

¹A BRIDGED-RESUME FOR PROF. J. C. ONYANGO, D.Phil., MKNAS, MCSSJ.**BIODATA**

FAMILY NAME: John Collins Onyango
CIVIL STATUS: Married with children
NATIONALITY: Kenyan
LANGUAGE: English, Swahili, Dholuo
PROFESSION: Conservation Biologist, Plant-Crop Physiologist, Administrator and Educationist, Community Mentor and Researcher.

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INTEGRITY: *In compliance with Proven and Verifiable integrity matters as per Chapter 6: Leadership and Integrity Articles 73-80.*

MANAGEMENT VISION

Management system in the twenty first century requires new thinking which will make a difference to the populace of the tropics where we find majority of developing nations. Tropics also happen to be hot spots for biodiversity and yet this natural asset has not been used satisfactorily by various governments in this region. My vision in this regard, is the conservation of natural and cultural resources for efficient utilization and sustainability, through benefit sharing to the local communities. The benefit sharing can be direct or through service delivery such as development of shared infrastructure, health provision, technological development, wealth creation, improved food and nutrition security and management of sustainable environment for natural resources and higher Education for human resources. The traditional methods of managing resources are already out dated. The management based on the exchequer funds can be done by anyone who spent at least 18 years in academic training. But the ability to attract funds from the public and private sectors through partnerships in development / project management, International or bilateral partners is imperative for the development of our region, especially in resource poor higher education institutions. As a scientist and researcher, I am proud to have established an ultra-modern University Botanic Garden at Maseno University, from donor research funds from the Federal Ministry of Education and Research of the Federal Republic of Germany and improved rice production and productivity in Kenya from research funds by JSPS, JICA and ICCAE of Nagoya University, Japan, just to mention a few of my efforts. Institutional management requires those who can contribute to value addition chain in the development of new knowledge, technology and competitive education of the youth, value chain analysis of our resources, prudent financial management / investment, environmental resilience and its sustainability. Above all the institutional management must roll down from the ivory / executive tower and be relevant to human livelihood and needs; it should be result based and aim at both internal and external resource mobilization. A Professor worth his/her discipline must be able to explain his/her development innovations/research to common citizen for improved livelihoods in the society. Community service provision at individual level is the hallmark of integrity, selflessness and collective administration at institutional or governmental or international organization level, *and in God we trust.*

BRIDGED RESUME FOLLOWS

Research Interest and Profile

Prof. J.C. Onyango, D.Phil., MKNAS, MCSI, MBGCI, MJSPP, MHAK.
Professor of Plant Physiology and Conservation Scientist.

The national goal in Kenya on food policy is to realize increased quality and diversified food production through adaptability trials and subsequent release of elite plant genotypes suitable for local Agro-ecosystems. In this regard, our effort in rice research has resulted in the release of four NERICA (rice) cultivars and their dissemination to farmers for production under rainfed and supplementary irrigation. The development of African Indigenous Vegetables for their high micro-nutrient in diets and conservation of biodiversity is key to enhanced productivity and sustainability of sufficient and affordable food and nutrition for a growing

population. As research and development consortium, we explore user friendly technologies that contribute to planned development in the devolved governance system and to remain a united sovereign country, whose attributes are relevant in the global research for development and knowledge creation anchored on the three pillars of Kenya Vision 2030.

Profile: Prof. J.C. Onyango was born in Bondo, Kenya. He learnt through Kenya education system (schools and university) up to MSc. degree qualification in 1985. Joined University of Nairobi in 1986 as Assistant Lecturer and graduated with PhD, 1989 from University of Sussex, United Kingdom. He Moved to Maseno University in 1991 to start the department of Botany. Ascended through academic ranks to become Professor of plant (crop) physiology in 2001 followed by delivery of inaugural Lecture on *"Rice a Crop for Wealth Creation: Productivity and Prospects in Kenya's Food Security"* in 2006. Chairman, department of Botany 1991 to 2001; Maseno University College Liaison Officer to World Bank-Universities Project 2309-Ke, 1992 – 2001 and Member of Planning, Programming, Budgeting and Finance (PPBF) of Public Universities. Prof. Onyango was Elected Dean, Faculty of Science from June 2004 to July 2008, Maseno University. Established and developed University Botanic Garden, Maseno to international accreditation. Appointed Chairman, Kenya National Rice Technical Committee, State Department of Agriculture, Kilimo House 2008 to date; Director, Lake Basin Development Authority; Member – Chair, Boards of Management, at Bondo Teachers College, Maranda National School, Nyang'oma High School and St. Mary School for the Deaf, Nyang'oma since 2002.

