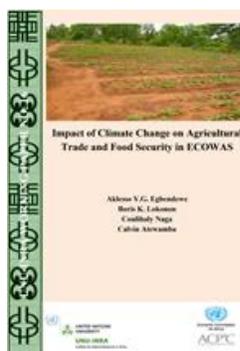


This bulletin highlights policy briefs, papers, articles and major news stories published by UNU-INRA in 2016.

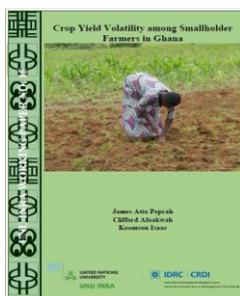
Working Papers and Policy Briefs

Aklesso, E. Y. G, Lokonon, B. K., Naga, C. and Atewamba, C. (2016). ***Impact of Climate Change on Agricultural Trade and Food Security in ECOWAS***, Accra, UNU-INRA.



This research investigated the impact of climate change on agricultural trade flows within and outside the Economic Community of West African States (ECOWAS). The results showed that the pattern of trade in ECOWAS region induced by climatic factors will depend on socio-economic conditions that may prevail during the century. The study indicated that trade within ECOWAS may be limited due to supply shortages but no clear pattern has emerged in terms of the net exporters and the net importers. Some countries that are net exporters for some years may become net importers some other years. The paper is available at <http://collections.unu.edu/view/UNU:5922#viewAttachments>

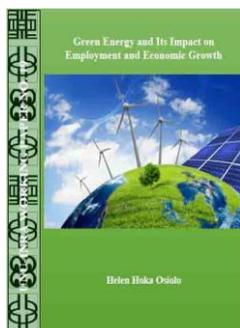
Peprah, J. A., Afoakwa, Clifford, A. and Koomson, I. (2016). ***Crop Yield Volatility among Smallholder Farmers in Ghana***, Accra, UNU-INRA.



This paper explores crop yield volatility among rural and urban smallholder farmers. The results revealed that while rural farmers in the forest and coastal zones experienced less volatility in their crop yield, crop yield is highly volatile among rural farmers in the savannah belt. To increase yield among smallholder farmers in Ghana, it was recommended that policies should focus on making credit available to farmers, especially those in the rural areas. Education on the use of technology in farming, the paper suggests, will help increase yield and reduce volatility. It is available at:

<http://collections.unu.edu/view/UNU:5923#viewAttachments>

Osiolo, H. H. (2016). ***Green Energy and Its Impact on Employment and Economic Growth***, Accra, UNU-INRA.

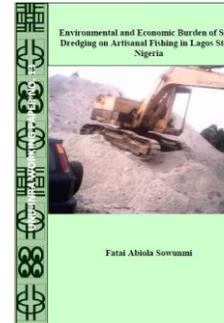


This study estimated the effects of renewable energy on employment and economic growth in Kenya. The findings showed how investment, especially in renewable energy can create employment and generate cheap, sustainable and modern energy for all. The paper is available at <http://collections.unu.edu/view/UNU:5928#viewAttachments>

Sowunmi, F. A. (2016). *Alleviating the Impact of Sand Dredging on Fishing*, Accra, UNU-INRA.



The study highlighted the need for sand dredging activities to be monitored and urged relevant authorities to consider restricting the activities of sand dredgers to non-fishing communities. This, the report indicated, can be achieved by ensuring that licenses are given to sand dredgers to operate only in communities that are not engaged in fishing. The aim is to help reduce the negative impact of sand dredging on fishing.



The policy brief is available at <http://collections.unu.edu/view/UNU:5745#viewAttachments>. The full paper can be downloaded at <http://collections.unu.edu/view/UNU:5744#viewAttachments> or at <http://link.springer.com/article/10.1007%2Fs10661-016-5137-2>

Effiom, O, Nnamani, C. V. and Otam, M. O. (2016). *Wastewater Management: An African Vetiver Technology*, Accra, UNU-INRA

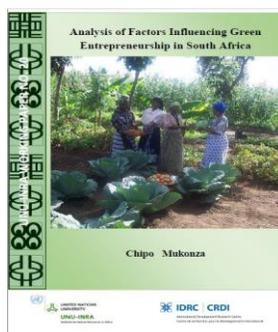


This research reveals a unique African bio-resource (*Chrysopogon nigrifolius*) that could transform wastewater management by absorbing hazardous elements, such as Cadmium (Cd), Arsenic (As), Copper (Cu), and Lead (Pb), making it safe for discharge into water bodies, and for re-use in agriculture.



