

## Curriculum Vitae

### **Jennifer M. Olson, Ph.D.**

Department of Media and Information  
Michigan State University  
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East Lansing, MI 48824  
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### **Education and Training**

Michigan State University, Department of Geography. Ph.D. 1994. Dissertation "Farmer Responses to Land Degradation in Gikongoro, Rwanda."  
Michigan State University, Department of Geography. M.A. 1990. Thesis "The Impact of Changing Socioeconomic Factors on Migration Patterns in Rwanda."  
Macalester College, St. Paul, Minnesota. B.A. cum laude 1978. Double major of Geography and International Studies.

### **Languages**

Native English, excellent French, fair Dutch, some Swahili.

### **Skills and Specialized Experience**

Project and grant management experience including writing proposals, budgeting, contracting, overseeing teams, maintaining schedules, writing reports, and presenting results in written, oral, website and video formats. I've been the principal investigator (PI) of 20 funded projects and team member of an additional 12 funded projects funded by USAID, NSF, the Rockefeller Foundation and others (listed at the end of the CV). For the projects in which I was PI, I managed the contracts of U.S. and foreign institutions – African universities, a U.K. university, U.S. universities, private companies in the U.S. and Africa, and African and Latin American NGOs.

Research: Much of the research examines the impact of environmental change (climate change, land degradation/ land use change) on ecosystems and agricultural systems in Africa. Also lead research and development projects that are designing, implementing and evaluating information and communications technologies in Africa including computers, videos, GIS and mobile phones. Projects involve field data collection, GIS/remote sensing and modeling (household, spatial climate, crop, hydrology and ecological).

Teaching/training: Taught undergraduate and graduate university students (15 years), established curriculum programs at the university level (3 years), trained and wrote training programs and manuals for international professionals (2 or more years).

Writing and presentations: Have written over 27 U.S. Government reports, 15 United Nations reports, 3 books, 4 book chapters, and 18 published journal articles. Have made over 77 professional presentations at international conferences, academic conferences, and for USAID, the US State Department, the World Bank and other organizations.

Software: Excel and other Microsoft Office software, SPSS, Adobe, etc.

### **Professional Experience**

**Associate Professor, Fixed Term. Department of Media and Information, Michigan State University, East Lansing, MI 48824. (MSU). August, 15 2007 to present.** Supervisor: Michael Stern [sternmi5@msu.edu](mailto:sternmi5@msu.edu).

*Information and Communications Technology and Development (ICTD) duties have included teaching graduate and undergraduate courses on ICTD, international*

development, and global media and information. Co-lead ICTD minor. Initiate and manage international research and development projects including budgets, timeline, workload, and reporting. Projects include:

- ICT4D in Tanzania, 2009 to present. With Prof. Erik Goodman (Engineering), I lead US and Tanzanian university students in the design and installation of solar-powered, Internet enabled computers and related technologies in rural Tanzanian schools (a MSU education abroad program). Conduct related research on adoption, teaching and learning outcomes.
- New Tools for Africa Farmers: A Human-Centered Design Approach, 2017 to present. Lead and manage a project in Kenya with team members in the MSU Media and Information Department and College of Engineering, and at two African institutions. With farmers, local metal workers and manufacturing companies, we design, manufacture and test prototype farm tools for small-scale farmers. Conduct research on user perceptions and preferences of technologies, adoption factors, and the effectiveness of human centered design methods.
- Developing a Diabetes mHealth Application in Kenya. With S. Wyche and B. Holtz of MSU, partners in two Kenyan institutions and Kenyan youth, we are using human centered design methods to develop a communications technology to assist Type 1 diabetes patients. Research is ongoing on the process and effectiveness of this approach. NIH.
- Participatory Video for Climate Resilient Maize Extension in East Africa, and Improving Food Security and Resilience to Climate Change, Malawi. Projects of the Global Center for Food Systems Innovation. USAID. Co-PI of Video project, PI of Climate project.

*Climate change in Africa research* responsibilities include designing, leading and managing multi-institutional, interdisciplinary teams and liaising between research components at institutions in the U.S., Kenya, Malawi, Uganda, Tanzania and Zambia. Management duties include budgeting, timelines, supervising/ overseeing activities in all countries, and reporting. The projects have climate change policy and program linkages, and I prepared and presented policy documents and conducted policy workshops with African government and USAID staff on these issues. Main projects include:

- Climate Change Impacts and Vulnerability Assessment for Rice and Maize Production in Rufiji Basin, Tanzania with the University of Dar es Salaam, Tanzania. USAID (MSU PI).
- Addressing the Impacts of Climate Change on Agricultural Systems of East Africa, with scientists in US, Kenya, Tanzania, Uganda and UK. Rockefeller Foundation. (PI)
- Improved Modeling of Household Food Security Decision Making and Investments Given Climate Change Uncertainty in Kenya and Zambia. USAID. Co-PI with Eric Crawford.
- An Integrated Analysis of Regional Land-Climate Interactions in East Africa (NSF CNH), and Dynamic Interactions among People, Livestock, and Savanna Ecosystems under Climate Change. NSF Dynamics of Coupled Natural and Human Systems (NSF CNH). Co-PI of the first, and PI of the second.

**Visiting Assistant Professor, Department of Geography, Michigan State University, East Lansing, MI 48824.** 50% Joint appointment with the International Livestock Research Institute in Kenya. **January 1, 2001 to August 14, 2007.** Supervisor was David Campbell (deceased).

- 2001-2003: Assistant Director of MSU's *Women and International Development* (WID) office and coordinated the new Gender, Justice and Environment Change graduate program including developing courses, and designing research and training projects.
- 2003-2007: Faculty member of the *Geography Department*. Taught Africa courses, advised students and conducted research on land use and climate change.

**Scientist, International Livestock Research Institute, P.O. Box 30709, Nairobi, Kenya, January 1, 2001 to August 14, 2007** (50% joint appointment with MSU). Supervisor: Robin Reid (current email [robin.reid@colostate.edu](mailto:robin.reid@colostate.edu)).

Main responsibility was being the PI, and Regional Co-coordinator for Land Use and Socioeconomics for the United Nations Environment Program-Global Environment Facility (UNEP-GEF) funded research project, "Land Use Change Analysis as an Approach for Investigating Biodiversity Loss and Land Degradation" (the LUCID project, [www.lucideastafrica.org](http://www.lucideastafrica.org)). My responsibilities included writing the project proposal, managing the project's budget, timeline and reporting, and overseeing the regional and local land use and socioeconomic research teams in Kenya, Tanzania and Uganda.

The research led to East Africa regional and cross-sites syntheses, and methodological guides on using land use change analysis to identify changes in biodiversity and land degradation, and identifying the root causes of land use change. The methodology was adopted by GEF for its multi-million dollar portfolio of land degradation projects. The results were widely used by GEF in its publications to illustrate environmental policy and programs issues, and I presented the policy-related results at various U.N. meetings and conferences.

**Visiting Scientist, International Livestock Research Institute, P.O. Box 30709, Nairobi, Kenya, January 1, 1999 to December 31, 2000.** Supervisor: Robin Reid (current email [robin.reid@colostate.edu](mailto:robin.reid@colostate.edu)).

Developed and implemented research projects to identify environmental and socioeconomic trends affecting agricultural systems, especially livestock, in developing countries. Contributed to the development of ILRI's livestock-environment program and other ILRI initiatives.

**Global Environment Facility (GEF)/ World Bank, U.N. Environmental Program (UNEP) and other U.N. organization consultancies, Various consultancies between 2000 to 2007.** GEF, 1899 Pennsylvania Ave NW, Washington, DC 20006. Supervisor: Walter Lusigi (retired).

UNEP/GEF, 2007. Invited speaker at concluding conference, Management of Indigenous Vegetation for the Rehabilitation of Degraded Lands in Arid Zones of Africa. Presented "The Impact of Land Tenure on Land Use, Landscapes and People in Africa's Rangelands."

GEF, 2006. Wrote report for GEF and the Global Mechanism of the United Nations Convention to Combat Desertification (UNCCD) with Len Berry and L. Boukerrou on financial resource mobilization for sustainable land management programs. My responsibility was to evaluate GEF's project portfolio, analyze and write up the results, and, with the other team members, develop program recommendations. I presented the report to the Sustainable Land and Water Management Forum at the Third GEF Assembly (Cape Town, 2006). The recommendations were adopted by the Assembly. It was then launched at CRIC5 (Committee to Review the Implementation of the UNCCD, Buenos Aires, 2007) and submitted to the High Level Conference on Deserts and Desertification (Algiers, 2006).

UNEP, 2005. Supported GEF and UNEP during the 7<sup>th</sup> Conference of the Parties of the United Nations Convention to Combat Desertification (UNCCD). Gave a presentation of recommendations for future UNCCD research, was a member of two panels on how to develop projects, and led a field trip to Mt. Kenya for approximately 75 delegates.

UNEP, 2004. Developed and wrote, with E. Ferretti, D. Bragante the *Training Handbook on the Global Environment Facility's Sustainable Land Management Approach*. Translated into 7 UN languages. It was the basis of workshops on how to develop OP15 projects.

