



3rd International conference on neglected and underutilized species (NUS): for a food-secure Africa

25 – 27 September 2013, Mensvic Grand Hotel, Accra, Ghana

24 September

15.00 – 18.00 Registration, Mensvic Grand Hotel

Day 1 - 25 September

08.00 – 09.00	Registration
	Opening session Location: Conference Main Hall Chair: Hon. Dr. Joe Oteng-Adjei , Minister of Environment, Science, Technology and Innovation (MESTI), Ghana
09.00 – 09.15	Welcome address <i>Dr. Abdulai B. Salifu, Director-General, CSIR, Ghana</i>
09.15 – 09.30	Addresses by representatives of the Organizers <i>Ms. Ann Tutwiler, Director General, Bioversity International, Italy</i> <i>Mr. Lamourdia Thiombiano, OiC, Regional Office for Africa, FAO, Ghana</i>
09.30 – 10.10	Keynote address <i>Hon. Mr. Clement Kofi Humado, Minister of Food and Agriculture, Ghana</i>
	Statement of appreciation <i>Dr. R.E.M. Entsua- Mensah, DDG, CSIR, Ghana</i>
10.10 - 10.40	Tea/Cocoa Break

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	<p>Keynote addresses Location: Conference Main Hall Chair: Dr. Remi NonoWomdim, FAO, Italy</p>
10.40 – 11.10	<p>Strategic repositioning of NUS for food security, nutrition, health and economic development <i>Prof. Mary Abukutsa-Onyango, Jomo Kenyatta University of Agriculture & Technology, Kenya</i></p>
11.10 – 11.40	<p>Enhancing the impact of agricultural research and development in Africa: the case for neglected and underutilized species <i>Dr. Yemi Akinbamijo, Director General, FARA, Ghana</i></p>
11.40 – 12.10	<p>Creating an enabling policy environment for the promotion of NUS for food and nutrition security <i>Ambassador Mary Mubi, Zimbabwe's Permanent Representative to FAO, Italy</i></p>
12.10 – 13.30	Lunch & poster viewing
	<p>Keynote addresses by theme Chair: Dr. Richard Hall, IFS, Sweden</p>
13.30 – 14.45	<p>Theme 1 Resilience & livelihood (T1) Leveraging livelihood benefits from NUS through agricultural research: challenges, needs and opportunities <i>Prof. Patrick Van Damme, University of Gent, Belgium</i></p>
	<p>Theme 2 Value chain (T2) Upgrading value chains of NUS: Commercial solutions to a commercial problem <i>Mr. Gus Le Breton, CEO, Bio-Innovation, Zimbabwe</i></p>
	<p>Theme 3 Policy (T3) Partnerships for promoting NUS: Bioversity International's experience <i>Dr. Raymond Vodouhe, Bioversity International, Benin</i></p>
14.45 - 15.15	Tea/Cocoa Break