Prof. J.C. Onyango have participated in joint research activities with University of Bayreuth, University of Bonn and University of Koblenz, Germany from 1990 to date; University of Sussex and University of London – ex-Wye College, United Kingdom 1989 to 1996; Louisiana State University - Rice Research Station, Crowley, USA 1997 to 2005; AICAD-JICA, Kenya 2004 to 2010; Nagoya University and Kobe University, Japan from 2006 to date; Seeding Labs and UMASS Medical School, Worcester, MA, USA 2010 to date. Prof. Onyango has mobilized over KES 295 million for research, infrastructure development, and training over his research career to date. He is still active in rice value chain management, biodiversity conservation, research, consultancy, teaching, supervision, community service delivery, national development and international research partnerships and collaborations.

SCHOLASTIC CAREER

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| 1983 to 1985: | University of Nairobi, M.Sc. in Botany, Plant Physiology. |
| Apr. 1987 to Aug. 1989: | University of Sussex, United Kingdom, D.Phil. , Plant Physiology. |
| Oct. to Dec. 1993: | University of Bayreuth, DAAD Senior Research visit Award in Germany. |
| Jun. to Sep. 1995: | Wye College, University of London, Training visit, World Bank Credit KE 2309 Award. |
| Jan. to Nov. 1998: | Louisiana State University, Rice Research Station, Crowley, LA, USA Fulbright Senior Research Award for Sabbatical Research. |
| July to Sep. 2000: | University of Bayreuth, DAAD Senior Research visit Award in Germany. |
| Oct. to Dec. 2003: | Visiting Professor, Lehrstuhl für Pflanzenphysiologie, University of Bayreuth, Germany. Conducted Research and Lectures on Ethnobotany and Plant Biodiversity. Supervision of Dr. Regina A.O. Nyunja, PhD. Student registered at Maseno University, Kenya. |
| Jan 2003 to date: | Consulting Researcher, Japanese International Cooperation Agency (JICA) / African Institute for Capacity Building (AICAD) on Nerica Rice in Kenya. |

- Nov. to Dec. 2005:** Visiting Professor, Lehrstuhl für Pflanzenphysiologie, University of Bayreuth, Germany. Conducted Seminars and Lectures on Ethnobotany and Plant Biodiversity.
- Aug. to Dec. 2006:** Visiting Professor, International Cooperation Centre for Agricultural Education, Nagoya University, Japan. Conducted Research on drought responses by NERICA rice Cultivars.
- July to Aug. 2007:** Visiting Professor, Lehrstuhl für Pflanzenphysiologie, University of Bayreuth, Germany. Conducted Seminars and Lectures on Ethnobotany and Plant Biodiversity. Supervision of Mr. Phaniel S. Arwa, PhD. Student registered at Maseno University, Kenya.
- July to Aug. 2010:** Visiting Professor, Lehrstuhl für Pflanzenökologie, University of Bayreuth, Germany. Conducted Seminars, Lectures and finalized the Kilimanjaro DFG project document.
- Feb. to Dec. 2011:** Visiting Professor, on Sabbatical Leave at International Cooperation Centre for Agricultural Education, and Graduate School of Bioagricultural Sciences, Nagoya University, Japan. Conducted Research on Water-Nutrient stress responses of NERICA rice genotypes.
- February 2015:** Organized CREATE-3, International Conference on the theme: *From Science to Integrated Socio-economic Development - Understanding Ecosystem Degradation, Restoration Ecology and Water Management in the Lake Basin Region of Kenya*. Co-Sponsored by Maseno and Moi Universities, Lake Basin Development Authority, University of Bayreuth, Germany, Duke University, USA and Lanhou University, China. Conference participants were Academics from the international and Kenyan institution of Research and higher education.
- June to Aug. 2019:** Visiting Professor, Department of Experimental Therapeutics, Beckman Research Institute, City of Hope, California, USA. Conducted Seminars, Lectures on Western Kenya Ethno-biodiversity and medicinal plants.
- Oct.1989 to Date:** Supervised 36 MSc students.
Supervised 21 PhD students.