UNCCD, 2004. Wrote with L. Berry and others a report providing recommendations regarding integrating the environment into programs for poverty alleviation, *Mainstreaming the National Action Programme (NAP) into the Poverty Reduction Strategy Paper (PRSP) Process and Implementation on the Ground*.

The Global Mechanism of the United Nations Convention to Combat Desertification, 2003. Conducted an analysis of the costs and impacts of land degradation at the national level in countries in Asia, Africa and Latin America, with L. Berry and D. Campbell. The book, *Assessing the Extent, Cost and Impact of Land Degradation at the National Level: Findings and Lessons Learned from Seven Pilot Case Studies*, consists of national case studies (of which I wrote 3), and a summary chapter.

GEF/ International Bank for Reconstruction and Development, Washington, D.C., 2000. Conducted with L. Berry a report evaluating GEF's land degradation program and project portfolio, *Land Degradation Linkage Study*, that formed basis for land degradation becoming a focus area. My responsibility was to develop an evaluation matrix and then evaluate GEF's project portfolio regarding the projects' impact on land degradation and, with Dr. Berry, analyze the results and write program recommendations.

**Senior Program Officer, People and Conservation Program, World Wildlife Fund, 1250 24th St NW, Washington, DC 2003.** January 1 to August 31, 1999. Supervisor no longer there.

Population Coordinator in the People and Conservation Program, Research and Development Division. Oversaw a population-conservation research small grants program, designed the socioeconomic research program for two ecoregional projects, oversaw women in conservation field projects, and conducted spatial analyses of demographic data in three ecoregions.

**Assistant Professor, Department of Geography, Ohio State University, 54 North Oval Mall, Columbus OH, 43210.** January 1, 1997 to December 31, 1998. Supervisor Larry Brown (deceased).

Taught graduate and undergraduate level courses on society-environment interaction themes, including society-environment theory in geography, causes of and responses to global climate change, economic development, and world regional geography. Advised graduate students on their dissertations. Conducted research on the driving forces and environmental impact of agricultural system and land use change in the Highlands of East Africa.

**Rockefeller Foundation Social Science in Agriculture Fellow, based at the World Agroforestry Centre (ICRAF), P.O. Box 30677, Nairobi, Kenya,** January 1, 1995 to December 31, 1996. Supervisor: John Corbett (since left ICRAF, current 303-279-9293).

Designed and led collaborative, research project in Kenya and Uganda: "Examining integration issues through analysis of changing land use and soil productivity." Wrote

proposals, obtained funding from the Swiss government and from Rockefeller Foundation, and managed the projects (budget, timeline, oversaw contracts and activities, reporting). The linkages between changing socio-political contexts, farm management practices and soil productivity were analyzed to determine the driving forces behind declining soil productivity. Comparable data collection and analytical methods were employed in Uganda and Kenya including field and household level surveys, hillside transects, GPS/GIS, and land use change analyses. Policy recommendations were presented to the international and national governmental communities.

**Research Specialist, Rwanda Society-Environment Project, Department of Geography, Michigan State University, East Lansing, MI 48824**, September 1, 1991 to November 30, 1994. Supervisor David Campbell (deceased).

Led analyses relating to land degradation, population dynamics, regionalization and the causes of the 2004 war. Coordinated field research in Rwanda with team members from the Rwandan National University, Ministry of Agriculture and Ministry of Environment and Tourism. Participated in analyses of data integration and identifying minimum and optimum GIS data sets.

**Consultant, MSU/DAI/USAID, Division des Statistiques Agricoles, Ministry of Agriculture, Rwanda**, June 1 to August 31, 1990 and June 1 to September 30, 1992. Supervisor Daniel Clay, 517-353-1309.

1990: Wrote a Ministry paper on migration patterns in Rwanda and their policy implications, researched agroforestry projects, designed an agroforestry questionnaire, and trained ministry staff in statistical analysis. 1992: Designed and supervised a survey of farmer perceptions of land degradation.

**M.A. and Ph.D. Graduate Student and Research Assistant, Geography Department, MSU**. September 1, 1987 to December 31, 1994. Salary approximately \$23,000 per school year. Half-time (20 hours/week). Supervisor David Campbell (deceased) and others. Graduate Research Assistant, Center for Advanced Study of International Development (CASID), MSU. September 1989 to May 1991. Supervisor Doris Scarlett (deceased).

Planned and coordinated activities of the Environment and Development Research Project. Wrote analytical papers, and research and project proposals. The Rwanda Society-Environment Project (above) evolved from this project.

**United Nations Volunteer, Animation Rurale et Féminine**, November 1, 1984 to August 31, 1986. Full-time (40 hours/ week) . Was a U.N. volunteer supported by the Dutch volunteer program SNV: Parkstraat 83, 2514 JG The Hague, The Netherlands.

Based in Mobaye, eastern Central African Republic. Tasks were to design educational materials and programs (child-maternal health, agriculture) and promote the messages in villages. Worked with staff of the Ministries of Health and of Community Development.

*September 1982 to September 1984*: Accompanied husband who was a U.N. volunteer with a FAO project in Sibiti, People's Republic of the Congo.

**Passport Examiner, Department of State, 2201 C Street NW, Washington, DC 20520**. November 1, 1981 to May 31, 1982. Full-time (40 hours/ week) .

**Peace Corps Volunteer, 1111 20th St NW, Washington, DC 20526**, January 1, 1979 to June 30, 1981. Full-time (40 hours/ week) .

Agricultural Educator based in Réo, central Burkina Faso. Designed and managed educational/ development projects in Young Farmers Schools. The school projects included cross-bred chicken raising, vegetable gardening and beekeeping. Community projects initiated included a village pharmacy and small-scale dams.

## **Research Publications**

### ***Journal articles***

Wyche, S., J. Olson and M. Karanu. 2019. Redesigning Agricultural Hand-Tools in Western Kenya: Considering Human-Centered Design in ICTD. *Information Technologies & International Development*. 15, 97–112.

Wyche, S., and J. Olson. 2018. Kenyan women's rural realities, mobile Internet access, and "Africa Rising." *Information Technologies & International Development (Special Section)*, 14, 33–47.

Messina, J.P. Suepa, T., Snapp, S., Olson, J.M., Nejadhashemi, A.P., Murray, S., Moore, N., Frake, A.N., Fan, P., and U. Adhikari. 2017. Food System Resilience and Sustainability in Cambodia. *International Journal of Applied Geospatial Research*. 8(3):53-75 • July 2017. DOI: 10.4018/ijagr.2017070104.

Kim, Dong-Yun, Valerie Thomas, Jennifer Olson, Matthew Williams, Nicolle Clements. 2013. Statistical Trend and Change Point Analysis of Land Cover Change Patterns in East Africa. *International Journal of 3;34(19):6636-6650. Sensing*. DOI:10.1080/01431161.2013.804224

Moore, N., Alagarswamy, G., Pijanowski, B., Thornton, P., Lofgren, B., Olson, J., Andresen, J., Yanda, P. and Qi, J. 2012. East African food security as influenced by future climate change and land use change at local to regional scales. *Climatic Change* 110, 3: 823-844. <http://link.springer.com/article/10.1007%2Fs10584-011-0116-7>

Maitima, Joseph. M., J.M Olson, S. M. Mugatha, S. Mugisha and I. T. Mutie. 2010. Land Use Changes, Impacts and Options for Sustaining Productivity and Livelihoods in the Basin Of Lake Victoria. *Journal of Sustainable Development in Africa* 12, 3: 189-204.

Washington-Ottombre, B. Pijanowski, D. Campbell, J. Olson, J. Maitima, A. Musili, T. Kibaki, H. Kaburu, P. Hayombe, E. Owango, B. Irigia, S. Gichere, A. Mwangi. 2010. Using a role-playing game to inform the development of land-use models for the study of a complex socio-ecological system. *Agricultural Systems* 103: 117-126.

Moore, N., Alagarswamy, G., Pijanowski, B., Thornton, P., Olson, J., Lofgren, B., Andresen, J., & Campbell, D. (2009). Food production risks associated with land use change and climate change in East Africa. *Earth and Environmental Science*, Vol 6. IOP Publishing Ltd. doi:10.1088/1755-1307/6/4/342003

Moore, N., N. Torbick, B. Lofgren., J. Wang., B. Pijanowski., J. Andresen, D. Kim, J. Olson. 2009. Adapting MODIS-derived LAI and fractional cover into the RAMS in East Africa. *International Journal of Climatology*. August 24, 2009. DOI: 10.1002/joc.2011

Olson, J., G. Alagarswamy, J. Andresen, D. Campbell, J. Ge, M. Huebner, B. Lofgren, D. Lusch, N. Moore, B. Pijanowski, J. Qi, N. Torbick, J. Wang. 2008. Integrating diverse methods to understand climate-land interactions at multiple spatial and temporal scales. *J. GeoForum*\_39: 898–911. DOI: <http://dx.doi.org/10.1016/j.geoforum.2007.03.011>.