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15.15 – 17.00	Parallel sessions	
<p>Theme 1 Resilience & livelihood</p> <p>Session T1.1 Location: Main Hall Chair: Dr. Stefano Padulosi, Bioversity, Italy</p>	<p>Theme 2 Value chain</p> <p>Session T2.1 Location: Round Hall Chair: Dr. Alberto Camacho, GIZ, Germany</p>	<p>Theme 3 Policy</p> <p>Session T3.1 Location: Rest Hall Chair: Dr. Michael Hermann, Crops For the Future, Malaysia</p>
<p>Characterization of the ripe edible shea nut (<i>Vitellaria paradoxa</i> C.F. Gaertn.) fruit pulp for dietary minerals and metabolites in Ghana Felix D. Dakora</p> <p>The use of artisanal popping machines in Andean countries causes lead contamination of expanded grain products Michael Hermann</p> <p>Sustaining frafra potato, <i>Solenostemon rotundifolius</i> (Poir.), in the food chain: current opportunities in Ghana Issah Sugri</p> <p>Enhancing the resilience of livelihoods of small millet farmers through participatory varietal selection in India M. Karthikeyan</p> <p>Production of underutilized crops in climate change scenarios in semi-arid Southern Africa Sue Walker</p>	<p>Traditional baobab novel foods from Benin: processing, preservation and gender analysis Flora Chadare</p> <p>Evaluation of consumer preference for indigenous leafy vegetables in selected districts of Malawi Sibongile Zimba-Chimzinga</p> <p>Inclusive PPP-business model for developing underutilized plants to improve food security in Zimbabwe Bridget Matambo</p> <p>Upgrading value chains of neglected and underutilized species: promoting the processing and commercialization of baobab (<i>Adansonia digitata</i>) in the Upper East Region of Ghana Elvis Paul Tangem</p> <p>More than chocolate: diversifying cocoa agroforests for higher profitability in Cameroon Lea Y. Eboutou</p>	<p>Determinants of the cultivation of selected neglected and underutilized species by small-scale farming households in the Nigerian Guinea Savannah Animashaun, J.O.</p> <p>Public-private partnerships in tree domestication for sustainable agriculture and business innovations: <i>Allanblackia</i> species as a case study Daniel A. Ofori</p> <p>Prospects and challenges for preserving and mainstreaming underutilized traditional African vegetables Fekadu Fufa Dinssa</p> <p>Neglected and underutilized food crops: current situation and actions towards an enabling policy environment in Côte d’Ivoire Kouablan Edmond Koffi</p>

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17.00 – 18.30		Side events, poster viewing	
<p>Side event S.1</p> <p>Location: Round Hall</p> <p>Hosted by: Bioversity International, Italy and United Nations University, Institute for Natural Resources in Africa, Ghana</p>		<p>Side event S.2</p> <p>Location: Rest Hall</p> <p>Hosted by: Crops For the Future (CFF), International Centre for Biosaline Agriculture (ICBA) and World Vegetable Centre (AVRDC),</p>	
<p>NUS in higher agricultural education: research, curricula and outreach</p> <p>Panellists:</p> <ul style="list-style-type: none"> • Mr. Per Rudebjer, Head, a.i., Knowledge Management & Capacity Strengthening Unit • Dr. Elias Ayuk, Director, (UNU-INRA), Ghana • Dr. A.K. Pandey, Dean, College of Horticulture and Forestry, Arunachal Pradesh, India <p>[Additional panellists to be announced]</p>		<p>NUS for food and nutrition security, and income diversification in marginal areas</p> <p>Panellists:</p> <ul style="list-style-type: none"> • Dr. Michael Hermann, Director, Crops For the Future, Malaysia • Dr. Kameswara Rao Nanduri, Scientist, Plant Genetic Resources, , UAE • Dr. Fekadu Dinssa, World Vegetable Centre (AVRDC), Tanzania <p>[Additional panellists to be announced]</p>	
<p>Welcome reception, Mensvic Grand Hotel Hosted by Council for Scientific and Industrial Research (CSIR), Ghana</p>			