The policy brief is available at <http://collections.unu.edu/view/UNU:5840#viewAttachments> and the working paper is at <http://collections.unu.edu/view/UNU:5841#viewAttachments>.

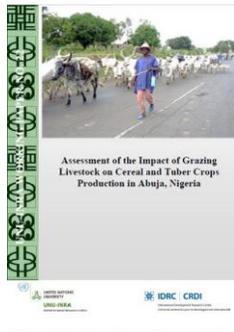
Mukonza, C. (2016). *Analysis of Factors Influencing Green Entrepreneurship in South Africa*, Accra, UNU-INRA.



This study examined factors affecting green entrepreneurship activities in South Africa. The study established that the adoption of environmentally responsible business practices has opened up an additional range of opportunities for entrepreneurs. Enterprising individuals and organizations have established numerous niches that include the development of new products, new practices of doing business, recycling, and energy efficiency among other things. The paper is available at:

<http://collections.unu.edu/view/UNU:5926#viewAttachments>

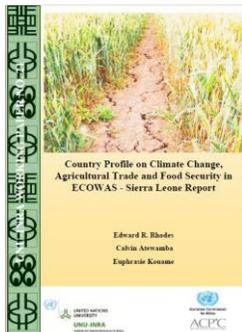
Ajah, J. (2016). **Assessment of the Impact of Grazing Livestock on Cereal and Tuber Crops Production in Abuja, Nigeria**, Accra, UNU-INRA.



This research assessed the impact of grazing livestock on cereal and tuber crops production in Abuja, Nigeria. The findings suggest that crop damages by the livestock were substantial, and this is capable of stimulating aggressive responses from the farmers. Key among recommendations given by the study is the need to support farmers to adopt intensive livestock management systems (confined animal rearing) so as to reduce the impact of grazing livestock on crop production in Nigeria. The paper is available at:

<http://collections.unu.edu/view/UNU:5921#viewAttachments>

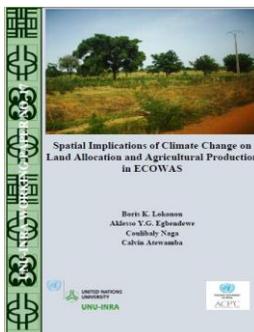
Rhodes, E. R, Atewamba, C. and Kouamé, E.B.H. (2016). **Country Profile on Climate Change, Agricultural Trade and Food Security in ECOWAS - Sierra Leone Report**, Accra, UNU-INRA.



This paper provides country specific data/information and sources on climate, climate change, soil, hydrology; agricultural land and production; agricultural trade and food security; challenges, opportunities, policies and institutional arrangements. The paper recommends that capacities of institutions responsible for the collection, processing and dissemination of agricultural statistics should be strengthened. Available at:

<http://collections.unu.edu/view/UNU:5929#viewAttachments>

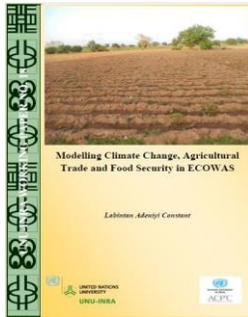
Lokonon, B. K., Aklesso E. Y. G, Naga, C. and Atewamba, C. (2016). **Spatial Implications of Climate Change on Land Allocation and Agricultural Production in ECOWAS**, Accra, UNU-INRA.



This paper investigated the impacts of climate change on land allocation and crop production in the Economic Community of West African States (ECOWAS). The findings showed that paddy rice, maize, sorghum, millet, oilseeds, cocoa, coffee, and sesame production experience a decline under both moderate and harsh climate change in most cases. The magnitude and the direction of the impacts vary across geographical units. The findings of this study advocate for international action in terms of reducing the emission of greenhouse gases (GHG) in developing countries. Available at:

<http://collections.unu.edu/view/UNU:5924#viewAttachments>

Labintan, C. A, (2016). **Modeling Climate Change, Agricultural Trade and Food Security in ECOWAS**, Accra, UNU-INRA.