Ge, J., J. Qi, B. M. Lofgren, N. Moore, N. Torbick, and J. M. Olson. 2007. "Impacts of land use/cover classification accuracy on regional climate simulations" by *Journal of Geophysical Research-Atmosphere* 112 (D5), D05107.

Smucker, T., D. Campbell, J. Olson, and E. Wangui. 2007. "Contemporary challenges of participatory field research for land use change analyses: Examples from Kenya" *Field Methods* 19, 4: 384-416.

Torbick, N. D. Lusch, J. Qi, N. Moore, J. Olson, J. Ge. 2006. "Developing land use/land cover parameterization for climate-land modeling in East Africa" *International Journal of Remote Sensing* 27, 19: 4227-4244.

Lei, Z., B.C. Pijanowski, K.T. Alexandridis, J.M. Olson "Distributed Modeling Architecture of a Multi-Agent-Based Behavioral Economic Landscape (MABEL) Model". *Simulation* 81, 7: 503-515. July 2005.

Olson, J. 1995. "Behind the Recent Tragedy in Rwanda" *GeoJournal* 35, 2:217-222. February 1995.

Brown, D., J.M. Olson, D. J. Campbell and L. Berry. 1995. "A Hierarchical Approach to the Integration of Social and Physical Data Sets: The Case of the Rwanda Society-Environment Project" by *Human Dimensions Quarterly* 1, 4: 14-17.

Campbell, D.J. J. Olson. 1991. "Environment and Development in Kenya: Flying the Kite in Kajiado District" *Centennial Review* 35, 2.

Campbell, D.J. J. Olson. 1991. "Framework for Environment and Development: The Kite" *CASID Occasional Paper 10*. East Lansing: CASID, Michigan State University.

Winkler, J., A. Burnett, J. Moore, G. Mulugeta, J. Olson and B. Skipper "Agroclimatic Resource Mapping: An Example for Peach Cultivation in the Southern Peninsula of Michigan" by. *Physical Geography* 11, 1. 1990.

## **Books**

Messina, J., Adhikari, U., Carroll, J., Chikowo, R., DeVisser, M., Dodge, L., Fan, P., Langley, S., Lin, S., Me-nsope, N., Moore, N., Murray, S., Nawyn, S., Nejadhashemi, A. Olson, J., Smith, A., Snapp, S. 2014. Population Growth, Climate Change and Pressure on the Land. Global Center for Food Systems Innovation Whitepaper Series. Michigan State University. 99 pp. ISBN: 978-0-9903005-0-2. Available <https://gcfisi.isp.msu.edu/publications/>

Berry, L., J. Olson, and D. Campbell. 2004. Assessing the Extent, Cost and Impact of Land Degradation at the National Level: Findings and Lessons Learned from Seven Pilot Case Studies. The Global Mechanism of the United Nations Convention to Combat Desertification and the World Bank: Washington, D.C. Available on [https://www.researchgate.net/publication/272682048\\_Assessing\\_The\\_Extent\\_Cost\\_And\\_Impact\\_Of\\_Land\\_Degradation\\_At\\_The\\_National\\_Level\\_Findings\\_And\\_Lessons\\_Learned\\_From\\_Seven\\_Pilot\\_Case\\_Studies](https://www.researchgate.net/publication/272682048_Assessing_The_Extent_Cost_And_Impact_Of_Land_Degradation_At_The_National_Level_Findings_And_Lessons_Learned_From_Seven_Pilot_Case_Studies) . Uganda chapter available on [http://www.fao.org/ag/agl/swlwpnr/reports/y\\_sf/z\\_ug/ug\\_doc/ugtx511.doc](http://www.fao.org/ag/agl/swlwpnr/reports/y_sf/z_ug/ug_doc/ugtx511.doc).

Berry, L. and J.M. Olson. 2000. Land Degradation Linkage Study. *GEF Working Paper 6*. Global Environment Facility, The World Bank, Washington, D.C. Available on <http://www.gm-unccd.org/FIELD/Multi/GEF/pub.htm> and <http://www.thegef.org/council-meeting-documents/gef-land-degradation-linkage-study> .



### **Chapters in edited books**

Reid, R. S., Bedelian, C., Said, M. Y., Kruska, R. L., Mauricio, R. M., Castel, V., Olson, J. and Thornton, P.K. 2010. "Livestock in a Changing Landscape: Global Livestock Impacts on Biodiversity." In: Steinfeld, H., H. A. Mooney, F. Schneider, and L. E. Neville, eds. Livestock in a Changing Landscape, Volume 1, Drivers, Consequences, and Responses, pp. 111-137. Washington, DC: Island Press.

Maitima, J., M. Rakotoarisoa, E. Kangethe and J. Olson. 2010. "An Overview of Livestock Production in the Horn of Africa: Trends, Drivers, Consequences and Responses." In Livestock in a Changing Landscape, Volume 2, Experiences and Regional Perspectives, Washington, D.C.: Island Press.

Shah, M., A. Xepapadeas et al. (including J.Olson). 2005. "Food and Ecosystems." In Ecosystems and Well-being: Policy Responses, Volume 3, Findings of the Responses Working Group of the Millennium Ecosystem Assessment, Island Press, Washington.

Rayner, S., F. Bretherton, S. Buol, M. Fosberg, W. Grossman, R. Houghton, R. Lal, J. Lee, S. Lonegran, J. Olson, R. Rockwell, C. Sage and E. van Imhoff. 1994. "A Wiring Diagram for the Study of Land Use/Cover Change: Report of Working Group A." In Changes in Land Use and Land Cover: A Global Perspective, W.B. Meyer and B.L. Turner II (eds.). New York: Cambridge University Press.

### **Thesis and Dissertation**

Olson, J. 1994. "Farmer Responses to Land Degradation in Gikongoro, Rwanda." Ph.D. dissertation, Department of Geography, Michigan State University.

Olson, J. 1990. "The Impact of Socioeconomic Factors on Migration Patterns in Rwanda." Master's Thesis, Department of Geography, Michigan State University.

### **U.S. Government Reports**

Olson, Jennifer, Gopal Alagarwamy, Jenni Gronseth and Nathan Moore. 2017. Impacts of Climate Change on Rice and Maize, and Opportunities to Increase Productivity and Resilience in Malawi. Malawi Report No. 9. Global Center for Food Systems Innovation, Michigan State University, East Lansing, Michigan, USA. 64pp. Available at: [https://qcfisi.isp.msu.edu/files/6714/8581/2605/Olson\\_et\\_al\\_-\\_Impacts\\_of\\_Climate\\_Change\\_LAN\\_5\\_V2.pdf](https://qcfisi.isp.msu.edu/files/6714/8581/2605/Olson_et_al_-_Impacts_of_Climate_Change_LAN_5_V2.pdf)

Mock, T, Cai, T, Steinfield, C., and Olson, J., 2017. A Video Storytelling Method to Enhance Agricultural Extension: Workshop Handbook, Dar es Salaam, Tanzania, June 13, 2017, Global Center for Food Systems Innovation, Michigan State University, 24 pp. Available at <https://agrilinks.org/post/workshop-handbook-video-storytelling-method-enhance-agricultural-extension>

Olson, J., G. Alagarwamy, J. Andresen, P. Miller, N. Moore, P. Yanda. 2016. University of Dar es Salaam and Michigan State University. 2016. Milestone 3.2: Crop and Water Management Under Climate Change: Scenario Analysis. Submitted to USAID July 2016. 49 pp.

Olson, J. G. Alagarwamy, E. Mabhuye, P. Miller, D. Moy, C. Raj, P. Yanda. University of Dar es Salaam and Michigan State University. 2016. Milestone 3.1: Decision Support Tool. Submitted to USAID June 2016. 20 pp. Describes tool available at <http://climateland.org/rufiji/> .

Yanda, P., E. Mabhuye, J. Olson. 2016. University of Dar es Salaam and Michigan State University. 2016. Milestone 3.5: Policy Brief. Submitted to USAID September. 12 pp.



Mock, T., C. Steinfield, J.M. Olson and T. Cai. 2015. Farmer Perspectives of Climate Resilient Maize (CRM) and the Potential for Information and Communications Technology for Demand Generation. USAID Global Center for Food Systems Innovation Technical Paper. Michigan State University. 45 pp.

Olson, J., G. Alagarswamy, J. Andresen, N. Moore, B. Northcott, P. Miller, C. Hawkins, D. Pike, and P. Morse. 2015. Analysis of the Impact of Climate Change on Crop and Water Availability, and Consideration of Potential Adaptation Practices for the Rufiji River Basin, Tanzania. A Report Submitted to the University of Dar es Salaam Institute Of Resource Assessment for the USAID project, Climate Resilience of Rice and Maize in the Rufiji Basin- Tanzania. 96 pp. Available at <http://climateland.org/rufiji/publications.php>.