Day 2 - 26 September

Plenary session Location: Main Conference Hall		
08.30 – 09.00	Recap of Day 1	
09.00 – 10.30 Parallel sessions		
<p>Theme 1 Resilience & livelihood: conservation</p> <p>Session T1.2 Location: Main Hall Chair: Dr. Oluwafunmiso Adeola Olajide, University of Ibadan, Nigeria</p>	<p>Theme 2 Value chain</p> <p>Session T2.2 Location: Round Hall Chair: Mr. Per Rudebjer, Bioversity International, Italy</p>	<p>Theme 3 Policy</p> <p>Session T3.2 Location: Rest Hall Chair: Dr. Oluyede Ajayi, CTA, The Netherlands</p>
<p>How far do home gardens conserve threatened underutilized species and crop wild relatives in Benin? <i>Achille Ephrem Assogbadjo</i></p> <p>Ethnobotanic study and agromorphological evaluation of Kersting's groundnut (<i>Macrotyloma geocarpum</i> Harms.) varieties of Benin <i>Prisca Assogba</i></p> <p>National inventory and prioritization of crop wild relatives: case study for Benin <i>Idohou Rodrigue</i></p> <p>Morphological and use-value related management of enset (<i>Ensete ventricosum</i> (Welw.) Cheesman) diversity and distribution in the Southern Nation Nationalities and Peoples Regional State: perspectives for on-farm conservation of crop genetic resources <i>Zerihun Yemataw</i></p>	<p>Nutritional composition and stability of <i>Saba senegalensis</i> fruit extract <i>Linda Dari</i></p> <p>Exploring and expressing the potential of geographical indications <i>Delphine Marie-Vivien</i></p> <p>Agroforestry contribution to household livelihoods: evidence from farmer-managed natural generation in four countries in the Sahelian and Sudanian ecozones of the West African Sahel <i>Joachim Nyemeck Binam</i></p> <p>Contract farming by traditional African leafy vegetable seed producers in Tanzania: implications for household cropping income <i>Srinivasulu Rajendran</i></p>	<p>Thousands of crops and very little money – how can marker technology be applied to underutilized species? <i>Sean Mayes</i></p> <p>Bamboo based sustainable livelihood and economic development in Sub-Saharan Africa: a policy perspective on research and development <i>Michael Kwaku</i></p> <p>An assessment of technical, economic and social gaps and information needs for smallholder farmers in the practice of ecological organic agriculture in Kenya <i>Justus Moturi Ombati</i></p> <p>Research capacity for NUS: a situation analysis in ten African countries <i>Per Rudebjer</i></p>

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10.30 – 11.00	Tea/Cocoa Break	
11.00 – 13.00	Parallel sessions	
<p>Theme 1 Resilience & livelihood: nutrition</p> <p>Session T1.3 Location: Main Hall Chair: Dr. Getachew Addis, Ethiopian Health and Nutrition Research Institute, Ethiopia</p> <p>Ethnobotanical investigation of three leafy vegetables [<i>Alternanthera sessilis</i> (L.) DC., <i>Bidens pilosa</i> L., <i>Launaea taraxacifolia</i> Willd.] widely consumed in southern and central Benin Faouziath Sanoussi</p> <p>Effect of malting periods on the chemical and anti-nutrient composition of mung bean malt Eucharía U. Onwurafor</p> <p>Lesser known underutilized seed oils: potential source of food for the African community Adewale Adewuyi</p> <p>Wild and semi-wild edible plants: diversity, use in household food sovereignty in remote parts of southern Ethiopia and nutritional benefits Getachew Addis</p>	<p>Theme 1 Resilience & livelihood: agronomy</p> <p>Session T1.5 Location: Round Hall Chair: Dr. Kameswara Rao Nanduri, International Centre for Biosaline Agriculture (ICBA), UAE</p> <p>Agromorphological characterization of <i>Amaranthus</i> species in Central Malawi Daniel Maduwa</p> <p>Local perceptions and endogenous technologies of <i>Carapa procera</i> oil production in Mali Urbain Dembele</p> <p>Local uses of indigenous fruit trees in the Lake Victoria Basin, Rwanda Celestin Bigirimana</p> <p>Ecological and human impacts on stand density and distribution of tamarind (<i>Tamarindus indica</i> L.) in Senegal Sali Bourou</p> <p>Genetic improvement of winged bean (<i>Psophocarpus tetragonolobus</i>) for increased productivity and nutritional security Quin Nee Wong</p>	<p>Theme 1 Resilience & livelihood: climate change</p> <p>Session T1.7 Location: Rest Hall Chair: Dr. A.K. Pandey, College of Horticulture and Forestry, Arunachal Pradesh, India</p> <p>Impact of climate change on the geographical areas suitable for cultivation and conservation of neglected underutilized species: the case of the tamarind tree in Benin Adande Belarmain Fandohan</p> <p>Evaluation of 13 bambara groundnut (<i>Vigna subterranea</i> (L.) Verdc.) landraces to drought stress Joseph Nketiah Berchie</p> <p>Evaluation of sorghum genotypes to enhance production to cope with climate change in Makueni County, Kenya Esther Kimani</p> <p>Variation in seed germination response to water deficit stress in six baobab (<i>Adansonia digitata</i> L.) provenances Marème Niang Belko</p>