EMPLOYMENT - SERVICE RECORD

- November 1989 to October 1991:** Lecturer, Department of Botany, University of Nairobi.
- November 1991 to May 1993:** Lecturer, Department of Botany, Maseno University College.
- June 1993 to July 1996:** Senior Lecturer, Department of Botany, Maseno University College.
- August 1996 to September 2001:** Associate Professor, Department of Botany, Maseno University.
- October 2001:** **Professor of Plant Physiology**, Department of Botany, Maseno University.
- June 2008 to date:** **Chairman, Kenya, National Rice Technical Committee** on National Rice Development Strategy, Ministry of Agriculture, Kilimo House, Nairobi Kenya. The Committee developed, published and launched Kenya National Rice Development Strategy together with its implementation framework. The approach was based on public – private partnership with key stakeholders playing a major role in the strategy development. Kenya is among the Group-1 Sub-Saharan African countries implementing rice development under CARD initiative.
- March 2014 to March 2016:** Director, Lake Basin Development Authority, Kisumu, Kenya.

CONSULTANCY SERVICES

- a) Developed, National Rice Development Strategy (2008 – 2018). Ministry of Agriculture, Kilimo House, Kenya government 2009 Pp34.
- b) Developed, National Rice Development Strategy [NRDS] Implementation Framework (2008 – 2013). Ministry of Agriculture, Kilimo House, Kenya government, 2010. Pp. 61.

- c) Developed, Bondo Constituency Development Fund Strategic Plan (2009 – 2014). Constituency and Parliamentary Office, Bondo. Pp. 56.
- d) Implementation of Constituency Economic Stimulus Programme for Model Secondary Schools (2010 – 2011). Maranda High School, P.O. Box 120 – 40601, Bondo.
- e) Relocation of Bondo Teachers Training College, after upgrading the old site to Jaramogi Oginga Odinga University of Science and Technology.
- f) Developed, National Rice Development Strategy (2018 – 2030). Ministry of Agriculture, Kilimo House, Kenya government 2019 Pp94.

PUBLICATIONS

A) **Inaugural Lecture**

Onyango, J.C. 2006. Rice, a Crop for Wealth Creation: Productivity and Prospects in Kenya's Food Security. *Professorial Inaugural Lecture Nr. 2* – Presented at Kisumu Hotel – Maseno University, 24, May 2006, Kisumu, Kenya.

A₁) **Books:**

Fischer E., K. Rembold, A. Althof, I.Malombo, **J.C. Onyango**, B. Dumbo and I. Theisen 2010. Annotated Checklist of the Vascular Plants of Kakamega Forest, Western Province, Kenya. *East African Natural History* ISBN: 10.2982/028.099.0205

B) **SELECTED - Refereed Journal papers:**

K'Otuto, G.O., D.O. Otieno, B. Seo, J.C. Onyango and H.O. Ogindo 2013. Carbon dioxide exchange and biomass productivity of the herbaceous layer of a managed tropical humid savanna ecosystem in Western Kenya. *Journal of Plant Ecology*, **6**: 286-297.

Asanuma, S., Y. Yamane, **J.C. Onyango**, D.O. Sigunga and D.O. Ahawo 2014. Survey of soil erosion and its effect on Agricultural practices by the Luo community around Kotuk Kodeyo, Nyakach Sub-County, Kisumu County, Kenya. Pp 241, Nagoya University press, Japan.

Atera, E.A., **J.C. Onyango**, P.T. Thanh, T. Ishii and K. Itoh 2014. Identification of QTL for *Striga hermonthica* resistance using backcross population derived from a cross between *Oryza sativa* (cv. Nipponbare) and *Oryza rufipogon*. *Journal of Agricultural Science*.

K'otuto G.O., D.O. Otieno, **J.C. Onyango** and H.O. Ogindo 2014. Seasonal Dynamics in Carbon dioxide fluxes the herbaceous layer of a moist Kenyan Savannah. *Applied Ecology and Environmental Research*. **12(1)**: 63-82.

Arnhold, S., D. Otieno, **J.C. Onyango**, T. Koellner and B. Huwe 2015. Soil properties along a gradient from hillslopes to the savanna plains in the Lambwe valley, Kenya. *Soil and Tillage Research*. **154**: 1-9.

Otieno, D.O., J. Ondier, S. Arnhold, D. Okach, M. Ruidisch, A. Kolb, **J.C. Onyango** and B. Huwe 2015. Sources of variation in CO₂ exchange between the herbaceous and tree components of a humid savanna in Western Kenya. *Plant Ecology*. **212**: 56-65.

