Atewamba, presented the implementation plan that will follow the consultative workshop. He indicated that “for the coming three years, UNU-INRA will welcome up to ten Visiting Scholars and 4 PhD Interns each year to spend 3-4 months at UNU-INRA headquarters in Accra, Ghana or at one of its operating units based in Cameroon, Cote d’Ivoire, Namibia, Senegal and Zambia, carrying out research on green growth for rural Africa.”

He also added that the Institute will provide a two- year scholarship to three PhD Students, which will require them to spend one year at UNU-INRA headquarters in Accra, Ghana, and one year at their affiliated Universities. Also, under the project, two training workshops will be organised each year on green growth issues to equip researchers with tools necessary for carrying out green growth research in rural Africa.

For the three coming years, a significant contribution of the project will be the development of a knowledge dissemination database on green growth for rural Africa.

UNU-INRA, ISSER & Others Hold International Conference Dubbed ‘Beyond Rio + 20: Emerging Challenges and Opportunities’

The United Nations University Institute for Natural Resources in Africa (UNU-INRA) in collaboration with Initiative Prospective Agricole et Rurale (IPAR Senegal) and the Institute of Statistical, Social and Economic Research (ISSER) of the University of Ghana with a support from the International Development Research Centre (IDRC), organised an international conference dubbed *Beyond Rio + 20: Emerging Challenges and Opportunities*’ on the 20th - 22nd November, 2013 in Accra, Ghana.

The conference aimed at assembling African think tanks to share views on the post-Rio+20 world, deepening understanding of the challenges and opportunities ahead and laying the foundations for a collective reflection on the ways to better implement the Rio+20 outcomes within Africa. It has attracted about 234 participants from academia, donors, embassies, non-governmental organisations, government agencies, agencies from the United Nations, the media and the general public.

The high-level conference also sought to contribute to strengthening the think tanks’ research capacities, improve their policy linkages and connect their voices to the global development agenda.



Participants of the Conference

The bilingual (English and French) conference which was chaired by Prof. Ernest Aryeetey, Vice Chancellor of the University of Ghana recorded 33 presentations under the following sub-themes: *green economy and sustainable development, green economy and inclusive growth, agriculture related issues, social and employment related issues, private sector, and technological development and cross cutting issues.*



Director of UNU-INRA, Dr. Elias Ayuk (2nd from left) chairing a panel discussion at the Conference

Academic papers based on the conference presentations are currently undergoing review by subject area experts towards the production of a monograph and publication in a special edition in a renewed journal by July, 2014.

OTHER NEWS

Director of UNU-INRA Calls on Cameroon Government Officials

The UNU-INRA Director, Dr. Elias Ayuk, was received separately on October 11, 2013 by the Cameroon Minister of Higher Education, Professor Jacques Fame Ndongo, the Minister Delegate in Charge of Relations with the Commonwealth at the Ministry of External Relations, Dr. Joseph Dion Ngute, and the Secretary General in the Ministry of Research and Innovations, Mrs Rebecca Magdalene Ebelle Etame. Dr. Ayuk was accompanied by the Vice Rector in Europe and Director of the United Nations University Institute for Environment and Human Security (UNU-EHS), Professor Jakob Rhyner. The purpose of the meetings was to pursue discussions on the Government of Cameroon’s support to the UNU-INRA Endowment Fund. It was confirmed that the Government of Cameroon is committed to support the Endowment Fund and technical personnel at the different Ministries are working on a draft Memorandum of Understanding.

UNU-INRA Director Engages in Speaking Opportunities

The Director of UNU-INRA, Dr. Elias Ayuk delivered a keynote address at the 36th Annual Conference of the Forestry Association of Nigeria (FAN) on November 4-9, 2013 in Uyo, Akwa Ibom State, Nigeria. He spoke on the topic *'Environmental Sustainability and Livelihoods in an Emerging Economy: A case for a win-win strategy'*. The address has been published in the proceedings of the Conference.

Dr. Ayuk also participated in UNU-FLORES kick-off workshop organized in Dresden, Germany, on November 11-12, 2013 on advancing a nexus approach to the sustainable management of water, soil and waste. He presented a paper entitled *'Rethinking institutional and governance frameworks for effective water, soil and waste nexus'*. He was also a panellist in the fourth session that examined the institutional arrangements and governance structures to facilitate the implementation of a nexus approach and its integration in environmental planning and management.

Similarly, UNU-INRA took part in a CECAR project meeting held in Kyoto, Japan from November 27 -30, 2013. The Institute was represented by the Director, Dr. Elias Ayuk and a Research Fellow, Ms Yasuko Kusakari. The key issues on the agenda included an update of project activities and the planning for the forthcoming international conference to be held in Tamale, Ghana in August 2014.

The Africa Climate Policy Centre also invited the Director to participate in a consultative workshop organized in Addis-Ababa, Ethiopia, from December 9-12, 2013. The workshop was to discuss the Centre's proposed capacity building program. The director made a presentation that summarized UNU-INRA's climate change-related research, fellowships and internship programmes and its research infrastructure.

Dr. Oku of UNU-INRA Participates in ASSS and SSSEA Conference in Kenya

A Research Fellow of UNU-INRA's Land and Water Programme, Dr Effiom Oku took part in

a joint 6th Africa Soil Science Society (ASSS) and 27th Soil Science Society of East Africa (SSSEA) conference held on October 20 – 25, 2013, in Nakuru, Kenya. The conference was under the theme: transforming rural livelihood in Africa: how can land and water management contribute to enhancing food security and addressing climate change adaptation and mitigation? Dr. Oku presented a paper on the topic: *Green infrastructure for enhancing soil-water-plant nutrient balance and climate change adaptation on smallholder fields.*



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About UNU-INRA

Although UNU-INRA is an institute of the UNU system, it was an African concept developed by some committed top African scientists. Its establishment is supported by the Assembly of Heads of States and Governments of the Organization of African Union (OAU). On this strong political and moral support, UNU-INRA was established in 1986.

Sparkle is a quarterly newsletter of UNU-INRA.

Sparkle means Sustainability through Partnership in Africa where Resources are optimally utilized using Knowledge that is holistic, Leadership that is inclusive and Economy that is green.