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Theme 1 Resilience & livelihood: nutrition	Theme 1 Resilience & livelihood: agronomy	Theme 1 Resilience & livelihood: climate change
<p>Session T1.3 (continued)</p> <p>Anthelmintic effects of a diet containing a traditional plant <i>Viscum verrucosum</i> on faecal egg count and eosinophils of naturally infected Tswana goats <i>N. M. Ratlhatloleng</i></p> <p>Assessment of fonio as a dietary intervention in northern Ghana <i>Afram Yayra</i></p>	<p>Session T1.5 (continued)</p> <p>Yield response of selected taro (<i>Colocasia esculenta</i> L. Schott) landraces from South Africa to irrigated and rain-fed field conditions <i>T. Mabhaudhi</i></p>	<p>Session T1.7 (continued)</p> <p>Methodology mapping for resilient production systems: approaches followed and results from surveys in Bolivia, India, and Nepal <i>Gennifer Meldrum</i></p>
13.00 – 14.00	Lunch & poster viewing	
14.00 – 16.00	Parallel sessions	
<p>Theme 1 Resilience & livelihood: nutrition</p> <p>Session T1.4 Location: Main Hall Chair: Prof. Mary Abukutsa-Onyango, Jomo Kenyatta University of Agriculture & Technology, Kenya</p>	<p>Theme 1 Resilience & livelihood: agronomy</p> <p>Session T1.6 Location: Round Hall Chair: Prof. Alexandre Dansi, University of Abomey-Calavi (UAC), Benin</p>	<p>Theme 1 Resilience & livelihood: climate change</p> <p>Session T1.8 Location: Rest Hall Chair: Ambassador Mary Mubi, Zimbabwe’s Permanent Representative to FAO, Italy</p>
<p>Analysis of anti-infective compounds produced by marine endophytic fungi found in Ghana <i>Arthur, P. K</i></p> <p>Nutritional security and economic prosperity through underutilized vegetables in the North-eastern Hill Region of India <i>A.K. Pandey</i></p>	<p>Castor bean as a potential bio-energy crop: biodiversity in Egypt <i>Ahmed Algharib</i></p> <p>Agronomic diagnosis on farmers’ fields and effects of harvest date on fonio millet (<i>Digitaria exilis</i> Stapf) in south-eastern Senegal <i>Ghislain Kanfany</i></p>	<p>Influence of climate change on the geographical distribution of neglected and underutilized species (NUS) in Bénin: the case of <i>Dialium guineense</i> Willd. <i>Sode I.</i></p> <p>Neglected and underutilized crop for food and income security in marginal environments <i>Kameswara Rao Nanduri</i></p>