Otieno, D.O., J.O. Ondier, S. Arnhold, D.O. Okach, M. Ruidisch, B. Lee, A. Kolb, J.C. Onyango and B. Huwe 2015. Patterns of CO₂ Exchange and Productivity of the herbaceous vegetation and trees in a humid savanna in Western Kenya. *Plant Ecology* **216**(10) 1441-1456.

Ondier, J.O., D.O. Okach, J.C. Onyango and D.O. Otieno 2019. Influence of rainfall amount and livestock grazing on soil respiration in a moist Kenyan savannah 2019. *African Journal of Ecology* **58**: 1-8.

Ondier, J.O., D.O. Okach, J.C. Onyango and D.O. Otieno 2019. Vegetation response to manipulated rainfall amounts and livestock grazing in Kenyan humid savanna (Lambwe Valley), *Plant Diversity* **10**: 1016-1033.

Ondier, J.O., D.O. Otieno, D.O. Okach, and J.C. Onyango and 2020. Sap flow dynamics and response to grazing and seasonal changes in soil moisture for *Acacia ancistroclada* and *Comberatum Molle* in a Kenya savanna. *African Journal of Ecology* **59**: 21-40.

J. Ondier, D. Okach, J.C. Onyango and D.O. Otieno 2021. Ecosystem Productivity and CO₂ Exchange Response to the Interaction of Livestock Grazing and Rainfall Manipulation in a Kenyan Savanna. *Environment and Sustainability Indicators* 9: 1-9.

SPECIALIZATION FIELD

- Crop plant stress physiology, agronomic and cultural methods of producing grain cereals with emphasis to rainfed rice (*Oryza sativa* L.)
- Economic use of wetlands for food production at minimum input level technology
- Adaptive technology in traditional (indigenous) vegetables and crops plants production and usage
- Biological control of water Hyacinth through its physiological reproductive biology and predator/prey responses.
- National impartial development Strategy of Infrastructure and Human Resources.

RESEARCH INTEREST:

- ✚ Ecosystem Biodiversity and indigenous knowledge conservation for sustainable development.
- ✚ Screening for Agronomic potential of the indigenous rainfed landraces of rice (*Oryza sativa* L.) and traditional vegetables germplasm collection in Kenya.
- ✚ Root distribution pattern in rainfed rice as a mechanism for drought resistance.
- ✚ Yield evaluation of three rice landraces indigenous to Kenya compared with commercial paddy varieties grown in Kenya.
- ✚ Eco-physiological and Agronomic evaluation of rainfed landraces of rice (*Oryza sativa* L.) indigenous to Kenya.
- ✚ Ecological systematics and vegetation analysis of high mountains of Kenya: Mount Kenya, Mount Elgon and Mau forest.
- ✚ Croton species - an indigenous tree with great potential in Kenya as lubricants and medicinal.

Signed: Prof.J.C. Onyango Dated: February 20th, 2023.

REFEREES:

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| 1. Prof. Eng. Francis W.O. Aduol Vice Chancellor Kenya Technical University P.O. Box 52428 – 00200 NAIROBI. KENYA E-mail: fwoaduol@kenpoly.ac.ke | 2. Prof. Em, Dr. Erwin Beck Lehrstuhl für Pflanzenphysiologie Universität Bayreuth Universitätsstraße 30 95440 BAYREUTH. GERMANY E-mail: Erwin.Beck@uni-bayreuth.de | 3. Prof. Richard K. Mibey Professor of Mycology P.O. Box 28363 - 00200 NAIROBI. KENYA E-mail: rkmbey@yahoo.com |
| 4. Prof. Akira Yamauchi Graduate School of Bioagricultural Sciences Furo-cho, Chikusa-ku Nagoya, 464-8601, JAPAN E-mail: ayama@agr.nagoya-u.ac.jp | 5. Prof. Dr. John D. Tenhunen Lehrstuhl für Pflanzenökologie Universität Bayreuth Universitätsstraße 30 95440 BAYREUTH. GERMANY E-mail: John.Tenhunen@uni-bayreuth.de | 6. Prof. Javier Gordon Ogembo Dept. of Experimental Therapeutic Beckman Research Institute 1500 E. Duarte Road DUARTE, CA 91010-3000. USA. E-mail: jogembo@coh.org |
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