Messina, J., Snapp, S., Smith, A. Olson, J., Nejadhashemi, A., Nawyn, S., Murray, S., Moore, N., Me-nsope, N., Lin, S. Langley, S., Pan, P., Dodge, L. DeVisser, M., Chikowo, R., Carroll, J., Adhikari, U. 2014. An Innovation Pipeline for Cambodia: Climate Change and Pressures on Resources. Global Center for Food Systems Innovation Whitepaper Series. Michigan State University. 38 pp

Olson, JM. 2014. "Desk Study of Research on Climate Change and its Impact on Agriculture in Tanzania, Prepared for the USAID-Tanzania." Incorporated into "Milestone One: Inception Report. A Report Submitted to USAID Tanzania, February 2014" by the University of Dar es Salaam Institute Of Resource Assessment, for the project, Climate Resilience of Rice and Maize in the Rufiji Basin- Tanzania. 20 pp.

Olson, J., Alagarswamy, G., Miller, P., Moore, N., and Northcott, W. 2014. Impacts of Climate Change and Variability on Crop Productivity and Surface Hydrology in the Rufiji River Basin, Tanzania. Prepared for the USAID-Tanzania project, Climate Resilience of Rice and Maize in the Rufiji Basin- Tanzania. 49 pp.

Maliondo, S. M. S., E. J. Mpetta and J.M. Olson. 2012. "Climate Change and Food Security in Tanzania: An Analysis of Current Knowledge and Research Gaps and Recommendations for a Research Agenda. iAGRI Reference Background Paper." Ohio State University/ iAGRI/USAID. 39 pg. Available <http://iagri.org/student-portal/choosing-your-research-topic/>.

Olson, J., J. Codde, K. DeMaagd, E. Tarkelson, J. Sinclair, S. Yook and R. Egidio. (2011). An Analysis of e-Learning Impacts & Best Practices in Developing Countries With Reference to Secondary School Education in Tanzania. Report prepared for the Tanzania Education Trust Foundation and MasterCard Foundation. Available [http://www.academia.edu/34567631/An\\_Analysis\\_of\\_e-Learning\\_Impacts\\_and\\_Best\\_Practices\\_in\\_Developing\\_Countries\\_With\\_Reference\\_to\\_Secondary\\_School\\_Education\\_in\\_Tanzania](http://www.academia.edu/34567631/An_Analysis_of_e-Learning_Impacts_and_Best_Practices_in_Developing_Countries_With_Reference_to_Secondary_School_Education_in_Tanzania)

Olson, J., D. Rubin and E. Wangui. (2010). Gender, Agriculture, and Climate Change: A Regional Analysis for USAID/East Africa. Report prepared for USAID by DevTech Systems, Inc. DOI: 10.13140/RG.2.1.4503.2481. Available [http://pdf.usaid.gov/pdf\\_docs/pnadt677.pdf](http://pdf.usaid.gov/pdf_docs/pnadt677.pdf) .

Olson, J. 1996. "Initial Results Concerning the Use of Fallow in Kabale District, Uganda." Report of the Land Use and Soil Productivity Project of the African Highlands Initiative, International Centre for Research in Agroforestry. October 1996.

Olson, J. 1995. "Natural Resource Management by Farmers in Kabale District, Uganda". Report of the Land Use and Soil Productivity Project of the African Highlands Initiative, International Centre for Research in Agroforestry. August.

Grosse, S. R. Ford and J. Olson. 1994. "More People More Trouble: Population Growth and Agricultural Change in Rwanda". EPAT/MUCIA Report to the Bureau for Africa, USAID.

Olson, J. 1994. "A Short Narrative of Rwanda by Way of Explanation of Current Events". Mimeo submitted to the Office of the Geographer, Department of State, and the Sub-Committee on Africa of the House of Representative's Foreign Relations Committee. July.

Olson, J., D. Clay and J. Kayitsinga. 1990. "Migration Permanente de la Population Rurale au Rwanda" by. *Document du Travail No. 124*. Kigali, Rwanda: Division des Statistiques Agricoles, MINAGRI. Available on <http://www.aec.msu.edu/agecon/fs2/Rwanda/pre1994/>.

Harris, D., D. Clay and J.. Olson 1990. "Agroforestry and Wood Use in Rural Rwanda: Study Objectives and Preliminary Design". *ASPAP/DAI Report No. 118*. Kigali, Rwanda: Division des Statistiques Agricoles, MINAGRI.

Ngenzi, I. and J. Olson. 1989. "Stratégies Non-Agricoles au Rwanda: Rapport Préliminaire," by D.C. Clay, Jean Kayitsinga, Théobald Kampayana. *DAI/DSA Document du Travail*. Kigali, Rwanda: SESA, MINAGRI. Available on <http://www.aec.msu.edu/agecon/fs2/Rwanda/pre1994/>.

***U.S. Government Publications, continued: Rwanda Society-Environment Project Working Papers (funded by the Center for International Earth Science Network/ NASA, U.S. Government)***

Olson, Jennifer, Gichana Manyara, David Campbell, David P. Lusch and Jue Hu. 1995. "Exploring Methods for Integrating Data on Socio-Economic and Environmental Processes that Influence Land Use Change: A Pilot Project" by Rwanda Society-Environment Project Report to the Biodiversity Support Program, World Wildlife Fund. Department of Geography, Michigan State University. January 1995.

Olson, J. 1994. "Demographic Responses to Resource Constraints in Rwanda." *Rwanda Society-Environment Project Working Paper 7*. Department of Geography, Michigan State University. September 1994. DOI: 10.13140/2.1.4305.2328.

Olson, J. 1994. "Land Degradation in Gikongoro, Rwanda: Problems and Possibilities in the Integration of Household Survey Data and Environmental Data." *Rwanda Society-Environment Project Working Paper 5*. Department of Geography, Michigan State University. June.

Olson, J. 1994. "Farming Systems of Rwanda: Echoes of Historic Divisions Reflected in Current Land Use." *Rwanda Society-Environment Project Working Paper 2*. Department of Geography, Michigan State University. April 1994. Available at [http://www.ciesin.columbia.edu/repository/pern/papers/Rwanda\\_Paper\\_2.pdf](http://www.ciesin.columbia.edu/repository/pern/papers/Rwanda_Paper_2.pdf) .

Olson, J, Campbell, D. 1993. "Regionalization of the Farming Systems of Rwanda." In "Saginaw Bay Watershed Environmental Information System Demonstration Project: Accomplishments and Lessons Learned," pp 5-75 to 5-83. Report submitted by MSU to the Consortium for International Earth Science Information Network.

Olson, J, Campbell, D. 1993. "A Pilot Study in Rwanda to Link Socioeconomic and Environmental Data within a Geographic Information System." In "Saginaw Bay Watershed Environmental Information System Demonstration Project: Accomplishments and Lessons Learned," pp 5-58 to 5-74. Report by MSU to the Consortium for International Earth Science Information Network.

Campbell, D., L. Berry and J. Olson. 1993. "Population Pressure, Agricultural Productivity and Land Degradation in Rwanda: An Agenda for Collaborative Training, Research and Analysis." *Rwanda Society-Environment Project Working Paper 1*. Department of Geography, Michigan State University. October. Available [http://www.ciesin.columbia.edu/repository/pern/papers/Rwanda\\_Paper\\_1.pdf](http://www.ciesin.columbia.edu/repository/pern/papers/Rwanda_Paper_1.pdf) .

**United Nations Environment Programme-Global Environment Facility: Land Use Change, Impacts and Dynamics (LUCID) Project Working Papers**

Reports are available on [www.lucideastafrica.org](http://www.lucideastafrica.org) and on CIESIN's <http://www.populationenvironmentresearch.org/>. Project materials are also in several UNEP and GEF publications, on <http://www.geo.ucl.ac.be/LUCC/lucc.html>, on [www.eldis.org](http://www.eldis.org), and [www.thegef.org](http://www.thegef.org).

"The Spatial Patterns and Root Causes of Land Use Change in East Africa" by J.M. Olson, S. Misana, D.J. Campbell, M. Mbonile and S. Mugisha. 2004. *LUCID Project Working Paper 47*; Nairobi, Kenya: International Livestock Research Institute.

"A Research Framework to Identify the Root Causes of Land Use Change Leading to Land Degradation and Changing Biodiversity" by J.M. Olson, S. Misana, D.J. Campbell, M. Mbonile and S. Mugisha. 2004. *LUCID Project Working Paper 48*; Nairobi, Kenya: International Livestock Research Institute.

"Multi-scale analysis of land use and management changes on the Eastern Slopes of Mt. Kenya" by J.M. Olson, B. Butt, F. Atieno, J. Maitima, T.A. Smucker, E. Muchugu, G. Murimi and H. Xu. 2003. *LUCID Project Working Paper 19*; Nairobi, Kenya: International Livestock Research Institute.

"Community Workshops as a Participatory Component of Field Research: Examples from Kenya" by T.A. Smucker, D.J. Campbell., J.M. Olson and E.E. Wangui. 2003. *LUCID Project Working Paper 22*; Nairobi, Kenya: International Livestock Research Institute.

"Comparing the Kenyan and Tanzanian Slopes of Mt. Kilimanjaro: Why are the adjacent land uses so distinct?" by D.J. Campbell, S.B. Misana and J.M. Olson. 2004. *LUCID Project Working Paper 44*; Nairobi, Kenya: International Livestock Research Institute.