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Theme 1 Resilience & livelihood: nutrition	Theme 1 Resilience & livelihood: agronomy	Theme 1 Resilience & livelihood: climate change
Session T1.4 (continued)	Session T1.6 (continued)	Session T1.8 (continued)
<p>Nutrient concentration of anchote (<i>Coccinia abyssinica</i>) plant parts at different harvesting dates and in situ storage <i>Girma Abera</i></p>	<p>Response of indigenous fruit trees under domestication in west and central Africa to grafting <i>Ebenazar Asaah</i></p>	<p>Vulnerability and adaptation responses to climate change: the case of smallholder farmers in Northern Ghana <i>Prince Maxwell Etwire</i></p>
<p>Evaluation of the nutrient and health potentials of wild and domesticated trifoliolate yam (<i>Dioscorea dumetorum</i>) in Nigeria <i>Ezeocha, Vanessa C.</i></p>	<p>Exploring variation and trait relationships among selected finger millet [<i>Eleusine coracana</i> (L.) Gaertn.] accessions from Uganda <i>Lawrence Owere</i></p>	<p>Physiological responses of a Bambara groundnut (<i>Vigna subterranea</i>) segregating population to mild drought stress <i>Hui Hui Chai</i></p>
<p>Simple sequence repeat (SSR) polymorphisms and the relationship with phytochemical composition in Nigerian sesame (<i>Sesamum indicum</i> L) cultivars <i>Nwalo Friday</i></p>	<p>Why is Bambara groundnut able to grow and fix N₂ under contrasting soil conditions in different agro-ecologies? <i>Keletso C Mohale</i></p>	
<p>Velvet bean (<i>Mucuna pruriens</i>) in monogastric animal nutrition: effect of some local processing methods <i>Oliver O. Emenalom</i></p>	<p>Daylength effects on growth and seed production efficiency in bambara groundnut (<i>Vigna subterranea</i> L.) <i>Presidor Kendabie</i></p>	

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16.00 - 16.30	Tea/Cocoa Break
16.30 – 18.30	Side events, poster viewing
<p>Side event S.3</p> <p>Location: Round Hall</p> <p>Hosted by: Food and Agriculture Organization of the United Nations, Italy</p>	<p>Side event S.4</p> <p>Location: Rest Hall</p> <p>Hosted by: Bio-Innovation, Zimbabwe and Bioversity International, Italy</p>
<p>Promoting and expanding the use of underutilized fruit and vegetable diversity</p> <ul style="list-style-type: none"> • Project development for global collaboration on NUS • Validation of the book “Indigenous fruits and vegetables of tropical Africa” <p>Panellists:</p> <ul style="list-style-type: none"> • Remí Nono Womdim, FAO • Arshiya Noorani, FAO • Stefano Padulosi, Bioversity • Benard Ngwene, EPSO • Assogbadjo Achille Ephrem, Benin • Lin Chau Ming, Brazil • Ahu Çinar, Turkey • Mary Abukutsa-Onyango, Kenya 	<p>Upgrading value chains of NUS</p> <p>Panellists:</p> <ul style="list-style-type: none"> • Mr. Gus Le Breton, CEO, Bio-Innovation, Zimbabwe • Matthias Jäger, Bioversity International, Columbia • [name to be confirmed], CFFRC • Fekadu Dinssa, World Vegetable Centre, Tanzania • Ebenezar Asaah, World Agroforestry Centre, Sierra Leone

Day 3 - 27 September

	Plenary session	
08.30 – 09.00	Recap of Day 2	
09.00 – 10.30	Parallel sessions	
<p>Theme 1 Resilience & livelihood: utilization, post-harvest</p> <p>Session T1.9 Location: Main Hall Chair: Dr. Sue Walker, Crops For the Future Research Centre, Malaysia</p>	<p>Theme 2 Value chain</p> <p>Session T2.3 Location: Round Hall Chair: Dr. Fekadu Dissa, World Vegetable Centre, Tanzania</p>	<p>Theme 3 Policy</p> <p>Session T3.3 Location: Rest Hall Chair: Dr. Michael Kwaku, International Network for Bamboo and Rattan, Ghana</p>
<p>Management strategies of perceived risks associated with <i>Moringa</i> products by consumers in Ilorin Metropolitan, Kwara State, Nigeria Kemi Omotesho</p> <p>Progress in agronomic, nutritional and engineering development research on the tree crop <i>Treculia africana</i> Samuel Ogbonna Enibe</p> <p>Collective action in managing a <i>Ricinodendron heudelotii</i> (Baill. Pierre ex Pax) kernel extraction machine: adoption drivers and constraints in Southern Cameroon Mbosso, Charlie</p> <p>Effect of post-harvest losses of traditional vegetables on market participation by smallholders in Tanzania Ngoni Nenguwo</p>	<p>Effect of drying method and variety on functional properties of trifoliolate yam (<i>Dioscorea dumentorum</i>) flour Abdul-Rasaq Adesola Adebowale</p> <p>Improving opportunities for women in the value chains of underutilized species in Oyo State, Nigeria Olubukola V. Oyerinde</p> <p>Marketing underutilized species: the strategy of Bioersity International Stefano Padulosi</p> <p>Developing a value chain for dabai: an underutilized fruit of Sarawak, East Malaysia Amin Bin Ismail</p>	<p>Information for smallholders in Africa French, Bruce R.</p> <p>Current policy issues and recommendations for sustainable management of non-timber forest products in the northern savannah zones of Ghana Balma Yakubu Issaka</p> <p>Socio-economic contributions of neglected and underutilized species to livelihood security in rural southwest Nigeria: <i>Thaumatococcus danielli</i> as a test case Isaac B. Oluwatayo</p> <p>Innovation for diversification: Crops for the Future, Crops for the Future Research Centre and the creation of an underutilized species knowledge network Patrick O'Reilly</p>