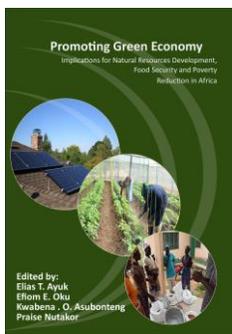


The model is an agro-climatic zone (ACZ) unit based model which included two climate-change scenarios (Representative Concentration Pathways-RCPs 4.5 and 8.5), and four socio-economic scenarios (Share Socio-economic Pathways-SSPs). The model provides a useful output such as the spatial-temporal distribution of agricultural land availability, cropping and livestock land allocation and farming output per agro-climatic zone, per basin and per country. It also provides intertemporal agricultural production per agricultural unit, per basin and per ECOWAS country up to year 2100. Available at:

<http://collections.unu.edu/view/UNU:1380#viewAttachments>

Book

Ayuk, E. T, Asubonteng, K. O, Oku, E. E, and Nutakor, P. (2016). 'Editors'. **Promoting Green Economy**, Accra, UNU-INRA



The book explores issues affecting the socio-economic development of Africa and focuses on the continent's need for a green economy. The chapters, written by seasoned authors from academia and industry across the continent, examine challenges of the sustainable management of Africa's natural resources and recommend the need for the continent to transit towards green economy as this can provide opportunities for minimizing environmental footprints of all economic activities. It will be made available at www.inra.unu.edu.

News Stories

Nutakor, P. (2016). **Biosand Filter: A Household Water Treatment Option for Africa**, Accra, UNU-INRA.



Water is said to be life...Nonetheless, it is estimated that about 1.1 billion people do not have access to safe drinking water in the developing world...The good news is that household water treatment and safe storage interventions can lead to dramatic improvement in drinking water quality and consequently reduce diarrhoeal diseases... It is in line with this that UNU-INRA supported a study that evaluated the acceptability of biosand filter in rural communities in Ghana and assessed its potential for eco-business development...Cultural reasons, cost and difficulty of treatment emerged as the main reasons that discouraged point-of-use water treatment. The findings call for education especially in rural communities to promote the use of water treatment technologies like the biosand filter... [\[Read more\]](#)

New Frontiers in Natural Resources Management Identified for Africa



African researchers have identified new frontiers in natural resources management to help position the continent to effectively address the Sustainable Development Goals (SDGs) 2016-2030. This was one of the outcomes of a conference organised by UNU-INRA. Five areas for cutting edge research highlighted at the conference include *Sustainable Land and Soil Management; Sustainable Mining Practices; Blue Economy including Oceans, Lakes and Wetlands; Energy, Climate Change and Environment; and Natural Resources and the Global Value Chains.* [[Read more](#)]

UN University Rector Applauds Ghanaians for their Enthusiasm in Education



The Rector of the United Nations University, Dr. David M. Malone lauds Ghanaians for their zeal in education. The Rector made the remarks when he paid courtesy calls on the Minister of Lands and Natural Resources and Minister of Education in separate visits in Accra... [[Read more](#)]

UNU-INRA Improves Relationship with African Ambassadors in Accra



The Director of the United Nations University Institute for Natural Resources in Africa (UNU-INRA), Dr Elias T. Ayuk, called on selected diplomatic missions in Accra, to improve the Institute's working relationship with the respective African missions in Ghana. The diplomatic missions visited were the Embassy of Angola, Embassy of Equatorial Guinea and the Namibia High Commission. [[Read more](#)]

Farmers Trained on Wastewater Management



The United Nations University Institute for Natural Resources in Africa (UNU- INRA), organized a training workshop for urban and peri-urban vegetable farmers in Accra, on how to treat wastewater for irrigation. The aim was to equip the farmers to use the African species of vetiver grass, "*Chrosopogon nigriflora*" to treat wastewater before using it for irrigation. [[Read more](#)]



Second Floor, International House, Annie Jiaage Road, University of Ghana, Legon, Accra, Ghana.

Private Mail Bag, KIA, Accra, Ghana.

Email: inra@unu.edu

Tel: +233 302 213 850 Ext. 6318

Website: www.inra.unu.edu



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