"An Approach to Dual Land Use and Land Cover Interpretation of 2001 Satellite Imagery of the Eastern Slopes of Mt. Kenya" by J.M. Olson and Bilal Butt. *LUCID Working Paper No. 16*. International Livestock Research Institute, Nairobi, Kenya. October 2002.

"A Guide to Field Methods of Data Collection for Integrating Land Use, Biodiversity and Land Degradation" by J.M. Olson and J.M. Maitima. *LUCID Working Paper 9*. International Livestock Research Institute, Nairobi, Kenya. August 2002.

"Conducting Land Use Change Analysis as an Approach for Investigating Biodiversity Loss and Land Degradation" by J.M. Olson *et al.* *LUCID Working Paper 7*. International Livestock Research Institute, Nairobi, Kenya. March 2001.

**United Nations publications regarding land degradation**

"Resource Mobilization and the Status of Funding of Activities Related to Land Degradation" by L. Berry, L. Boukerrou and J. Olson. 2006, for GEF and the GM-UNCCD. Background report presented and disseminated at the Sustainable Land and Water Management Forum of the Third GEF Assembly (Cape Town, 2006), at CRIC5 (Committee to Review the Implementation of the UNCCD, Buenos Aires, 2007) and at the High Level Conference on Deserts and Desertification (Algiers, 2006). Available on [http://www.thegef.org/projects/Focal\\_Areas/land/land\\_publications.html](http://www.thegef.org/projects/Focal_Areas/land/land_publications.html).

"Mainstreaming the National Action Programme (NAP) into the Poverty Reduction Strategy Paper (PRSP) Process and Implementation on the Ground" by L. Berry, A. Bassolé, J. Ruhombe, J.M. Olson and L. Boukerrou. 2004. Paper prepared for the United Nations

Convention to Combat Desertification (UNCCD). Translated into 7 languages. Described on [www.iisd.ca/download/pdf/enb04175e.pdf](http://www.iisd.ca/download/pdf/enb04175e.pdf).

“Training Handbook on the Global Environment Facility’s Sustainable Land Management Approach” prepared by J. Olson, E. Ferritti and D. Bragante. 2004. The United Nations Environment Programme and the Global Environment Facility with UNDP, the World Bank, the UNCCD, IFAD and FAO. (has been translated into 7 languages). Available on [www.surf-as.org/EngEnvWorkshop/Handbk\\_pm.pdf](http://www.surf-as.org/EngEnvWorkshop/Handbk_pm.pdf) and distributed widely in training workshops.

"Alternative and Sustainable Systems of Production and Livelihoods in Marginal Lands" by L. Berry, D.J. Campbell and J.M. Olson. Background Document of the United Nations Sudano-Sahelian Office for the United Nations Conference on Environment and Development. 1991. Included in "Report of the Secretary-General of UNCED on Combatting Desertification and Drought" (A/CONF.151/PC/62).

den Biggelaar, D. and J. Olson. 1985. "Rapport sur l'Etude de Milieu, Basse Kotto". Bangui: United Nations Development Programme, Project CAF-83-006.

### ***Recent Creative Products***

“New Tools for African Farmers: A Human-Centered Design Approach for East Africans.” Video written and voiced by J. Olson, most of the video taken by Olson. Produced and edited by Kirk Mason. Available at <https://www.youtube.com/watch?v=-HYEUIAuQpU&feature=youtu.be> , <https://kirkmasonproductions.com/current-projects/>

“Decision Support Tool for Climate Change Impacts in the Rufiji Basin, Tanzania:” An interactive web-based tool allowing the user to identify impacts of climate change and to compare potential adaptations: <http://climateland.org/rufiji/> J. Olson designed the tool, wrote all text, managed the research, etc.

“Living at the Edge of Climate Change:” a video (revised version in progress, 2016) illustrating through stories the impact of climate change on farmers and agro-pastoralists in Tanzania, and how they and the government is responding: [https://www.youtube.com/watch?v=i\\_h-We8HNww&feature=youtu.be](https://www.youtube.com/watch?v=i_h-We8HNww&feature=youtu.be) . J. Olson participated in the story design, provided scientific background, organized the interviews, etc.

“Bringing the World to Tanzania:” a video about the first group of MSU students to Tanzania for what turned into the ICTD study abroad program. J. Olson took the video (but professionals edited it). Has been shown repeatedly on the Big Ten TV station. <https://www.youtube.com/watch?v=UQ6awKei9QU>

“Climate Land Interaction Project”: a website describing our research on climate change causes and impacts, especially on agriculture, in East Africa. <http://climateland.org/> J. Olson designed the site, wrote the text, provided most of the photos, etc.

“Tanzanian Farmers and Climate Change,” The Food Fix Podcast, March 24, 2015, Michigan State University. <https://msufoodfix.wordpress.com/2015/03/24/tanzanian-farmers-and-climate-change/>

### ***Published conference proceedings***

Cai, T., Steinfield, C., Olson, J. 2017. Keeping Top-of-Mind: The Impact of Audio Phone Reminders on Kenya Farmers' Knowledge and Uptake of Drought Tolerant (DT) Maize. Agricultural and Applied Economics Association, Chicago, August.

Alagarswamy, Gopal, Jennifer Olson, Jeff Andresen, Joseph Maitima, Nathan Moore, Brain Mulenga, William Otim-Nape, Philip Thornton, Pius Yanda. 2015. The Impact of Climate Change on Water and Nitrogen Deficits for Maize Production in East and Southern Africa. Poster presented at the conference, Transitioning Cereal Systems to Adapt to Climate Change, Nov. 13-14, 2015, Minneapolis, MN. [http://www.aridcereals.org/posters/Alagarswamy\\_final.pdf](http://www.aridcereals.org/posters/Alagarswamy_final.pdf)

Alagarswamy, Gopal, Jennifer Olson, Jeff Andresen, Nathan Moore, Philip Thornton, Pius Yanda, Joseph Maitima, Jenni Gronseth, David Campbell (2015). The Highly Variable Response of Maize Yield to Climate Change across East Africa. DOI: 10.13140/RG.2.1.4240.5921 Poster presented at the: 5th AgMIP Global Workshop, Gainesville FL, February 25, 2015. <http://www.agmip.org/wp-content/uploads/2015/03/Alagarswamy-Gopal.pdf>

Ddumba, SD, J Andresen, NJ Moore, J Olson, S Snapp, JA Winkler. 2013. Examining the impact of climate change and variability on sweet potatoes in East Africa. AGU Fall Meeting Abstracts pg 1101.

Kim, D-Y.; Goble, N.; Olson, J. & Williams, M. (2009, August). Statistical Trend and Change Point Analysis of Vegetation Cover and Phenology. Joint Statistical Meeting, Washington, D.C.

Moore, N.; Alagarswamy, G.; Pijanowski, B.; Thornton, P.; Olson, J.; Lofgren, B.; Andresen, J. & Campbell, D. (2009). Food production risks associated with land use change and climate change in East Africa. In *Climate Change: Global Risks, Challenges and Decisions*. Institute of Physics Publishing. IOP Conf. Series: Earth and Environmental Science 6, 342003. doi:10.1088/1755-1307/6/4/342003

Alagarswamy, G., Moore, N., Lofgren, B., Pijanowski, B., Thornton, P., Olson, J. M., Andresen, J., Yanda, P. Z., Qi, J., (2008). Food Production Impacts of Climate Change and Land Use Change in East Africa, *Eos Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract GC53B-0730.

Moore, N., Pijanowski, B., Lofgren, B., Alagarswamy, G., Andresen, J., Olson, J. (2008). Modeling Future Land Use, Regional Climate, and Maize Yields in East Africa, *EOS Trans AGU*, 88(52) Fall Meet. Suppl., B43H-07, San Francisco, CA, 2007.

### ***Presentations at Academic Conferences (selected)***

Olson, Jennifer, Mary Njeri Karanu, Susan Wyche and Ruth Oniang'o. 2018. "A Test of the Human-Centered Design Approach: New Tools for African Farmers." International Development Ethics Association (IDEA-GRETHA 2018) 2018 Congress. University of Bordeaux, France, 22-25 June.

### **ADD SUSTAINABILITY CONFERENCE, ANN ARBOR.**

Olson, Jennifer. 2018. "Local to Global Interfaces: Why the Environment Matters." Panel of the Fate of the Earth Symposium 2018, Environmental Science and Policy Program, Michigan State University, East Lansing, March 24.

Cai, Tian, Charles Steinfield and Jennifer Olson. 2017. "Keeping Top-of-Mind: The Impact of Audio Phone Reminders on Kenya Farmers' Knowledge and Uptake of Drought Tolerant (DT) Maize." Paper presented at the 2017 Agricultural & Applied Economics Association Annual Meeting, Chicago, July 30-August 1.

Olson, Jennifer, Dan Weiner, Tom Smucker. 2014. "Top-Down vs. Bottom-Up, or Vulnerability vs. Resilience." *Resilience 2014: Resilience and Development, Mobilizing for Transformation*. Montpellier, France, May 6.