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10.30 - 11.00	Tea/Cocoa Break
11.00 – 12.30	<p>Plenary session – policy implications and actions</p> <p>Location: Main Conference Hall</p> <p>Chair: Dr. Jojo Baidu-Forson, Bioversity International, Kenya</p>
11.00 – 11.15	<p>Global analysis and perspectives of NUS policy issues</p> <p>Dr. Stefano Padulosi, Bioversity, Italy</p>
11.15 – 11.45	<p>Synthesis of policy recommendations emerging from the Conference</p> <p>Theme rapporteurs:</p> <p>Theme 1 - Resilience & livelihood (T1)</p> <p>Theme 2 - Value chain (T2)</p> <p>Theme 3 - Policy (T3)</p> <p>Side events</p>
11.45 – 12.00	Additional reflections from participants
12.00 – 12.45	<p>Panel discussion, round 1</p> <p>Within-sector priorities and specific actions: What needs to be done by/within your sector to move the NUS agenda forward?</p> <p>Chair Location: Main Conference Hall</p> <p>Dr. Richard Hall, IFS, Sweden</p>
	<p>Panellists (by “sector”):</p> <ul style="list-style-type: none"> • Ms. Joyce Mulila-Mitti, Plant Production/Protection Officer, Regional Office for Africa, FAO, Ghana (international development) • Dr. Stefano Padulosi, Senior Scientist, Bioversity International, Italy (international research) • Dr. R.E.M. Entsua- Mensah, DDG, CSIR, Ghana (national research) • Hamet Aly Sow, ROPPA--- Regional Farmers association for West Africa , (farmer’s organizations) • Mr. Justus Monda, National Chairman, Pyrethrum Growers Association, Kenya (private sector) • M. Karthikeyan, Programme Leader, Rainfed Farming Development Program, DHAN Foundation. India (development/extension) • [Name to be confirmed], FARA (regional research)
12.45 – 13.00	Clarifications and questions from participants
13.00 – 14.15	Lunch & poster viewing

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14.15 – 15.00	<p>Panel discussion, round 2</p> <p>Cross-sector priorities and specific actions: What supportive actions does your sector need by <u>other</u> sectors to move the NUS agenda forward?</p> <p>Location: Main Conference Hall Chair: Ambassador Mary Mubi, Zimbabwe's Permanent Representative to FAO, Italy</p>
	Panellists as in Round 1
15.00 – 15.30	Reactions and views from participants
15.30 - 16.00	Tea/Cocoa Break
	<p>Closing session</p> <p>Location: Main Conference Hall Chair: Dr. R.E.M. Entsua- Mensah, DDG, CSIR, Ghana</p>
16.00 – 17.00	Closing ceremony

An exhibition to celebrate the International Year of Quinoa 2013 will be on display at the conference