Olson, Jennifer. 2013. Farmers Adapt to Climate Change While Policy Makers and Scientists Attempt to Communicate.” In proceedings of the *Association of American Geographers Annual Meeting*, Los Angeles, April 11.

Andresen, Jeff, Jennifer Olson, Philip K Thornton, Nathan Moore. 2013. Climate Change Impacts on Maize Production in East Africa. In proceeding of: *The Association of American Geographers Annual Meeting*.

Alagarswamy, G. JA Andresen, JM Olson, PK Thornton, NJ. Moore. 2013. Climate Change Impacts on Maize Production in East Africa. In proceeding of: *The Association of American Geographers Annual Meeting*.

Ddumba, Saul, Jeffrey A Andresen, Sieglinde Snapp, Julie A Winkler, Jennifer Olson, Nathan Moore. 2013. Assessing the impact of climate change on sweet potato production in East Africa. 04/2013; In proceeding of: *The Association of American Geographers Annual Meeting*.

Moore, Nathan, Jeffrey Andresen, Gopal Alagarswamy, Jennifer Olson. 2013. Dynamic/statistical downscaling of CMIP5 simulations to support climate adaptation in Africa. In proceeding of: *The Association of American Geographer Annual Meeting*.

Olson et al. 2013. Addressing the Impact of Climate Change on Agricultural Systems in East Africa. Presented at the University Of Dar Es Salaam and Michigan State University Climate Change Adaptation on Agriculture Sector Research Program, Research Policy Implications Workshop, Blue Pearl Hotel, Ubungu, Dar Es Salaam, Tanzania, March 1, 2013

Messina, Joseph, Jennifer Olson, Nathan Moore and Pouyan Nejadhashemi. 2013. Population Growth, Climate Change and Pressure on Land, MegaTrend 1 Presentation. *Food Systems Innovation Symposium*, Michigan State University, Aug 22.

Olson, J.M., G. Alagarswamy, J. Andresen, J. Maitima, A. Majule, N. Moore and P. Yanda. 2013. Identifying the Impact of Climate Change on Agriculture in Heterogeneous East Africa: Results of Mixed Methods and a Coupled Climate-Crop Modeling System. Paper presented at the conference, Climate Change, Sustainable Intensification and Food Security in Sub-Saharan Africa at Sokoine University of Agriculture, November 13.

Olson, J.M. 2013. “Farmers Adapt to Climate Change While Policy Makers and Scientists Attempt to Communicate.” Paper presented at the Association of American Geographers Annual Meeting, Los Angeles, April 11, 2013.

Olson, J.M. 2010. “People and Livestock in the Changing Landscape and Climate of the East African Savannas.” Paper presented by J. Olson at the Association of American Geographers Annual Meeting, Washington D.C.

Moore, N., J. Andresen, G Alagarswamy, B Pijanowski, P Thornton, J Olson, P. Yanda, J. Qi. (2009, March). “Food production risks associated with land use change and climate change in East Africa: A regional approach,” paper presented at the International Alliance of Research Universities (IARU) International Scientific Congress on Climate Change, 10-12 March 2009, Copenhagen, Denmark Copenhagen, Denmark.

Olson, J. 2008. “Climate Change Adaptation for the Developing World: Expanding Africa’s Climate Change Resilience” panel member at the National Council for Science and the Environment’s 8th national conference “Climate Change: Science and Solutions,” Washington, D.C. January 17.

Pijanowski, B., C. Washington-Ottombre, D. Campbell, J. Olson, N. Moore, K. Alexandridis. 2007. “Pluralistic Modeling Approaches to Simulating Climate-Land Change Interactions in East



Africa." Paper presented at MODSIM 2007 International Congress on Modelling and Simulation, Christchurch, Australia, December, pp636-642.

Olson, J. 2007. "The Impact of Land Tenure on Land Use, Landscapes and People in Africa's Rangelands." Invited speaker at the concluding scientific conference of the Global Environment Facility on Management of Indigenous Vegetation for the Rehabilitation of Degraded Lands in Arid Zones of Africa. Nairobi.

Olson, J. 2007. "Land Use Change Analysis to Identify and Monitor Land Degradation." Global Environment Facility Conference Ensuring Impacts from Sustainable Land Management (SLM) – Development of a Global Indicator System, Selfoss, Iceland, August 28.

Moore, N., B. Pijanowski, B. Lofgren, G. Alagarswamy, J. Andresen and J. Olson. 2007. "Modeling Future Land Use, Regional Climate, and Maize Yields in East Africa." Eos Trans. AGU, 88(52), Fall Meet. Suppl., Abstract B43H-03. American Geophysical Union annual meeting, San Francisco, December.

Olson, J. 2006. "Linking Social Processes to Regional Climate Change." Paper presented at the Association of American Geographers Annual Meeting, Chicago, IL, March 8.

Olson, J., J. Maitima. 2006. "A multi-scale analysis of the linkages between human and biophysical processes in East Africa" by Paper presented at the 2006 Annual Meeting of AAAS, St. Louis, MO, Feb. 20.

Olson, J., N. Moore, B. Pijanowski. 2005. "Land Use/ Cover Change Impacts on Climate at a Regional Scale: Addressing the human/environment interface in East Africa." Paper presented at the 6<sup>th</sup> Open Meeting of the Human Dimensions of Global Environmental Change Research Community (IHDP), University of Bonn, Bonn, Germany, 9-13 October.

Moore, N., B. Lofgren, J. Andresen, B. Pijanowski, J. Olson. 2005. "Projected Changes in Precipitation Variability and Distribution Due to Land Cover Change in East Africa." Paper presented at the American Geophysical Union fall 2005 meeting, San Francisco, December 6-9.

Torbick, N., D. Lusch, J. Olson, J. Ge, J. Qi. 2005. "Evaluation of land use land cover for climate – land modeling using videography." Proceedings at the 25th International Geoscience and Remote Sensing Symposium, IEEE, Seoul, Korea, July 25-29th 2005.

Qi, J., L. Yang, J. Olson, J. Ge, N. Moore, N. Torbick, 2005. NISS/SAMSI Workshop on Collaboration in the Mathematical Geo-sciences, Oct. 6-7, 2005, Research Triangle Park, NC.

Olson, J. 2004. "Coupling land and climate systems: linkages to completing the critical loop in East Africa." Panel presentation at the Annual Meeting of the Association of American Geographers, Philadelphia, March.

Olson, J. 2008. "Understanding Land Use Change on Mt. Kenya by Melding Politics, Prose and soil pH." Annual Meeting of the Association of American Geographers, New Orleans, March.

Olson, J. 1998. "A Conceptual Framework of Land Use Change in the East African Highlands." Earth's Changing Land: Joint Global Change and Terrestrial Ecosystems and Land Use and Land Cover Change Open Science Conference on Global Change, Barcelona, Spain, March.

Olson, J. 1998. "Absent husbands, wealth accumulation and land management: the relationship between urban employment and the rural environment in Central Kenya." 1998 Annual Meeting of the Association of American Geographers, Boston, April.

Olson, J. 1998. "Leaving the Farm: Off-farm Employment and Population Pressure in Central Kenya." 1998 Annual Meeting East Lakes Division Association of American Geographers, Columbus, OH, October.



- Olson, J. 1997. "The Difference a Political System can Make: Soil Degradation in Neighboring Rwanda and Kabale, Uganda." 1997 Annual Meeting East Lakes Division Association of American Geographers, East Lansing, MI, October.
- Olson, J. 1997. "Land Tenure and Land Degradation in Central Kenya." The 1997 Annual Conference of the Ohio Association for African Studies, Columbus, OH, May 16.
- Olson, J. 1997. "The Impact of Changing Access to Land on Land Use and the Environment in Embu and Mbeere Districts, Kenya." Association of American Geographers Annual Meetings, Ft. Worth, Texas, April.
- Olson, J. 1996. "Natural Resource Management Research in the African Highlands Initiative." Rockefeller Foundation Social Science Research Fellows Workshop, Nairobi, Kenya, August.
- Olson, J. 1996. "Political Ecology of Land Degradation in Gikongoro, Rwanda and Kabale, Uganda." Association of American Geographers Annual Meeting, Charlotte, NC, April.
- Brown, D., Campbell, D., Berry, L., Olson, J. 1995. "A hierarchical approach to the integration of social and physical data sets: the case of the Rwanda Society-Environment Project". First Open Meeting of the Human Dimensions of Global Environmental Change Community, Duke University, June 2.
- Campbell, D., Berry, L., Brown, D., Olson, J. 1994. "Basic data systems for natural resource management: findings of the Rwanda case study" with David Campbell, Len Berry and Daniel G. Brown. The East-West Regional Structural Change Workshop, Walferdange, Luxembourg, November 11-16.
- Olson, J. 1994. "Integration of Information at the Farm Level: Land Degradation in Gikongoro, Rwanda." Paper presented at the 1994 Annual Meetings of the Association of American Geographers. San Francisco, March 30.
- Olson, J. 1993. "Cows, Crops and Trees: How Their Relative Value has Transformed Land Use and Induced Land Degradation in Gikongoro, Rwanda." Paper presented at the 1993 Annual Meetings of the African Studies Association. Boston, December 7.
- Olson, J. 1993. "Farmers' Responses to Land Degradation." Presented at the Annual Meeting of the Canadian Association of Geographers Ontario Division and the Association of American Geographers East Lakes Division. Windsor, Ontario, October 31.
- Olson, J. 1991. "Migration as a Response to Food Insecurity in Rwanda." Paper presented at the Annual Meetings of the Association of American Geographers. Miami, Florida, April 15.
- Campbell, D., Olson, J., Berry, L., Migot-Adholla, S. 1991. "Understanding the Interaction Between Society and Environment in the Development Process." Panel of the 1991 International Development Conference. Washington, D.C., January 24.
- Olson, J. 1990. "Presentation of a Conceptual Framework Linking Environment and Development." Paper presented at the Society of International Development North America Conference. East Lansing, Michigan, October 21.
- Olson, J. 1990. "Population Pressure and Migration in Rwanda: The Need for a Broader Perspective." Paper presented at the East Lakes Division of the Association of American Geographers. St. Catherines, Ontario, Canada, October 13.
- Olson, J. 1990. "Conceptual Framework for Analyzing the Relationship Between Environment and Development." Paper presented at the Consortium for Inter-Institutional Collaboration in African and Latin American Studies (CICALS) Conference. East Lansing, September.

Olson, J. 1989. "Redistribution of the Population of Rwanda Due to Environmental and Demographic Pressures." Paper presented at the Michigan Academy of Arts, Sciences and Letters. Grand Rapids, Michigan.

***Presentations at U.N, and Governmental Meetings/Conferences (selected)***

Olson, J., G. Alagarswamy, E. Mabhuve, P. Miller, N. Moore, D. Moy, W. Northcott, C. Raj, P. Yanda. 2016. "Scenario Analysis and Decision Support Tool for Climate Change Adaptation for Rice & Maize, Rufiji Basin." Presented at the Environment and Climate Change Festival and the Annual Dissemination Workshop for the USAID project, Climate Resilience of Rice and Maize in the Rufiji Basin, Tanzania. University of Dar es Salaam, Tanzania, Nov. 2.

Olson, J., J. Andresen, G. Alagarswamy, C. Hawkins, S. Horvath, E. Mabhuve, P. Miller, N. Moore, D. Moy, W. Northcott, C. Raj, P. Yanda. 2016. "Decision Support Tool for Rufiji Agricultural Adaptation Technologies." Presented at the USAID Mission, Dar es Salaam, Tanzania. Aug. 18.

Olson, J., J. Andresen, G. Alagarswamy, C. Hawkins, S. Horvath, E. Mabhuve, P. Miller, N. Moore, D. Moy, W. Northcott, C. Raj, P. Yanda. 2016. "Using the Decision Support Tool: Climate Change Adaptation Technologies for Crops and Irrigation Water in the Rufiji Basin." Presented at The National Workshop to Validate Policy Brief and Decision Support Tool for the Climate Resilience of Rice and Maize In the Rufiji Basin Project. University of Dar es Salaam, Tanzania. Aug. 16.

Yanda, P. E. Mabhuve and J. Olson 2016. "Final Report Summary of the Climate Resilience of Rice and Maize In the Rufiji Basin Project." Presented at the USAID Mission, Dar es Salaam, Tanzania. Nov. 23.

Olson, J., J. Andresen, G. Alagarswamy, C. Hawkins, S. Horvath, E. Mabhuve, P. Miller, N. Moore, W. Northcott, C. Raj, P. Yanda. 2016. "Impact of Climate Change and Adaptation Technologies on Crops and Water Availability for Irrigation in the Rufiji Basin, Tanzania." Presented at USAID Mission, Dar es Salaam, Tanzania. Apr. 28.

Olson, Jennifer, Gopal Alagarswamy, Jeff Andresen, Joseph Maitima, Nathan Moore. 2015. "Climate Change and Variability Effects on Crop Growth, and Technology Options for Kenya." Presentation at USAID/Bureau for Food Security-Kenya, Nairobi, Kenya. Apr. 9.

Crawford, Eric, Jennifer Olson, and Ayala Wineman. 2015. End-of-Project Report, Improved Modeling of Household Food Security Decision-Making and Investments Given Climate Change Uncertainty. Presentation at USAID/Bureau for Food Security, Washington, D.C., April 23.

Olson, Jennifer, Gopal Alagarswamy, Jeff Andresen, Joseph Maitima, Nathan Moore, Martin Mworira. 2014. Climate Trends and Impacts on Agriculture in Kenya. Presented at the Kenya Agricultural and Livestock Research Organisation, Katumani, Kenya, Dec. 15.

Olson, Jennifer, Jeff Andresen, Gopal Alagarswamy, Daniel Ddumba, Nathan Moore, Simon Ogwal Byenek, and William Otim-Nape. 2014. Climate Trends and Impact on Agriculture in Uganda. Conference on Addressing Climate Change Impacts on Agriculture in Uganda Research and Policy Workshop. Imperial Royale Hotel, Kampala, Uganda. October 7.

Olson, Jennifer. 2014. "Updated Climate and Crop Productivity Projections and Implications for Zambia: Year 3 Latest Results." Presented to staff of the FAO, USAID, University of Zambia, NGOs and others at the Meeting on Latest Results on Climate Change Projections, Impacts and

Policy Implications for Zambia at the Indaba Agricultural Policy Research Institute (IAPRI), Lusaka, Zambia, August 19.

Olson, Jennifer, Eric Crawford, Ayala Wineman, Brian Mulenga, Lydia Chabala and Elias Kuntashula. 2014. "Climate Change Impacts on Agriculture and Household Decisions, and Implications for Adaptation," Presented to governmental policy makers, donors, and international development organization representatives at the Policy Forum on the Year of Agriculture with Evidence by the Indaba Agricultural Policy Research Institute. Chrismar Hotel, Lusaka, April 10.

Crawford, Eric and J. Olson. 2013. "Improved Modeling of Household Food Security Decision Making and Investments Given Climate Change Uncertainty." Research results for Zambia presented by at an open U.S. Embassy Seminar, Lusaka, Zambia. July 17.

Olson, J. 2008. "Climate Change Impacts on Africa" by J. Olson at a panel discussion for African Ambassadors, "Expanding US-Africa Higher Education Collaboration to Strengthen Africa's Capacity to Meet Food Security and Economic Development Challenges." July 23, ], MSU, East Lansing.

Olson, J. 2005. "LUCID: Land Use Change Analysis as an Approach for Investigating Biodiversity Loss and Land Degradation" by J. Olson at the 7th Conference of the Parties of the United Nations Convention to Combat Desertification, Nairobi, Kenya, 17-28 October.

Olson, J. 1999. "The Driving Force of Migration and Its Impact on Conservation" by J. Olson at the Conservation and Human Population Dynamics: Issues, Controversies and Implications for Practice Seminar Series, Community Conservation Coalition, The Nature Conservancy, Arlington, VA, November 3.

Olson, J. 1999. "The Root Causes of Biodiversity Loss," by J. Olson at the Preliminary Meeting of Experts on the Mesoamerican Caribbean Reef Ecoregion, Belize City, Belize, April 14.

Olson, J. 1994. Society-Environment Interaction on the Eastern Margins of the Nyungwe Forest, Rwanda." Paper presented with David Campbell at the Seminar on Global Climate Change Research in Africa: Findings, Methods and Recommendations for Future Action, Biodiversity Support Program. Washington, D.C., May 18.

Olson, J. 1994. "Understanding the Societal Processes Behind Land Use Change: Methods and Findings." Paper presented at "Exploring Methods for Integrating Data on Socio-Economic and Environmental Processes that Influence Land Use Change: A Pilot Project," Biodiversity Support Fund, Washington, D.C., November 1.

Olson, J. 1992. "Perceptions Paysannes sur la Dégradation des Sols." Invited presentation at the special Conférence sur les Perceptions Paysannes sur la Dégradation du Sol, American Embassy, Kigali Rwanda, December 11.

Olson, J. 1991. "Framework for Environment and Development: Policy Implications." Invited presentation at a World Bank Seminar, with David Campbell. Washington, D.C., January 25.

### **Grants and Fellowships Awarded**

"Building Capacity in Human-Centered Design: Developing a Diabetes mHealth Application for and with Kenyan Adolescents." NIH grant R21 TW011339-01. \$387,355. Wyche PI with co-PIs Olson, Holz and Hersley. July 2019 to April 2022.

“Addressing an Emerging Epidemic: Human-Centered Design Approaches to Developing Personalized mHealth Services to Support Diabetes Prevention and Management in Urban Kenya.” Trifecta MSU Award. \$5,000 Wyche PI with co-PIs Olson, Holt and Hersley. Feb. 2018.

“Addressing the Agricultural Labor Burden in an Era of Feminization and Aging of Rural Communities in East Africa: A Human-Centered Design Approach to Solve Old Problems.” Alliance for African Partnership, MSU. \$50,000. Olson PI with co-PIs Susan Wyche, Erik Goodman and others. May 2017.

“Documentary on Responding to Climate Change in Tanzania.” Humanities and Arts Research Program, MSU. \$7,000. Co-PI with Sue Carter. April 2016.

“Living at the Edge of Climate Change: Lessons from Tanzanians Who Are Coping.” Knight Center Environmental Documentary Film-Making Grant, MSU. \$3,500. Co-PI with Sue Carter. January 2016.

“Climate Change Impacts and Vulnerability Assessment, and Development of Adaptation Strategies for Rice and Maize Production in Rufiji Basin.” USAID-Tanzania sponsor; University of Dar es Salaam prime. Total project funded at \$1,800,192, MSU sub-contract \$428,434. Olson PI with co-PIs N. Moore and J. Andresen of MSU sub-contract. Nov. 2013 to Oct. 2016.

“Modeling Household Food Security Decision Making and Investments Given Climate Change Uncertainty” USAID Associate Award Application under Food Security III Leader Award CDG-A-00-02-00021-00. \$700,000. Co-PI’s Eric Crawford and Jennifer Olson. Fully funded, 3 year project. 10/2011 to 9/2014.

“Evaluating the Effectiveness of a Participatory Video Extension Method on Farmer Knowledge and Behavior Related to Drought Tolerant Maize.” Center funded project of \$40,000 of the Global Center for Food Systems Innovation, USAID Global Development Lab. Funded, Steinfield PI, Olson co-PI. 8/2014-12/2017.

“Resilience to Climate Change: Identifying Constraints and Opportunities to Increase Productivity and Resilience to Climate Change Across Malawi.” Center funded project of \$42,000 of the Global Center for Food Systems Innovation, USAID Global Development Lab. Funded. Olson PI, co-PI Zulu and Moore. 8/2013-8/2017.

“Innovative Agricultural Research Initiative” or iAgri to support Sokoine University of Agriculture and the Ministry of Agriculture in Tanzania.(Ohio State University prime; Crawford MSU PI). USAID. \$4,340,000 total; MSU sub-contract \$755,226. Submitted January 2011. Olson providing climate change expertise (co-authored background report, participated in research planning workshop, preparing collaborative research projects). 3/2011-2/2016.

“Addressing the Impact of Climate Change on Agricultural Systems in East Africa: Application of the CLIP Coupled Climate-Crop Modeling System in Kenya, Tanzania and Uganda,” Rockefeller Foundation. J. Olson (P.I.), N. Moore, J. Andresen (co-PIs). \$430,000. 1/2010 to 12/2012

“Linking Local Knowledge and Local Institutions for the Study of Adaptive Capacity to Climate Change: Participatory GIS in Northern Tanzania.” National Science Foundation grant to Ohio University, MSU-sub-contract. T. Smucker (PI), J. Olson (co\_PI on main and PI for MSU sub-contract), E. Wangui, P. Munisha and D. Weiner (Co-PIs). Full project of \$571,859; MSU sub-contract \$90,222. 10/2009 to 3/2013.

“Dynamic Ecological Simulation Model of Tsetse Transmitted Trypanosomosis in Kenya.” National Institutes of Health, J. Messina (P.I.), S. Grady, J. Kaneene, N. Moore, J. Olson, E. Walker (co-Pis). Grant of \$1,131,000. 8/ 2007 to 8/2011.

“Dynamic Interactions among People, Livestock, and Savanna Ecosystems under Climate Change.” National Science Foundation Dynamics of Coupled Natural Human Systems Program, D. Campbell (P.I. to 2008), J. Olson (PI after 2008). Several co-PIs. Grant of \$1.45M. 8/2007 to 8/ 2011.

“Local Knowledge and Coping Capacity: Toward an Understanding of Resilience of Rural Livelihoods to Climate Change.” National Science Foundation Office of International Science and Engineering. T. Smucker (P.I.), E. Wangui, J. Olson, D. Weiner, B. Wisner. \$19,000. 7/2007 to 12/2007.

“Impacts of climate and land use change on emerging human and livestock diseases in East Africa.” Health and Biomedical Research Initiative of the Michigan State University Provost Office. J. Olson (P.I.), T. Bernardo, J. Kaneene, N. Moore, D. Lusch, J. Messina, J. Qi, T. Taylor, E. Walker. Grant of \$30,000 (2005-06), \$146,000 (2006-07) and \$100,000 (2007-2008).

“Resource Scarcity and Abundance: Oil, Democratization, and Conflict in the Niger Delta.” MSU Global Area and Thematic Initiative. R. Bhavnani (PI), R. Edozie, J. Qi and J. Olson. Grant of \$24,000. 12/ 2006 to 6/ 2008,

“Framework for the Identification and Management of Environmental and Socio-Economic Consequences of Tsetse and Trypanosomiasis Control and Eradication”. U.S. Department of State. Grant of \$1,000,000. J. Maitima (PI) and J. Olson. Grant based at International Livestock Research Institute, Nairobi. 8/2005-8/2009.

“An Integrated Analysis of Regional Land-Climate Interactions.” National Science Foundation Biocomplexity in the Environment Program. Grant of \$1,750,000. D.J. Campbell (P.I.), J. Andresen, J. Olson, B. Pijanowski, J. Qi. Grant based at Michigan State University with sub-contracts to ILRI, University of East Anglia and Purdue University. 9/2003 to 9/ 2007,

US Agency for International Development. Women In International Development M/OP 02-296, A. Ferguson, J. Olson, R. Glew, M. Morash, A. Schneller, with Management Systems International for an Indefinite Quantity Contract (IQC), Nov. 2003 to Oct. 2007 (several contracts have been awarded to MSU).

“Climate change and human welfare in East Africa: An Integrative Assessment.” Michigan State University Intramural Research Grants Program. Grant of \$65,000. Campbell, Andresen, Lusch, Pijanowski, Selehi, Lofgen, Olson, Palutikof, Thornton. 2003-2004.

“Climate and Land Use Change Processes in East Africa.” National Science Foundation. Grant of \$65,000. Campbell PI, Andresen, Olson, Pijanowski and Winkler co-PI’s, grant based at Michigan State University. 7/2001 to 7/2002

“Land Use Change Analysis as an Approach for Investigating Biodiversity Loss and Land Degradation.” Global Environment Facility/ United Nations Environment Programme. Grant of \$771,000 with co-financing of \$605,700 to the Land Use Change Impacts and Dynamics (LUCID) team. Olson lead grant writer, grant based at the International Livestock Research Institute (ILRI) with a sub-contract to MSU. 1/2001 to 12/2003.

“Land Use Change Analysis as an Approach for Investigating Biodiversity Loss and Land Degradation.” Global Environment Facility/ United Nations Environment Programme, Program Development Fund, Grant of \$25,000 to the LUCID team, Olson lead grant writer, grant based at the African Conservation Centre. 2/2000 to 6/2000.

“Conceptual development of research on people, livestock, and environment at ILRI.” USAID CGIAR-US University Linkage Grant. \$31,000, Robin Reid PI, Olson co-PI. 8/ 2000 to 3/2001.

“Societal Transformation and Land Degradation in the East African Highlands: A Cross-Site Comparison and Creation of a Regional Model.” Ohio State University Seed Grant Program,. Grant of \$25,000. 10/1998.

The Rockefeller Foundation Social Science Research Fellowship in Agriculture, to conduct research at the International Centre for Research in Agroforestry (ICRAF), Nairobi, Kenya. Grant of \$118,000. 1/1995 to 1/1997.

“Examining integration issues through analysis of changing land use and soil productivity in the East African Highlands.” United Nations Environment Programme,. Grant of \$25,000. 2/1995 to 2/1997.

”Examining integration issues through analysis of changing land use and soil productivity in the East African Highlands.” Swiss Development Cooperation and the International Development Research Centre (Canada). Project of the African Highlands Initiative, ICRAF. Olson P.I., Imbernon and Corbett co-P.I.’s. Grants totaling approximately \$44,000. 3/1995 to 7/1997

“Continuing Support for Land Use and Soil Productivity Project.” ICRAF. Grant of \$3,000. 6/1997-10/1997.

“Exploring Methods for Integrating Data on Socio-Economic and Environmental Processes that Influence Land Use Change: A Pilot Project.” USAID Biodiversity Support Program. David Campbell P.I., Olson co-P.I.. Contract to MSU of \$19,000. 1994-1995.

“Rwanda Society-Environment Project.” Consortium for International Earth Science Information Network (NASA funding). David Campbell P.I., Olson co-P.I. Grant of \$150,000. 1992-1994,

“Coping Strategies with Land Degradation in Gikongoro, Rwanda” (dissertation research)

- National Science Foundation Doctoral Dissertation Improvement Grant. PI advisor David Campbell. \$10,000. 1991.
- MSU International Studies and Programs Office, Walker-Hill Scholarship, \$1000, 1992.
- Association of American Geographers Dissertation Research Grant of the Robert D. Hodgson Memorial Fund, 1991, \$250.
- Social Science Research Council, International Doctoral Research Fellowship. \$30,000. 1/1993-12/1993.

U.S. Department of Education Foreign Language Area Studies Fellowship, for study of French, 1988-89, 1990-91 and 1991-92 (tuition and graduate assistantship support).